SUPPLEMENTAL GROUNDWATER INVESTIGATION REPORT

WORK ASSIGNMENT D004433-10

SCM CORTLANDVILLE SITE INVESTIGATION
CORTLANDVILLE (T), NY

SITE NO. 7-12-006
CORTLAND (C), NY

Prepared for:
NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 Broadway, Albany, New York

Denise M. Sheehan, Commissioner

DIVISION OF ENVIRONMENTAL REMEDIATION

URS Corporation
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G3597AA

November 2006

SUPPLEMENTAL GROUNDWATER INVESTIGATION REPORT

SCM CORTLANDVILLE SITE
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77 GOODELL STREET
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NOVEMBER 2006

SCM CORTLANDVILLE SITE

SUPPLEMENTAL GROUNDWATER INVESTIGATION REPORT

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1.0 INTRODUCTION

This field investigation report summarizes field activities and presents the data collected as part of a supplemental groundwater investigation performed at the SCM Cortlandville OU#3 Site. The work has been conducted as part of Work Assignment (WA) # D004433-10.

1.1 Site Description and History

The SCM Cortlandville OU#3 Site is located at 839 Route 13 South in the Town of Cortlandville, Cortland County, New York. The site was formerly occupied by Smith Corona Marchant (SCM) and was used to manufacture typewriters. The site is currently used for commercial and retail activities. Properties immediately north and west of the site consist primarily of residential neighborhoods.

Previous investigations at the site indicate that the soils and groundwater at the site have been impacted by trichloroethene (TCE) and associated degradation products. The soil and groundwater contamination is the result of leaking underground storage tanks (USTs) and disposal practices at the site. A plume of TCE impacted groundwater extends from the site boundary to approximately 1.5 miles downgradient (northeast), and beneath portions of the adjacent residential areas. SCM implemented a groundwater extraction and treatment system starting in 1989 and continues to operate the system. This system extracts about 980 gallons per minute (gpm) of groundwater. The passively treated groundwater is returned to the aquifer through an onsite infiltration basin.

In March of 2006, six shallow well pairs (DEC-01S/D through DEC-06S/D) were installed in the vicinity of the former SCM Cortlandville facility as part of an extensive soil vapor intrusion investigation of the site. Groundwater quality data from the six shallow wells confirmed the presence of dissolved TCE and other chlorinated solvents in the groundwater north of the former SCM facility. In order to better characterize TCE contamination at the site, an additional 24 shallow monitoring wells were constructed and sampled during this investigation.

1.2 Site Geology

The site is located on a glacial aquifer system consisting of a thick outwash deposit that extends from the Valley Heads moraine, which is located southwest of the site, northeast throughout the City of Cortland and into the Tioughnioga River valley. In the vicinity of the site, an unconfined sand and gravel aquifer 80 to 110 feet thick overlies a lacustrine and glacial till unit 30 to 70 feet thick. The lacustrine and glacial till unit is underlain by a confined sand and gravel aquifer up to 80 feet thick. The two aquifers are connected in some places along the valley walls where the confining layer is absent.

The water table of the surficial aquifer is seasonally variable (by up to 10 feet) and is approximately 35 feet below ground surface (bgs) at the SCM site during the high recharge period (Spring) and 45 feet bgs at the site during the low recharge period (Fall). The depth to the water table becomes shallower downgradient (northeast) of the site and reflects the lower surface elevation of the ground surface.

2.0 FIELD INVESTIGATION ACTIVITIES

The field activities conducted during this investigation consisted of the following work tasks:

- Site visit to mark out well locations and notification of underground utility locators
- Installation, development and sampling of 24 new shallow groundwater monitoring wells
- Measurements of groundwater elevations in 42 area wells
- Sampling of six existing DEC wells and four existing SCM wells, and
- Surveying the locations and elevations of the new monitoring wells and four SCM wells

2.1 Monitoring Well Installations, Development, Measurements and Sampling

Monitoring Well Installations and Development

Twenty-four shallow monitoring wells (DEC-07 through DEC-30) were installed north and northwest of the former SCM facility in order to quantify levels of TCE and other chlorinated hydrocarbons in the shallow groundwater. These wells were installed to supplement groundwater data from six shallow monitoring wells (DEC-01S through DEC-06S) that were installed and sampled in March 2006, and from monitoring wells installed in the 1990s.

The twenty-four shallow wells were screened across the groundwater table. The monitoring wells were installed from August 7 through August 23, 2006 by Nothnagle Drilling, Inc. from Scottsville, New York. Well locations are shown on Figure 2-1. All wells were installed using 4-¼ inch inner diameter (ID) hollow-stem auger (HSA) drilling methods. Two-foot long split-spoon samples were obtained continuously or at five-feet intervals and the samples were screened with a PID and logged by a URS geologist. All wells were constructed with two-inch outside diameter, Schedule 40, PVC pipe with a 10, 11.5, 12 or 15-feet long screened interval. The slot size of the screen is 0.010 inches. The wells were packed with #00 sand to a depth of one to two feet above the screened interval. The remainder of the borehole was filled with bentonite chips and allowed to hydrate. The wells were completed with at-grade curb boxes

set in concrete. Final well depths ranged from 12 to 49 feet bgs. Monitoring well Boring Logs and Well Construction Diagrams are included in Appendix A.

All of the new wells were developed from August 15 through August 24, 2006 using a Grundfos RediFlo2 submersible pump and dedicated and disposable high density polyethylene (HDPE) tubing. Development logs are included in Appendix B.

Groundwater Elevation Monitoring Round

Groundwater elevations were measured in all of the newly installed wells on September 11, 2006. In addition, groundwater elevations were measured in the DEC wells installed in March of 2006 (DEC-01S/D through DEC-06S/D) and six existing wells on the former SCM property (MW-02S/D through MW-05S/D). Groundwater elevations are provided on Table2-1.

Monitoring Well Sampling

Following completion of the drilling and well development, groundwater samples were collected from monitoring wells DEC 07 through DEC-30. Groundwater samples were also collected from six of the monitoring wells constructed in March 2006 (DEC-01S, DEC-02S, DEC-03D, DEC-04D, DEC-05D and DEC-06D). Shallow wells DEC-03S through DEC-06S were not sampled because there was insufficient groundwater in the wells. Four wells located on the SCM property and constructed in the 1990s were also sampled (MW-01S, MW-02S, MW-04S and MW-05S). Groundwater sampling was conducted from September 11 through September 14, 2006.

The majority of monitoring wells were purged using low-flow sampling techniques with a peristaltic pump, dedicated silicone and HDPE tubing and a flow-through cell. For wells where groundwater levels were in excess of approximately 27 feet below the surface, wells were purged for sampling with a down-hole Grundfos RediFlo2 pump, dedicated and disposable HDPE tubing and a flow-through cell. The pump and flow-through cell were cleaned between wells. Wells were purged until selected groundwater parameters stabilized. Sampling logs and Chain of Custody forms are included in Appendix C. All samples collected were analyzed for Target Compound List volatile organic compounds (VOCs), and Tentatively Identified Compounds (TICs) using EPA Method 8260B. Samples were placed on ice and dropped off at Life Science Laboratories, Inc., East Syracuse, New York.

2.2 Site Survey and Mapping

Following the field drilling and sampling activities, the new monitoring wells and four of the SCM wells were surveyed by URS for horizontal and vertical location. Horizontal coordinates are based on the New York State Plane Coordinate System, North American Datum of 1983. Surveyed locations and elevations of the monitoring wells are provided in Table 2-1.

2.3 Investigation-Derived Waste Disposal

Investigation-derived waste (IDW) generated as part of this investigation included decontamination fluids, well development and purge water, drilling cuttings, personal protective equipment (PPE), and HDPE tubing. IDW was containerized in 55-gallon drums. The IDW was manifested as non-hazardous waste and disposed by Franks Vacuum Truck Service, Inc. of Niagara Falls, New York. Waste Manifest forms are provided in Appendix D.

3.0 RESULTS OF THE INVESTIGATION

This section presents the results of the supplemental groundwater investigation of the SCM Cortlandville site.

3.1 Groundwater Elevation Contours

Groundwater elevation contours were calculated based on water levels measured in 42 area monitoring wells on September 11, 2006. Groundwater elevation contours are shown on Figure 3-1. Groundwater flow is generally towards the northwest, north and northeast of the SCM site.

3.2 Groundwater Analytical Results

Detected analytical results for groundwater samples collected from 34 new and existing monitoring wells are presented on Table 3-1. Detected concentrations of 1,1,1-trichloroethane (1,1,1-TCA), 1,2-dichloroethene (1,2-DCE) and TCE are shown on Figure 3-2. Complete data validation summary tables can be found in the Data Usability Summary Report (DUSR), submitted under separate cover.

Analytical results show that concentrations of TCE, the most prevalent VOC detected in the groundwater samples, ranged from not detected in wells DEC-6D, DEC-21 and DEC-22 to 21.8 ug/L in DEC-09. Concentrations of TCE were generally highest along an axis running from the intersection of Stupke Road and Lime Hollow Road and north-northwest through residential areas north of the SCM site.

3.3 Data Validation and Data Usability Summary Reports

The data packages were prepared by the laboratory in accordance with the NYSDEC's Analytical Services Protocol (ASP) Category B Deliverable requirements and reviewed for compliance with the applicable methods. Qualifications applied to the sample results included 'U' (undetected), 'J' (estimated value due to quality control QC outliers or concentration below the quantitation limit) and 'UJ' (estimated quantitation limit) following the guidelines presented in United States Environmental Protection Agency (USEPA) Region II *Contract Laboratory Program (CLP) Organic Data Review, SOP No. HW-6,* Rev. 11, June 1996. A DUSR was

prepared following the guidelines provided in NYSDEC Division of Environmental Remediation *Guidance for the Development of Data Usability Summary Reports*, dated 1999. The DUSR will be submitted in a separate report.

4.0 REFERENCE

URS Corporation (URS), 2006. Soil Vapor Intrusion Study, Field Sampling Plan.

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
DEC-01D	937860.115	917064.253	1174.30	1174.12	1174.12	D	0						
MNW								8/15/2006 0000	5.77	1168.35	0.00	1,168.35	
MNW								8/24/2006 0000	6.54	1167.58	0.00	1,167.58	
MNW								9/11/2006 0000	7.40	1166.72	0.00	1,166.72	
DEC-01S	937859.642	917061.449	1174.36	1174.03	1174.03	S	0						
MNW								8/15/2006 0000	5.71	1168.32	0.00	1,168.32	
MNW								8/24/2006 0000	6.38	1167.65	0.00	1,167.65	
MNW								9/11/2006 0000	7.27	1166.76	0.00	1,166.76	
DEC-02D	937909.215	917753.056	1198.04	1197.75	1197.75	D	0						
MNW								8/15/2006 0000	29.84	1167.91	0.00	1,167.91	
MNW								8/24/2006 0000	30.79	1166.96	0.00	1,166.96	
MNW								9/11/2006 0000	31.57	1166.18	0.00	1,166.18	
DEC-02S	937907.162	917756.369	1198.57	1198.24	1198.24	S	0						
MNW								8/15/2006 0000	30.39	1167.85	0.00	1,167.85	
MNW								8/24/2006 0000	31.27	1166.97	0.00	1,166.97	
MNW								9/11/2006 0000	31.83	1166.41	0.00	1,166.41	
DEC-03D	938465.473	917083.912	1171.72	1171.52	1171.52	D	0						
MNW								8/15/2006 0000	5.56	1165.96	0.00	1,165.96	
MNW								8/24/2006 0000	6.31	1165.21	0.00	1,165.21	
MNW								9/11/2006 0000	6.85	1164.67	0.00	1,164.67	
DEC-03S	938467.602	917080.864	1171.94	1171.64	1171.64	S	0						
MNW								8/15/2006 0000	5.76	1165.88	0.00	1,165.88	
MNW								8/24/2006 0000	6.49	1165.15	0.00	1,165.15	
MNW								9/11/2006 0000	7.07	1164.57	0.00	1,164.57	
DEC-04D	939109.969	917915.062	1182.04	1181.87	1181.87	D	0						
MNW								8/15/2006 0000	17.21	1164.66	0.00	1,164.66	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW								8/24/2006 0000	17.82	1164.05	0.00	1,164.05	
MNW								9/11/2006 0000	18.25	1163.62	0.00	1,163.62	
DEC-04S	939109.837	917911.104	1182.11	1181.92	1181.92	S	0						
MNW								8/15/2006 0000	17.21	1164.71	0.00	1,164.71	
MNW								8/24/2006 0000	17.83	1164.09	0.00	1,164.09	
MNW								9/11/2006 0000	18.24	1163.68	0.00	1,163.68	
DEC-05D	939062.281	917172.424	1172.45	1172.20	1172.20	D	0						
MNW								8/15/2006 0000	8.72	1163.48	0.00	1,163.48	
MNW								8/24/2006 0000	8.97	1163.23	0.00	1,163.23	
MNW								9/11/2006 0000	9.29	1162.91	0.00	1,162.91	
DEC-05S	939066.411	917172.962	1172.34	1172.08	1172.08	S	0						
MNW								8/15/2006 0000	12.14	1159.94	0.00	1,159.94	
MNW								8/24/2006 0000	8.82	1163.26	0.00	1,163.26	
MNW								9/11/2006 0000	9.15	1162.93	0.00	1,162.93	
DEC-06D	940913.662	919626.747	1168.95	1168.56	1168.56	D	0						
MNW								8/15/2006 0000	11.15	1157.41	0.00	1,157.41	
MNW								8/24/2006 0000	11.97	1156.59	0.00	1,156.59	
MNW								9/11/2006 0000	12.34	1156.22	0.00	1,156.22	
DEC-06S	940912.667	919622.798	1168.68	1168.37	1168.37	S	0						
MNW								8/15/2006 0000	10.99	1157.38	0.00	1,157.38	
MNW								8/24/2006 0000	11.83	1156.54	0.00	1,156.54	
MNW								9/11/2006 0000	12.21	1156.16	0.00	1,156.16	
DEC-07	939126.410	918240.830	1181.54	1181.54	1181.19	S	0						
MNW								8/15/2006 0000	15.41	1165.78	0.00	1,165.78	
MNW								8/24/2006 0000	17.28	1163.91	0.00	1,163.91	
MNW								9/11/2006 0000	17.90	1163.29	0.00	1,163.29	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
DEC-08	939095.260	917598.230	1177.37	1177.37	1176.99	S	0						
MNW								8/15/2006 0000	12.21	1164.78	0.00	1,164.78	
MNW								8/24/2006 0000	12.95	1164.04	0.00	1,164.04	
MNW								9/11/2006 0000	13.41	1163.58	0.00	1,163.58	
DEC-09	939136.990	917348.300	1172.86	1172.86	1172.36	S	0						
MNW								8/15/2006 0000	9.02	1163.34	0.00	1,163.34	
MNW								8/24/2006 0000	8.43	1163.93	0.00	1,163.93	
MNW								9/11/2006 0000	9.72	1162.64	0.00	1,162.64	
DEC-10	938918.700	917153.110	1172.32	1172.32	1171.91	S	0						
MNW								8/15/2006 0000	7.80	1164.11	0.00	1,164.11	
MNW								8/24/2006 0000	8.32	1163.59	0.00	1,163.59	
MNW								9/11/2006 0000	8.70	1163.21	0.00	1,163.21	
DEC-11	938832.680	917233.810	1174.22	1174.22	1173.82	S	0						
MNW								8/15/2006 0000	9.06	1164.76	0.00	1,164.76	
MNW								8/24/2006 0000	9.64	1164.18	0.00	1,164.18	
MNW								9/11/2006 0000	10.06	1163.76	0.00	1,163.76	
DEC-12	938838.460	917592.700	1180.52	1180.52	1180.05	S	0						
MNW								8/15/2006 0000	14.42	1165.63	0.00	1,165.63	
MNW								8/24/2006 0000	15.23	1164.82	0.00	1,164.82	
MNW								9/11/2006 0000	15.76	1164.29	0.00	1,164.29	
DEC-13	938633.750	917807.940	1186.12	1186.12	1185.68	S	0						
MNW								8/15/2006 0000	19.56	1166.12	0.00	1,166.12	
MNW								8/24/2006 0000	20.41	1165.27	0.00	1,165.27	
MNW								9/11/2006 0000	20.98	1164.70	0.00	1,164.70	
DEC-14	938644.020	917998.960	1184.89	1184.89	1184.50	S	0						
MNW								8/15/2006 0000	18.22	1166.28	0.00	1,166.28	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MNW								8/24/2006 0000	19.11	1165.39	0.00	1,165.39	
MNW								9/11/2006 0000	19.68	1164.82	0.00	1,164.82	
DEC-15	938320.730	917844.550	1186.54	1186.54	1186.03	S	0						
MNW								8/15/2006 0000	19.23	1166.80	0.00	1,166.80	
MNW								8/24/2006 0000	20.18	1165.85	0.00	1,165.85	
MNW								9/11/2006 0000	20.81	1165.22	0.00	1,165.22	
DEC-16	938311.030	917657.330	1186.38	1186.38	1185.93	S	0						
MNW								8/15/2006 0000	19.14	1166.79	0.00	1,166.79	
MNW								8/24/2006 0000	20.03	1165.90	0.00	1,165.90	
MNW								9/11/2006 0000	20.69	1165.24	0.00	1,165.24	
DEC-17	938084.990	917455.370	1181.44	1181.44	1181.15	S	0						
MNW								8/24/2006 0000	14.81	1166.34	0.00	1,166.34	
MNW								9/11/2006 0000	15.51	1165.64	0.00	1,165.64	
DEC-18	938161.450	917328.400	1176.40	1176.40	1175.94	S	0						
MNW								8/24/2006 0000	9.81	1166.13	0.00	1,166.13	
MNW								9/11/2006 0000	10.48	1165.46	0.00	1,165.46	
DEC-19	938623.940	917187.130	1168.90	1168.90	1168.49	S	0						
MNW								8/24/2006 0000	3.41	1165.08	0.00	1,165.08	
MNW								9/11/2006 0000	3.98	1164.51	0.00	1,164.51	
DEC-20	938507.210	916900.950	1173.48	1173.48	1173.02	S	0						
MNW								8/24/2006 0000	8.25	1164.77	0.00	1,164.77	
MNW								9/11/2006 0000	8.84	1164.18	0.00	1,164.18	
DEC-21	938631.290	916776.610	1173.36	1173.36	1172.83	S	0						
MNW								8/24/2006 0000	8.58	1164.25	0.00	1,164.25	
MNW								9/11/2006 0000	9.10	1163.73	0.00	1,163.73	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
DEC-22	938837.550	916667.340	1170.46	1170.46	1170.05	S	0						
MNW								8/24/2006 0000	6.77	1163.28	0.00	1,163.28	
MNW								9/11/2006 0000	7.17	1162.88	0.00	1,162.88	
DEC-23	937831.240	918090.130	1208.04	1208.04	1207.50	S	0						
MNW								8/24/2006 0000	39.88	1167.62	0.00	1,167.62	
MNW								9/11/2006 0000	40.63	1166.87	0.00	1,166.87	
DEC-24	937830.300	917918.580	1208.10	1208.10	1207.56	S	0						
MNW								8/24/2006 0000	40.13	1167.43	0.00	1,167.43	
MNW								9/11/2006 0000	40.87	1166.69	0.00	1,166.69	
DEC-25	937823.150	917793.120	1208.98	1208.98	1208.52	S	0						
MNW								8/24/2006 0000	41.35	1167.17	0.00	1,167.17	
MNW								9/11/2006 0000	42.11	1166.41	0.00	1,166.41	
DEC-26	937813.200	917507.730	1186.22	1188.82	1188.88	S	0						
MNW								8/24/2006 0000	21.89	1166.99	0.00	1,166.99	
MNW								9/11/2006 0000	22.65	1166.23	0.00	1,166.23	
DEC-27	937803.700	917401.260	1180.42	1182.84	1182.84	S	0						
MNW								8/24/2006 0000	15.86	1166.98	0.00	1,166.98	
MNW								9/11/2006 0000	16.55	1166.29	0.00	1,166.29	
DEC-28	937805.870	917288.060	1176.21	1178.58	1178.61	S	0						
MNW								8/24/2006 0000	11.25	1167.36	0.00	1,167.36	
MNW								9/11/2006 0000	12.02	1166.59	0.00	1,166.59	
DEC-29	937793.140	917200.960	1175.84	1175.84	1175.22	S	0						
MNW								8/24/2006 0000	7.66	1167.56	0.00	1,167.56	
MNW								9/11/2006 0000	8.44	1166.78	0.00	1,166.78	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-1
GROUNDWATER ELEVATION MEASUREMENTS
SCM - CORTLANDVILLE

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
DEC-30	937763.190	916979.590	1176.26	1178.81	1178.81	S	0						
MNW								8/24/2006 0000	10.54	1168.27	0.00	1,168.27	
MNW								9/11/2006 0000	11.34	1167.47	0.00	1,167.47	
MW-02D	937826.880	917787.230	1208.96	1211.58	1211.14	D	0						
MNW								8/24/2006 0000	NM	-	NM	-	
MNW								9/11/2006 0000	NM	-	NM	-	
MW-02S	937829.090	917795.420	1208.96	1210.82	1210.44	S	0						
MNW								8/15/2006 0000	42.13	1168.31	0.00	1,168.31	
MNW								8/24/2006 0000	43.32	1167.12	0.00	1,167.12	
MNW								9/11/2006 0000	44.05	1166.39	0.00	1,166.39	
MW-04D	937831.530	918097.550	1207.88	1210.08	1209.66	D	0						
MNW								8/15/2006 0000	41.49	1168.17	0.00	1,168.17	
MNW								8/24/2006 0000	42.49	1167.17	0.00	1,167.17	
MNW								9/11/2006 0000	43.31	1166.35	0.00	1,166.35	
MW-04S	937829.990	918106.090	1207.96	1209.90	1209.26	S	0						
MNW								8/15/2006 0000	40.46	1168.80	0.00	1,168.80	
MNW								8/24/2006 0000	41.02	1168.24	0.00	1,168.24	
MNW								9/11/2006 0000	42.38	1166.88	0.00	1,166.88	
MW-05D	937762.630	916973.070	1176.19	1178.56	1178.37	D	0						
MNW								8/15/2006 0000	10.37	1168.00	0.00	1,168.00	
MNW								8/24/2006 0000	11.18	1167.19	0.00	1,167.19	
MNW								9/11/2006 0000	11.95	1166.42	0.00	1,166.42	
MW-05S	937752.560	916973.790	1176.27	1178.23	1177.91	S	0						
MNW								8/15/2006 0000	9.27	1168.64	0.00	1,168.64	
MNW								8/24/2006 0000	9.93	1167.98	0.00	1,167.98	
MNW								9/11/2006 0000	10.73	1167.18	0.00	1,167.18	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Geologic Zone:
D Deep Aquifer
S Shallow Aquifer

Type:
MNW Monitoring Well

TABLE 2-2
MONITORING WELL SURVEY DATA
SCM - CORTLANDVILLE

Location ID / Type	Inst. Date	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Total Boring Depth (ft)	Geol. Zone
DEC-01D MNW	3/6/2006	937860.115	917064.253	1174.30	1174.12	1174.12	18.0	D
DEC-01S MNW	3/6/2006	937859.642	917061.449	1174.36	1174.03	1174.03	13.0	S
DEC-02D MNW	3/7/2006	937909.215	917753.056	1198.04	1197.75	1197.75	43.0	D
DEC-02S MNW	3/7/2006	937907.162	917756.369	1198.57	1198.24	1198.24	38.0	S
DEC-03D MNW	3/8/2006	938465.473	917083.912	1171.72	1171.52	1171.52	15.0	D
DEC-03S MNW	3/8/2006	938467.602	917080.864	1171.94	1171.64	1171.64	10.0	S
DEC-04D MNW	3/9/2006	939109.969	917915.062	1182.04	1181.87	1181.87	27.0	D
DEC-04S MNW	3/8/2006	939109.837	917911.104	1182.11	1181.92	1181.92	22.0	S
DEC-05D MNW	3/9/2006	939062.281	917172.424	1172.45	1172.20	1172.20	18.0	D
DEC-05S MNW	3/9/2006	939066.411	917172.962	1172.34	1172.08	1172.08	13.0	S
DEC-06D MNW	3/9/2006	940913.662	919626.747	1168.95	1168.56	1168.56	19.0	D
DEC-06S MNW	3/9/2006	940912.667	919622.798	1168.68	1168.37	1168.37	14.0	S
DEC-07 MNW	8/8/2006	939126.410	918240.830	1181.54	1181.54	1181.19	21.5	S
DEC-08 MNW	8/8/2006	939095.260	917598.230	1177.37	1177.37	1176.99	19.0	S
DEC-09 MNW	8/9/2006	939136.990	917348.300	1172.86	1172.86	1172.36	17.0	S
DEC-10 MNW	8/9/2006	938918.700	917153.110	1172.32	1172.32	1171.91	15.0	S
DEC-11 MNW	8/9/2006	938832.680	917233.810	1174.22	1174.22	1173.82	16.0	S
DEC-12 MNW	8/10/2006	938838.460	917592.700	1180.52	1180.52	1180.05	21.0	S
DEC-13 MNW	8/10/2006	938633.750	917807.940	1186.12	1186.12	1185.68	27.0	S
DEC-14 MNW	8/11/2006	938644.020	917998.960	1184.89	1184.89	1184.50	25.0	S
DEC-15 MNW	8/14/2006	938320.730	917844.550	1186.54	1186.54	1186.03	27.0	S
DEC-16 MNW	8/15/2006	938311.030	917657.330	1186.38	1186.38	1185.93	27.0	S
DEC-17 MNW	8/15/2006	938084.990	917455.370	1181.44	1181.44	1181.15	22.0	S
DEC-18 MNW	8/16/2006	938161.450	917328.400	1176.40	1176.40	1175.94	17.0	S
DEC-19 MNW	8/16/2006	938623.940	917187.130	1168.90	1168.90	1168.49	12.0	S
DEC-20 MNW	8/16/2006	938507.210	916900.950	1173.48	1173.48	1173.02	15.0	S
DEC-21 MNW	8/16/2006	938631.290	916776.610	1173.36	1173.36	1172.83	15.0	S

Geologic Zone:

D Deep Aquifer

S Shallow Aquifer

Type:

MNW Monitoring Well

TABLE 2-2
MONITORING WELL SURVEY DATA
SCM - CORTLANDVILLE

Location ID / Type	Inst. Date	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Total Boring Depth (ft)	Geol. Zone
DEC-22 MNW	8/17/2006	938837.550	916667.340	1170.46	1170.46	1170.05	14.0	S
DEC-23 MNW	8/22/2006	937831.240	918090.130	1208.04	1208.04	1207.50	47.0	S
DEC-24 MNW	8/23/2006	937830.300	917918.580	1208.10	1208.10	1207.56	47.0	S
DEC-25 MNW	8/23/2006	937823.150	917793.120	1208.98	1208.98	1208.52	49.0	S
DEC-26 MNW	8/21/2006	937813.200	917507.730	1186.22	1188.82	1188.88	25.0	S
DEC-27 MNW	8/17/2006	937803.700	917401.260	1180.42	1182.84	1182.84	19.0	S
DEC-28 MNW	8/18/2006	937805.870	917288.060	1176.21	1178.58	1178.61	15.0	S
DEC-29 MNW	8/17/2006	937793.140	917200.960	1175.84	1175.84	1175.22	15.0	S
DEC-30 MNW	8/18/2006	937763.190	916979.590	1176.26	1178.81	1178.81	15.0	S
MW-02D MNW		937826.880	917787.230	1208.96	1211.58	1211.14	NA	D
MW-02S MNW		937829.090	917795.420	1208.96	1210.82	1210.44	70.43	S
MW-04D MNW		937831.530	918097.550	1207.88	1210.08	1209.66	NA	D
MW-04S MNW		937829.990	918106.090	1207.96	1209.90	1209.26	73.41	S
MW-05D MNW		937762.630	916973.070	1176.19	1178.56	1178.37	NA	D
MW-05S MNW		937752.560	916973.790	1176.27	1178.23	1177.91	39.46	S

Geologic Zone:

D Deep Aquifer

S Shallow Aquifer

Type:

MNW Monitoring Well

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-01S	DEC-02S	DEC-03D	DEC-04D	DEC-05D
Sample ID		DEC-01S	DEC-02S	DEC-03D	DEC-04D	DEC-05D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/12/06	09/12/06	09/12/06	09/11/06	09/11/06
Parameter	**Units**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L				0.13 J	
1,2-Dichloroethene (cis)	UG/L			0.12 J	0.47 J	0.57
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L					
Chloroform	UG/L					
Toluene	UG/L					
Trichloroethene	UG/L	1.26	3.79	4.56	10.9	15.4
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-06D	DEC-07	DEC-08	DEC-09	DEC-10
Sample ID		DEC-6D	DEC-07	DEC-08	DEC-09	DEC-10
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/11/06	09/13/06	09/11/06	09/11/06	09/11/06
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L			0.16 J		
1,2-Dichloroethene (cis)	UG/L			0.87	1.10	
Acetone	UG/L		18.8			
Benzene	UG/L		0.31 J			
Carbon disulfide	UG/L		0.17 J			
Chloroform	UG/L		0.17 J	0.22 J		
Toluene	UG/L	0.13 J	0.45 J			
Trichloroethene	UG/L		1.32	16.5	21.8	6.73
Xylene (total)	UG/L		0.23 J			

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-11	DEC-11	DEC-12	DEC-13	DEC-14
Sample ID		DEC-31	DEC-11	DEC-12	DEC-13	DEC-14
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/11/06	09/12/06	09/12/06	09/12/06	09/12/06
Parameter	Units	Field Duplicate (1-1)				
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L			0.13 J		
1,2-Dichloroethene (cis)	UG/L	0.23 J	0.23 J	0.89	0.39 J	
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L					
Chloroform	UG/L	0.12 J	0.13 J	0.24 J		0.11 J
Toluene	UG/L					
Trichloroethene	UG/L	11.3	11.5	16.8	10.3	0.22 J
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-15	DEC-16	DEC-17	DEC-18	DEC-19
Sample ID		DEC-15	DEC-16	DEC-17	DEC-18	DEC-19
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/12/06	09/12/06	09/12/06	09/12/06	09/12/06
Parameter	**Units**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L					
1,2-Dichloroethene (cis)	UG/L		0.75	0.13 J		0.11 J
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L					
Chloroform	UG/L					
Toluene	UG/L					
Trichloroethene	UG/L	3.88	14.1	7.15	2.57	4.16
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-20	DEC-21	DEC-22	DEC-23	DEC-24
Sample ID		DEC-20	DEC-21	DEC-22	DEC-23	DEC-24
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/12/06	09/12/06	09/12/06	09/14/06	09/13/06
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L					
1,2-Dichloroethene (cis)	UG/L					
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L					
Chloroform	UG/L			0.11 J		
Toluene	UG/L					
Trichloroethene	UG/L	1.67			0.30 J	0.75
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-25	DEC-26	DEC-27	DEC-28	DEC-28
Sample ID		DEC-25	DEC-26	DEC-27	DEC-28	DEC-32D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/13/06	09/13/06	09/13/06	09/13/06	09/13/06
Parameter	Units					Field Duplicate (1-1)
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L					
1,2-Dichloroethene (cis)	UG/L		0.27 J		0.16 J	0.16 J
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L					
Chloroform	UG/L					
Toluene	UG/L					
Trichloroethene	UG/L	2.14	9.89	4.79	3.43	3.44
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

Location ID		DEC-29	DEC-30	MW-01S	MW-02S	MW-04S
Sample ID		DEC-29	DEC-30	MW-01S	MW-02S	MW-04S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		09/13/06	09/13/06	09/14/06	09/13/06	09/14/06
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/L					
1,2-Dichloroethene (cis)	UG/L			0.28 J		
Acetone	UG/L					
Benzene	UG/L					
Carbon disulfide	UG/L	0.13 J				
Chloroform	UG/L					
Toluene	UG/L					
Trichloroethene	UG/L	2.53	1.30	7.86	2.28	0.67
Xylene (total)	UG/L					

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

TABLE 3-1
VALIDATED GROUNDWATER DETECTED ANALYTICAL RESULTS
SCM - CORTLANDVILLE

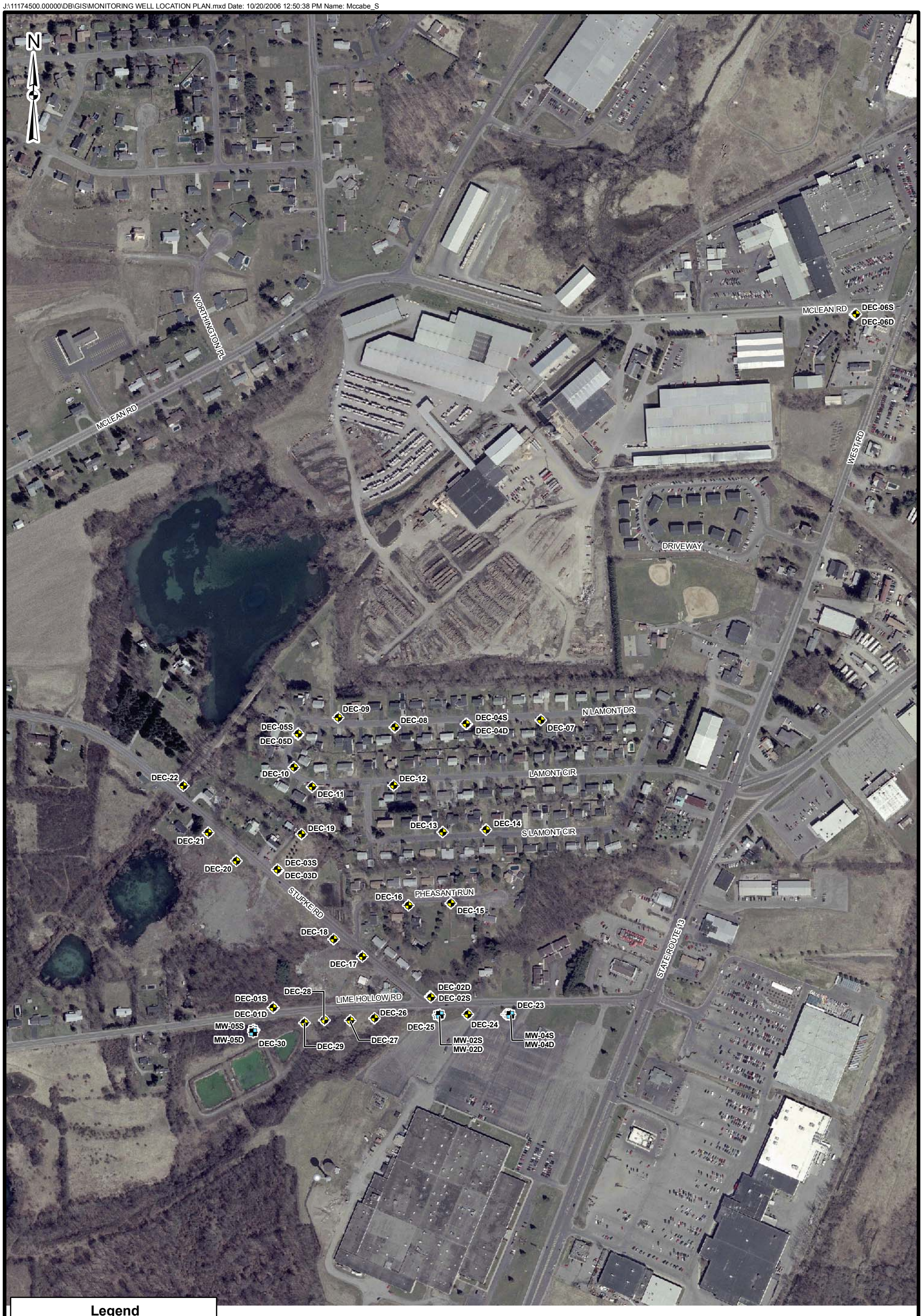
Location ID		MW-05S
Sample ID		MW-05S
Matrix		Groundwater
Depth Interval (ft)		-
Date Sampled		09/13/06
Parameter	**Units**	
Volatile Organic Compounds		
1,1,1-Trichloroethane	UG/L	
1,2-Dichloroethene (cis)	UG/L	
Acetone	UG/L	
Benzene	UG/L	
Carbon disulfide	UG/L	
Chloroform	UG/L	
Toluene	UG/L	
Trichloroethene	UG/L	1.67
Xylene (total)	UG/L	

Flags assigned during chemistry validation are shown.

U - Not detected above the reported quantitation limit.
UJ - Not detected. The reported quantitation limit is an estimated value.
J - The reported concentration is an estimated value.

Only Detected Results Reported.

J:\11174500.00000\DB\GIS\MONITORING WELL LOCATION PLAN.mxd Date: 10/20/2006 12:50:38 PM Name: Mccabe_S



URS

SCM - CORTLANDVILLE
MONITORING WELL LOCATION PLAN

FIGURE 2-1

J:\11174500.00000\DB\GIS\wgcon_091106.mxd Date: 11/1/2006 1:58:20 PM Name: Mccabe_S

Legend

- Monitoring Well
- 1167 — Groundwater Elevation Contour
- Groundwater Flow Direction
- DEC-30, 1,167.47 — Location ID; Groundwater Elevation (ft amsl)

0 125 250 500 Feet

URS

SCM - CORTLANDVILLE
GROUNDWATER ELEVATION CONTOUR MAP
(SEPTEMBER 11, 2006)

FIGURE 3-1

J:\11174500.00000\DB\GIS\wgres_0906.mxd Date: 10/31/2006 9:05:42 AM Name: Mccabe_S

URS

SCM - CORTLANDVILLE
1,1,1-TRICHLOROETHANE, 1,2-DICHLOROETHENE, AND TRICHLOROETHENE CONCENTRATIONS IN GROUNDWATER - SEPTEMBER 2006

FIGURE 3-2

APPENDIX A

MONITORING WELL BORING LOGS

AND WELL CONSTRUCTION DRAWINGS

URS Corporation

TEST BORING LOG

BORING NO:	DEC-07
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/07/06
DATE FINISHED:	08/08/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	5	8	58%	Dark Brown	Very Stiff	SILT, some fine gravel, trace medium to fine sand	ML	0.0	Dry
				9	6							
		2	SS	5	12	33%	Medium Brown	Medium Dense	Fine to coarse GRAVEL, some clay and silt, trace fine sand	GW-GM		
				12	8							
5		3	SS	4	10	25%						
				14	16							
		4	SS	8	19	50%	Light Brown	Dense	Fine to medium GRAVEL, some silt and fine to medium sand			Moist
				14	9							
		5	SS	5	5	63%		Loose	Fine SAND, trace medium to coarse sand and fine gravel	SP		
10				2	2							
		6	SS	2	1	67%						
				13	19			Hard	CLAY, some fine to coarse gravel	CL		
		7	SS	13	22	83%		Dense	Fine to coarse SAND and SILT, trace fine to coarse gravel	SW-SM		
				25	28							
15		8	SS	16	25	67%			Fine to coarse GRAVEL, some silt and fine to coarse sand	GW-GM		
				25	7							
		9	SS	55	43	88%		Very Dense	GRAVEL, some fine to coarse sand and silt			Wet
				31	29							
									End of borehole at 20.7'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis.

PROJECT NO.	11174586.00000
BORING NO.	DEC-07

URS Corporation

TEST BORING LOG

BORING NO:	DEC-08
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/08/06
DATE FINISHED:	08/08/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	1	8	50%	Dark Brown	Very Stiff	SILT, some fine gravel, trace fine to medium sand	ML	0.0	Dry
				8	10							
		2	SS	5	11	50%			SILT and CLAY, some fine to coarse gravel	CL-ML		Moist
				6	4							
5		3	SS	2	4	33%	Brown	Stiff				
				6	8							
		4	SS	6	8	38%		Medium Dense	GRAVEL, some fine to coarse sand and silt	GW		
				6	7							
		5	SS	5	6	46%		Loose				
10				2	15							
		6	SS	3	4	71%	Dark Brown		Medium to coarse SAND, some clay and fine to coarse gravel	SW-SC		Wet
				3	3							
		7	SS	7	50/3	100%		Very Dense				
15												
		8	SS	6	14	58%	Brown	Medium Dense	SAND, some silt, trace clay and fine to coarse gravel	SW-SM		
				10	10							
20									End of borehole at 19'			
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-08

URS Corporation

TEST BORING LOG

BORING NO:	DEC-09
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/09/06
DATE FINISHED:	08/09/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	2	8	63%	Dark Brown	Very Stiff	SILT, some fine gravel, trace fine to coarse sand	ML	0.0	Dry
				21	18							
		2	SS	12	14	54%						Moist
				12	12							
5		3	SS	5	5	54%	Brown	Stiff	SILT and CLAY, some fine to coarse gravel, trace sand	CL-ML		
				7	13							
		4	SS	6	9	50%		Very Stiff				
				18	9							
		5	SS	5	9	33%		Medium Dense	GRAVEL, some silt, clay and sand	GW-GM		
10				5	4							
		6	SS	6	4	42%		Loose				Wet
				5	11							
15												
		7	SS	4	20	58%		Dense				
				19	18							
									End of borehole at 17'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-09

URS Corporation

TEST BORING LOG

BORING NO:	DEC-10
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**
GROUNDWATER:	**GROUND ELEVATION:**

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				*** POCKET PENETROMETER READING**				

DATE STARTED:	08/09/06
DATE FINISHED:	08/09/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		1	SS	3	11	38%	Dark Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				7	8							
		2	SS	8	19	33%						
				11	9		Gray	Med Dense	Fine to coarse GRAVEL, some silt	GW-GM		
5		3	SS	4	5	29%	Dark Brown	Stiff	SILT and CLAY, some fine to coarse gravel	CL-ML		
				6	12							
		4	SS	6	9	38%						
				6	5							
		5	SS	8	9	42%		Medium Dense	Fine to coarse GRAVEL, some medium to coarse sand	GW		Wet
10				5	5							
		6	SS	3	4	46%		Loose				
15				5	24							
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-10

URS Corporation

TEST BORING LOG

BORING NO:	DEC-11
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/09/06
DATE FINISHED:	08/09/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	7	28	75%	Brown	Hard	SILT, some fine to coarse gravel	ML	0.0	Dry
				30	24		Gray	Very Dense	Fine to coarse GRAVEL, some sand	GW		
		2	SS	18	50	75%	Brown	Hard	SILT, some fine to coarse gravel, trace sand	ML		
5		3	SS	10	6	33%		Stiff	SILT and CLAY, some fine to coarse gravel	CL-ML		Moist
				5	7							
		4	SS	6	6	38%						
				7	6		Gray	Med Dense	Fine to coarse GRAVEL, some fine sand and silt - clay	GW		
		5	SS	14	16	50%		Dense				
10				19	30		Brown					Wet
15		6	SS	27	12	58%						
				27	18							
									End of borehole at 16'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-11

URS Corporation

TEST BORING LOG

BORING NO:	DEC-12
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/10/06
DATE FINISHED:	08/10/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		1	SS	3	8	50%	Dark Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Dry
				9	9			Medium Dense	Fine to coarse GRAVEL, some sand	GW		
		2	SS	5	9	38%	Gray					
				7	5							
5		3	SS	3	4	38%	Brown	Loose	Fine to coarse GRAVEL, some silt and clay	GW-GC		Moist
				6	5							
		4	SS	6	7	58%		Stiff	SILT and CLAY, some fine to coarse gravel	CL-ML		
				6	13							
		5	SS	3	9	54%		Medium Dense	Fine SAND, some fine to coarse gravel	SP		
10				8	14		Light Brown		Fine to coarse GRAVEL, some clay	GW-GC		
		6	SS	2	4	38%		Loose				
				5	2							
		7	SS	5	8	38%		Hard	SILT and CLAY, some fine to coarse gravel and fine to coarse sand	CL-ML		
				26	14							
15		8	SS	3	1	50%		Soft				Wet
				1	WoH		Brown	Very Loose	SAND, some silt	SW-SM		
20		9	SS	12	12	71%		Dense				
				26	26				Fine to coarse GRAVEL, some sand	GW		
									End of borehole at 21'			
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-12

URS Corporation

TEST BORING LOG

BORING NO:	DEC-13
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/10/06
DATE FINISHED:	08/10/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	2	8	58%	Dark Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Dry
				12	13			Medium Dense	Fine to coarse GRAVEL, some sand	GW		
		2	SS	6	8	42%						
				6	7				Fine to coarse GRAVEL, some clay and silt, trace sand	GW-GC		Moist
5		3	SS	7	10	42%	Gray					
				16	14							
		4	SS	21	18	42%		Dense				
				22	30							
		5	SS	36	25	63%	Light Brown	Very Dense				
10				33	36							
		6	SS	13	31	75%			Fine to coarse SAND, some fine to coarse gravel, silt and clay	SW		
				29	18							
		7	SS	15	17	58%		Dense				
				23	24		Dark Brown					
15		8	SS	16	22	78%		Very Dense				
				50/5								
		9	SS	33	40	75%	Gray					
				27	28							
		10	SS	31	34	75%	Brown					Wet
20				41	50							
		11	SS	21	18	58%		Dense				
				16	11							
25												
		12	SS	12	45	63%		Very Dense				
				45	21							
									End of borehole at 27'			
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-13

URS Corporation

TEST BORING LOG

BORING NO:	DEC-14
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/11/06
DATE FINISHED:	08/11/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		

* POCKET PENETROMETER READING

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	3	12	42%	Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				10	9							
		2	SS	6	5	38%		Loose	Fine to coarse GRAVEL, some silt and fine sand	GW-GM		
				3	4							
5		3	SS	3	5	25%		Medium Dense	- some clay			
				12	19							
		4	SS	10	10	54%						
				13	25		Light Brown		Fine to coarse SAND and fine to coarse GRAVEL, trace silt and clay	SW		
		5	SS	20	20	67%		Dense				
10				24	20							
		6	SS	19	21	67%	Gray Brown					
				23	39							
		7	SS	21	22	75%		Very Dense				
				50/4								
15		8	SS	29	50/2	75%						
		9	SS	30	31	67%						
				34	50							
		10	SS	34	39	67%						Wet
20				49	10							
25		11	SS	34	46	83%						
				39	40							
									End of borehole at 26'			
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-14

URS Corporation

TEST BORING LOG

BORING NO:	DEC-15
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/14/06
DATE FINISHED:	08/14/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		

* POCKET PENETROMETER READING

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	4	12	50%	Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Dry
				13	22			Medium	Fine to coarse GRAVEL, some silt	GW-GM		
		2	SS	10	15	42%		Dense				
				8	5							
5		3	SS	5	6	42%		Loose	- some clay			Moist
				4	11							
		4	SS	8	14	44%		Very				
				50				Dense				
		5	SS	15	14	58%		Medium				
10				14	27			Dense	Fine to coarse SAND, some gravel	SW		
		6	SS	8	29	67%		Hard	SILT and CLAY, some F-C sand and gravel	CL-ML		
				49	36		Gray	Very Dense	Fine to coarse GRAVEL, some sand	GW		
		7	SS	15	18	63%	Brown	Dense	and trace to some silt			
				19	30							
15		8	SS	18	36	58%		Very	Fine to coarse SAND, some gravel and	SW		
				22	21			Dense	silt			
		9	SS	16	37	58%		Hard	SILT and CLAY, some gravel	CL-ML		
				25	18			Very	Fine to coarse GRAVEL, some sand	GW		
		10	SS	18	29	71%		Dense				Wet
20				28	28							
		11	SS	11	25	58%		Dense				
				22	20							
25												
		12	SS	4	15	58%			Fine to coarse SAND and GRAVEL	SW		
				31	30							
									End of borehole at 27'			
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-15

URS Corporation

TEST BORING LOG

BORING NO:	DEC-16
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/15/06
DATE FINISHED:	08/15/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	5	18	75%	Brown	Hard	SILT, some fine to coarse gravel	ML	0.0	Dry
				13	10			Dense	Fine to coarse GRAVEL, some silt	GW-GM		
		2	SS	10	18	50%		Medium				
				8	46		Gray	Dense	- some F-C sand, trace clay			
5		3	SS	5	13	75%	Brown	Very Stiff	SILT, some F-C gravel, trace sand	ML		Moist
				8	6			Med Dense	Fine to coarse GRAVEL, some sand,	GW-GC		
		4	SS	4	5	33%		Loose	some silt and clay			
				4	5							
		5	SS	16	12	58%		Dense				
10				19	29							
		6	SS	10	50/3	44%	White	Very				
				-	-			Dense				
		7	SS	15	48	79%	Brown					
				43	49							
15		8	SS	29	45	71%						
				37	45			Hard	SILT and CLAY, some gravel, trace sand	CL-ML		
		9	SS	43	34	46%		Very	Fine to coarse GRAVEL, some silt and	GW-GM		
				27	41			Dense	sand			
		10	SS	39	30	71%			Fine to coarse SAND, some gravel,	SW-SC		
20				29	46				silt and clay			
		11	SS	11	16	54%		Medium				Wet
				14	14			Dense				
25												
		12	SS	29	22	58%		Dense				
				23	22							
									End of borehole at 27'			
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-16

URS Corporation

TEST BORING LOG

BORING NO:	DEC-17
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/15/06
DATE FINISHED:	08/15/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		

* POCKET PENETROMETER READING

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	4	3	38%	Brown	Medium Stiff	SILT, some fine to coarse gravel and sand	ML	0.0	Moist
				4	3							
		2	SS	5	7	50%		Very Stiff				
				9	9			Med Dense	Fine to coarse GRAVEL, some silt	GW-GM		
5		3	SS	4	4	21%	Gray	Stiff	SILT, some gravel	ML		
				8	10		Brown	Med Dense	Fine to coarse GRAVEL, some sand	GW		
		4	SS	11	6	46%		Stiff	SILT and CLAY, some fine to coarse sand and gravel	CL-ML		
				8	14							
		5	SS	8	10	33%		Hard				
10				23	40							
		6	SS	18	16	58%		Medium Dense	Fine to coarse SAND, some silt, clay and gravel	SW-SC		
				10	36							
		7	SS	19	18	54%		Dense				
				20	30				Fine to coarse GRAVEL, some sand and silt	GW		
15		8	SS	12	19	63%						Wet
				27	26							
		9	SS	19	22	75%		Very Dense				
				32	36							
20												
		10	SS	10	13	50%		Dense				
				19	20							
									End of borehole at 22'			
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-17

URS Corporation

TEST BORING LOG

BORING NO:	DEC-18
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**
GROUNDWATER:	**GROUND ELEVATION:**

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DATE STARTED:	08/16/06
DATE FINISHED:	08/16/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		1	SS	17	19	63%	Brown	Very Stiff	SILT, some gravel, trace sand	ML	0.0	Moist
				10	8		Gray	Med Dense	Fine to coarse GRAVEL, some sand	GW		
		2	SS	13	14	42%	Brown	Very Stiff	SILT and CLAY, some gravel	CL-ML		
				9	10							
5		3	SS	7	6	38%		Stiff	- some sand			
				5	5							
		4	SS	10	8	46%						
				5	6		Black	Medium	Fine to coarse GRAVEL, some silt and clay	GW-GC		
		5	SS	15	12	54%	Brown	Dense	trace sand			
10				9	8			Very Stiff	SILT and CLAY, some gravel and sand	CL-ML		
		6	SS	4	7	54%		Medium	Fine to coarse GRAVEL, some sand,	GW		Wet
				9	7			Dense	trace silt and clay			
15												
		8	SS	2	7	25%						
				4	7							
									End of borehole at 17'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-18

URS Corporation

TEST BORING LOG

BORING NO:	DEC-19
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**
GROUNDWATER:	**GROUND ELEVATION:**
DATE STARTED:	08/16/06
DATE FINISHED:	08/16/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				*** POCKET PENETROMETER READING**				

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		1	SS	6	8	33%	Brown	Stiff	SILT, some gravel	ML	0.0	Moist
				6	3			Medium Dense	Fine to coarse GRAVEL, some silt	GW-GM		
		2	SS	2	3	29%						
				9	17			Stiff	CLAY, some fine to coarse gravel	CL		
5		3	SS	6	13	38%		Medium Dense	Fine to coarse gravel, some sand	GW		Wet
				10	2							
10		4	SS	2	2	25%		Loose				
				3	4							
									End of borehole at 12'			
15												
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-19

URS Corporation

TEST BORING LOG

BORING NO:	DEC-20
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/16/06
DATE FINISHED:	08/16/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		

* POCKET PENETROMETER READING

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	8	8	38%	Brown	Stiff	SILT, some gravel	ML	0.0	Moist
				2	2			Loose	Fine to coarse GRAVEL, some sand	GW		
		2	SS	3	5	46%		Medium Dense	SAND, some fine to coarse gravel, silt and clay	SW-SC		
				7	7							
5		3	SS	7	14	33%			Fine to coarse gravel, some sand, trace silt	GW		
				10	9							
		4	SS	5	8	33%						
				7	9							
		5	SS	4	4	38%		Loose				Wet
10				3	3							
		6	SS	14	19	38%		Dense				
15				14	13							
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-20

URS Corporation

TEST BORING LOG

BORING NO:	DEC-21
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/16/06
DATE FINISHED:	08/16/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		1	SS	9	4	79%	Brown	Very Stiff	SILT, some gravel	ML	0.0	Moist
				14	18			Medium Dense	Fine to coarse GRAVEL, some silt and sand	GW-GM		
		2	SS	8	9	46%						
				6	6							
5		3	SS	3	2	33%		Medium Stiff	SILT and CLAY, some gravel, trace sand	CL-ML		
				4	5							
		4	SS	6	5	38%		Stiff				
				5	6							
		5	SS	4	2	38%		Loose	Fine to coarse GRAVEL, some sand	GW		Wet
10				3	5							
		6	SS	4	8	29%		Medium Dense				
15				7	4							
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-21

URS Corporation

TEST BORING LOG

BORING NO:	DEC-22
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/17/06
DATE FINISHED:	08/17/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		1	SS	16	21	33%	Brown	Hard	SILT, some gravel	ML	0.0	Moist
				24	16			Dense	Fine to coarse GRAVEL, some sand, trace silt	GW		
		2	SS	13	12	58%						
				19	18							
5		3	SS	9	9	33%		Medium Dense				
				6	4							
		4	SS	5	12	42%						
				8	10							Wet
10												
		5	SS	12	15	33%						
				8	7							
15									End of borehole at 14'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-22

URS Corporation

TEST BORING LOG

BORING NO:	DEC-23
PROJECT:	SCM Cortlandville
SHEET:	1 of 2
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/22/06
DATE FINISHED:	08/22/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	2	6	38%	Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				15	16			Medium Dense	Fine to coarse GRAVEL, some silt and fine to coarse sand	GW-GM		
5		2	SS	5	5	33%		Loose				
				3	4							
10		3	SS	5	10	54%		Medium Dense	- some clay			
				14	14							
15		4	SS	20	28	63%		Very Dense				
				31	29							
20		5	SS	23	48	60%						
				50/3	-							
25		6	SS	20	21	69%			Fine to coarse SAND, some fine to coarse gravel and silt	SW-SM		
				50/4	-							
30		7	SS	19	50/4	60%			Fine to coarse GRAVEL, some clay and silt, trace sand	GW-GC		
				-	-							
		8	SS	22	49	75%						
				28	48							
35		9	SS	16	41	38%						
				23	30							

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

No environmental samples were collected for laboratory analysis.

Intermittent sampling (every 5') to 30' bgs. Continuous sampling to top of water table.

One sample collected 5' below water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-23

URS Corporation											TEST BORING LOG		
											BORING NO:	DEC-23	
PROJECT:	SCM Cortlandville										SHEET:	2 of 2	
CLIENT:	NYSDEC										JOB NO.:	11174586.00000	
	SAMPLE						DESCRIPTION						
DEPTH FEET	STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID		
		10	SS	36	50/4	80%	Brown	Very	Fine to coarse GRAVEL, some fine to	GW	0.0	Moist	
				-	-		Gray	Dense	coarse sand				
		11	SS	39	50/4	80%	Brown	Hard	SILT and CLAY, some fine to coarse	CL-ML			
40				-	-				sand and gravel				
		12	SS	21	26	63%		Very	Fine to coarse GRAVEL, some fine to	GW-GM		Wet	
				27	35			Dense	coarse sand and silt				
45													
		13	SS	11	17	50%		Medium					
				31	40			Dense					
									End of borehole at 47'				
50													
55													
60													
65													
70													
75													

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

PROJECT NO. 11174586.00000

BORING NO. DEC-23

URS Corporation

TEST BORING LOG

BORING NO:	DEC-24
PROJECT:	SCM Cortlandville
SHEET:	1 of 2
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/22/06
DATE FINISHED:	08/23/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	8	8	50%	Brown	Very Stiff	SILT, some fine to coarse gravel, asphalt (3-5"), trace fine to coarse sand	ML	0.0	Moist
				14	9							
5		2	SS	8	5	0%		Stiff	- No recovery			
				6	4							
10		3	SS	3	3	33%		Loose	Fine to coarse SAND, some fine to coarse gravel and silt	SW-SM		Wet
				3	9							
15		4	SS	12	14	58%		Dense	Fine to coarse GRAVEL, some fine to coarse sand and silt	GW-GM		Moist
				17	12							
20		5	SS	25	26	50%		Very Dense				
				24	25							
25		6	SS	24	37	63%						
				34	26							
30		7	SS	45	46	88%						
				50/4	-							
		8	SS	35	50/4	60%		Hard	SILT, some fine to coarse gravel, trace sand	ML		
35				-	-							
		9	SS	30	29	67%						
				26	21							

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

No environmental samples were collected for laboratory analysis.

Intermittent sampling (every 5') to 30' bgs. Continuous sampling to top of water table.

One sample collected 5' below water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-24

URS Corporation	TEST BORING LOG
	BORING NO: DEC-24
PROJECT: SCM Cortlandville	SHEET: 2 of 2
CLIENT: NYSDEC	JOB NO.: 11174586.00000

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		10	SS	21	26	71%	Brown	Very	Fine to coarse GRAVEL, some silt and	GW-GC	0.0	Moist
				28	24		Gray	Dense	clay, fine to coarse sand			
		11	SS	15	17	58%	Brown	Dense				
40				20	22							
		12	SS	19	21	71%		Hard	SILT and CLAY, some fine to coarse	CL-ML		Wet
				25	24				gravel, trace sand			
		13	SS	19	21	67%		Dense	Fine to coarse GRAVEL, some fine to	GW-GC		
				17	16				coarse sand and clay			
45												
		14	SS	19	29	50%		Very				
				28	18			Dense				
									End of borehole at 47'			
50												
55												
60												
65												
70												
75												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

PROJECT NO. 11174586.00000

BORING NO. DEC-24

URS Corporation

TEST BORING LOG

BORING NO:	DEC-25
PROJECT:	SCM Cortlandville
SHEET:	1 of 2
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/23/06
DATE FINISHED:	08/23/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		1	SS	3	7	50%	Brown	Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				7	7			Medium Dense	Fine to coarse GRAVEL, some silt and sand	GW-GM		Dry
5		2	SS	4	5	38%		Loose	Fine to coarse SAND, some fine to coarse gravel, trace silt and clay	SW-SC		Moist
				5	9							
10		3	SS	33	31	79%		Very Dense	Fine to coarse GRAVEL, some fine to coarse sand and silt	GW-GM		Dry
				49	50							
15		4	SS	25	32	71%						
				46	31							
20		5	SS	16	21	54%		Dense				
				26	24				Fine to coarse SAND, some gravel and silt	SW-SM		
25		6	SS	38	39	71%		Very Dense				Moist
				49	50/3							
30		7	SS	25	43	75%						
				50/4	-							
		8	SS	28	48	60%						
35				50/3	-							
		9	SS	35	50/4	70%						
				-	-							

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

No environmental samples were collected for laboratory analysis.

Intermittent sampling (every 5') to 30' bgs. Continuous sampling to top of water table.

One sample collected 5' below water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-25

URS Corporation	TEST BORING LOG
	BORING NO: DEC-25
PROJECT: SCM Cortlandville	SHEET: 2 of 2
CLIENT: NYSDEC	JOB NO.: 11174586.00000

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		10	SS	50/1	-	0%	Brown	Very Dense	Fine to coarse SAND, some gravel and silt	SW-SM	0.0	Moist
				-	-							
		11	SS	29	50/4	60%						
40				-	-							
		12	SS	39	38	79%		Dense				
				10	10				- Some clay and silt	SW-SC		Wet
										SW-SM		
45												
		13	SS	39	19	75%						
				26	31				Fine to coarse GRAVEL, some sand	GW		
50									End of borehole at 49'			
55												
60												
65												
70												
75												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was

PROJECT NO.	11174586.00000
BORING NO.	DEC-25

URS Corporation

TEST BORING LOG

BORING NO:	DEC-26
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/21/06
DATE FINISHED:	08/21/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	REMARKS
		1	SS	3	8	50%	Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				10	8			Med Dense	Fine to coarse GRAVEL, some silt and	GW-GM		Dry
		2	SS	7	18	58%		Dense	sand			
				25	32							
5		3	SS	17	26	71%						Moist
				21	28							
		4	SS	48	40	83%		Very	F-C SAND, some silt and gravel	SW-SM		
				43	40			Dense	F-C GRAVEL, some silt and clay	GW-GC		
		5	SS	9	25	71%		Hard	SILT and CLAY, some fine to coarse	CL-ML		
10				26	27				gravel and sand			
		6	SS	28	50	75%	Gray	Very	Fine to coarse GRAVEL, some fine to	GW		
				-	-			Dense	coarse sand			
		7	SS	24	25	67%	Brown	Hard	SILT, some F-C gravel and sand	ML		
				36	42			Very	Fine to coarse GRAVEL, some sand	GW-GM		
15		8	SS	32	46	58%	Gray	Dense	and silt			
				40	31							
		9	SS	31	32	71%		Hard	SILT and CLAY, some fine to coarse	CL-ML		
				30	36				sand			
		10	SS	16	28	67%	Brown					Wet
20				36	31							
		11	SS	9	21			Dense	Fine to coarse SAND	SW		
25				20	25				F-C GRAVEL, some sand and silt	GW-GM		
									End of borehole at 25'			
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO.	11174586.00000
BORING NO.	DEC-26

URS Corporation

TEST BORING LOG

BORING NO:	DEC-27
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**
GROUNDWATER:	**GROUND ELEVATION:**
DATE STARTED:	08/17/06
DATE FINISHED:	08/17/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				*** POCKET PENETROMETER READING**				

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	16	36	83%	Brown	Hard	SILT, some fine to coarse gravel	ML	0.0	Moist
				45	32			Very	Fine to coarse GRAVEL and SAND,	GW		Dry
		2	SS	21	22	80%		Dense	trace silt			
				50	-							
5		3	SS	11	36	58%						
				48	47							
		4	SS	47	50	100%			Fine to coarse SAND, some gravel and silt	SW-SM		
				-	-							
		5	SS	25	50	67%			Fine to coarse GRAVEL, some fine to	GW		
10				-	-				coarse sand			
		6	SS	12	19	46%		Dense				
				22	25		Gray					
		7	SS	46	24	50%	Black		- Trace silt			Wet
				22	26							
15												
		8	SS	15	22	67%	Brown					
				27	25							
20									End of borehole at 19'			
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-27

URS Corporation	**TEST BORING LOG**
	BORING NO: DEC-28
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**

GROUNDWATER:					**CAS.**	**SAMPLER**	**CORE**	**TUBE**	**GROUND ELEVATION:**	
DATE	**TIME**	**LEVEL**	**TYPE**	**TYPE**		Split spoon			**DATE STARTED:**	08/17/06
				DIA.		2"			**DATE FINISHED:**	08/17/06
				WT.		140#			**DRILLER:**	Kevin Busch
				FALL		30"			**GEOLOGIST:**	Brian Weeks
				*** POCKET PENETROMETER READING**					**REVIEWED BY:**	Tim Burmeier

DEPTH FEET	**SAMPLE: STRATA**	**NO.**	**TYPE**	**BLOWS PER 6"**		**REC% ROD%**	**DESCRIPTION: COLOR**	**CONSIST HARD**	**MATERIAL DESCRIPTION**	**USCS**	**REMARKS: PID**	
		1	SS	8	25	67%	Brown	Hard	SILT, some fine to coarse sand	ML	0.0	Moist
				19	12			Dense	Fine to coarse GRAVEL some sand	GW-GM		Dry
		2	SS	12	22	33%			and silt			
				18	7							
5		3	SS	5	3	42%		Medium	- Some silt and clay	GW-GC		Moist
				8	11			Dense				
		4	SS	11	9	29%			Fine to coarse SAND, some silt and	SW-SC		
				7	11				clay, trace gravel			
		5	SS	2	2	25%		Loose				Wet
10				5	5							
		6	SS	46	33	63%		Very Dense				
15				29	28			Hard	SILT and CLAY, some sand and gravel	CL-ML		
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000
BORING NO. DEC-28

URS Corporation

TEST BORING LOG

BORING NO:	DEC-29
PROJECT:	SCM Cortlandville
SHEET:	1
CLIENT:	NYSDEC
JOB NO.:	11174586.00000
BORING CONTRACTOR:	Nothnagle
BORING LOCATION:	
GROUNDWATER:	
GROUND ELEVATION:	
DATE STARTED:	08/17/06
DATE FINISHED:	08/17/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		

* POCKET PENETROMETER READING

DEPTH FEET	STRATA	SAMPLE NO.	SAMPLE TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	REMARKS
		1	SS	2	14	42%	Brown	Very Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				13	13			Medium Dense	Fine to coarse GRAVEL some sand and silt	GW-GM		
		2	SS	10	8	33%	Gray					
				10	36				Fine to coarse SAND, some gravel	SW		
5		3	SS	50/4	-	8%		Very Dense				
				-	-							
		4	SS	2	8	50%	Brown	Very Stiff	SILT, trace gravel	ML		
				9	7							
		5	SS	4	7	29%		Stiff	SILT and CLAY, some sand, trace gravel	CL-ML		Wet
10				5	4							
		6	SS	7	11	29%		Medium Dense	Fine to coarse SAND, some gravel, trace silt	SW		
15				13	42							
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-29

URS Corporation

TEST BORING LOG

BORING NO:	DEC-30
PROJECT: SCM Cortlandville	**SHEET:** 1
CLIENT: NYSDEC	**JOB NO.:** 11174586.00000
BORING CONTRACTOR: Nothnagle	**BORING LOCATION:**
GROUNDWATER:	**GROUND ELEVATION:**
DATE STARTED:	08/18/06
DATE FINISHED:	08/18/06
DRILLER:	Kevin Busch
GEOLOGIST:	Brian Weeks
REVIEWED BY:	Tim Burmeier

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	CORE	TUBE
				TYPE		Split spoon		
				DIA.		2"		
				WT.		140#		
				FALL		30"		
				* POCKET PENETROMETER READING				

DEPTH FEET	SAMPLE STRATA	NO.	TYPE	BLOWS PER 6"		REC% ROD%	DESCRIPTION COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	REMARKS PID	
		1	SS	2	5	46%	Brown	Stiff	SILT, some fine to coarse gravel	ML	0.0	Moist
				6	6							
		2	SS	7	14	42%		Medium Dense	Fine to coarse GRAVEL, some sand and silt	GW-GM		Dry
				10	6							
5		3	SS	4	4	29%		Loose	- trace sand			
				3	5							
		4	SS	5	10	42%		Medium Dense				
				10	7							
		5	SS	4	8	33%						Wet
10				8	12							
		6	SS	8	12	42%		Dense	-some sand			
15				21	25							
									End of borehole at 15'			
20												
25												
30												
35												

Comments: A truck mounted BK-81 HD drill rig equipped with 4.25" HSA was used. No environmental samples were collected for laboratory analysis. Continuous split spoon samples collected down to top of water table. One spoon was collected 5' below the top of the water table.

PROJECT NO. 11174586.00000

BORING NO. DEC-30

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

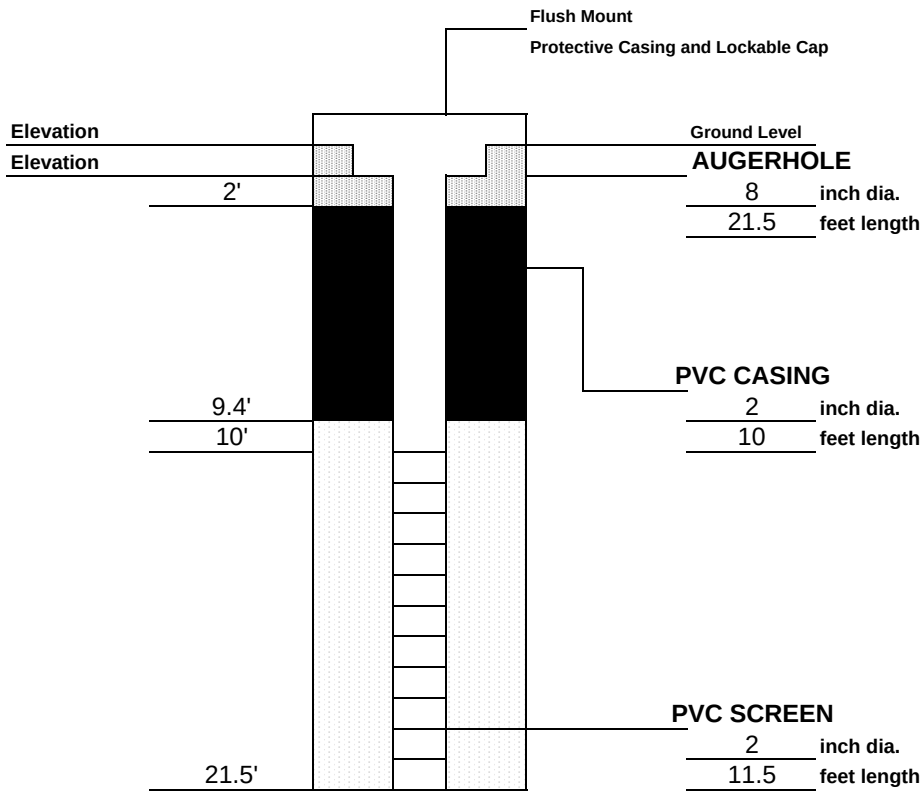
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/8/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-2	Silt, some gravel
2-8	Fine to coarse gravel, some silt
8-11	Fine sand
11-12	Clay, some gravel
12-14	Fine to coarse sand
14-21.5	Fine to coarse gravel, some silt and sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 9.4-21.5'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 2.0-9.4'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-07**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

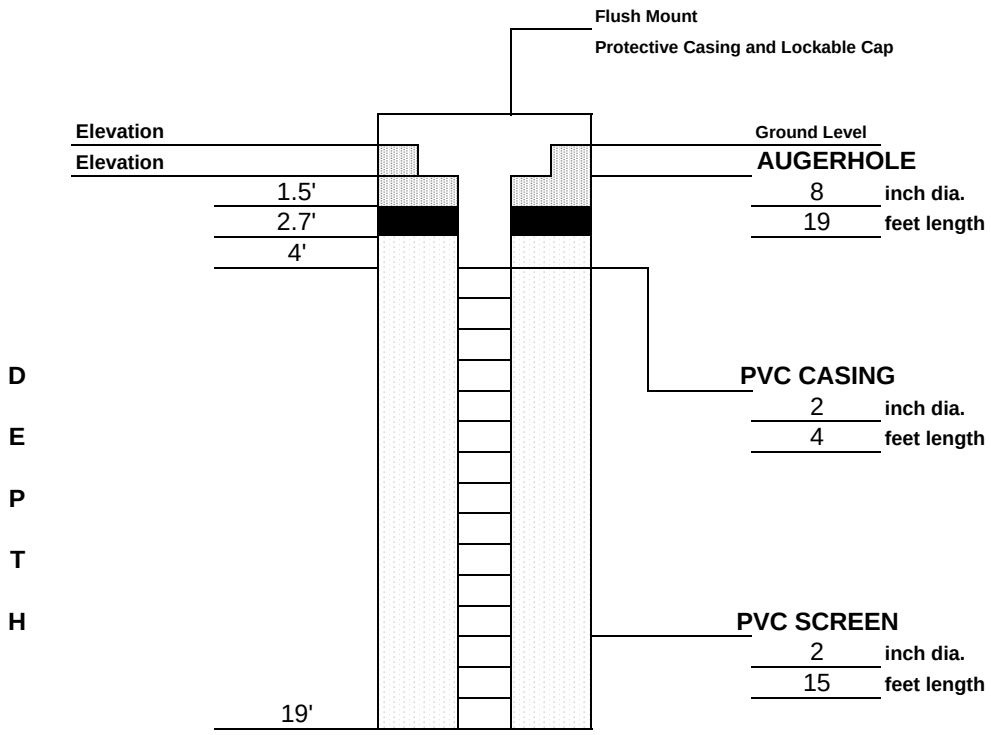
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/8/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-2	Silt, some gravel
2-6	Silt and clay, some gravel
6-10	Gravel, some sand and silt
10-17	Sand, some clay and gravel
17-19	Sand, some silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.7-19'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.5-2.7'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-08**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

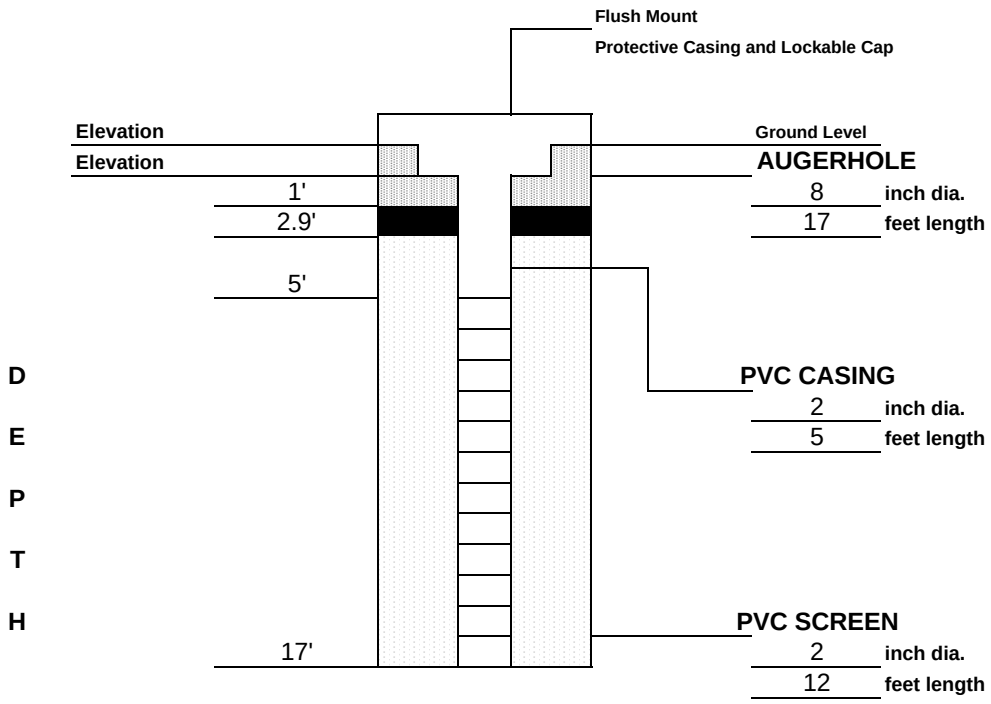
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/9/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-4	Silt, some gravel
4-7	Silt and clay, some gravel
7-17	Gravel, some silt, clay and sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.9-17
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.9

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-09**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

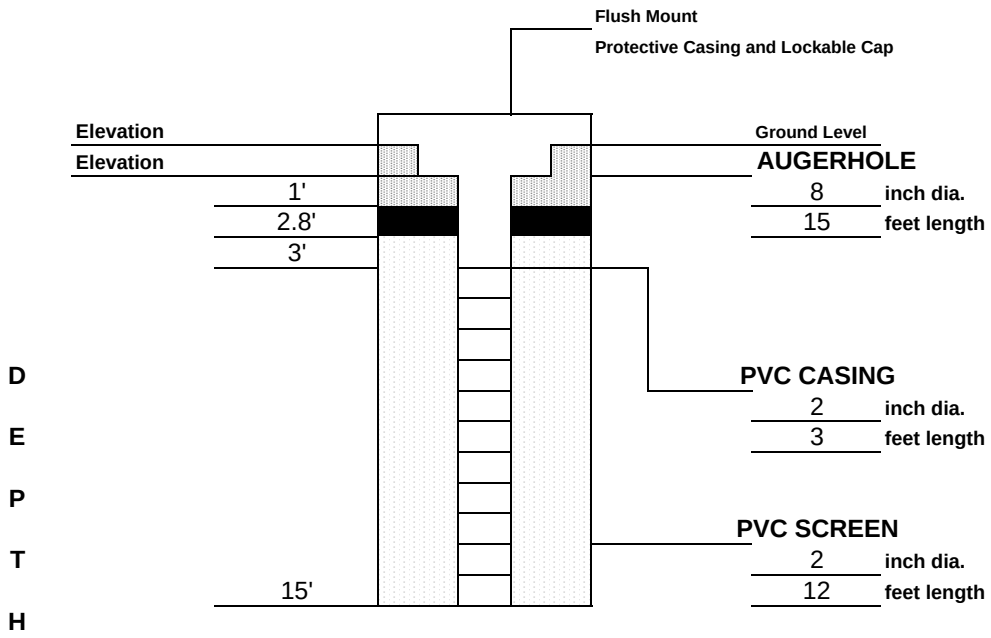
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/9/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-3	Silt, some gravel
3-4	Gravel, some silt
4-8	Silt and clay, some gravel
8-15	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.8-15
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.8

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-10**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

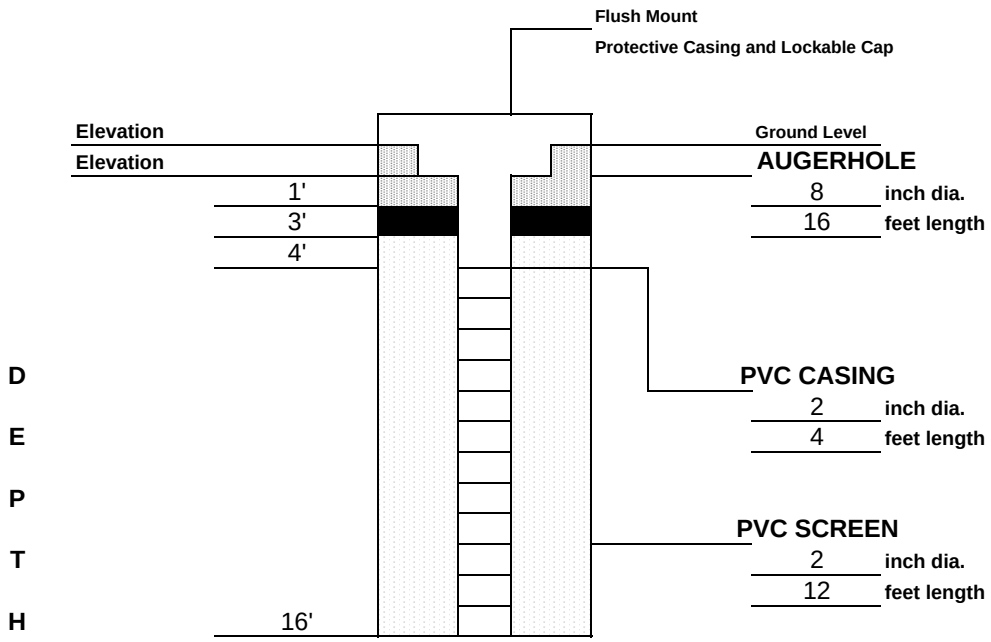
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/9/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-2	Gravel, some sand
2-4	Silt, some gravel
4-7	Silt and clay, some gravel
7-16	Gravel, some sand and silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 3.0-16
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1-3.0

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-11**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

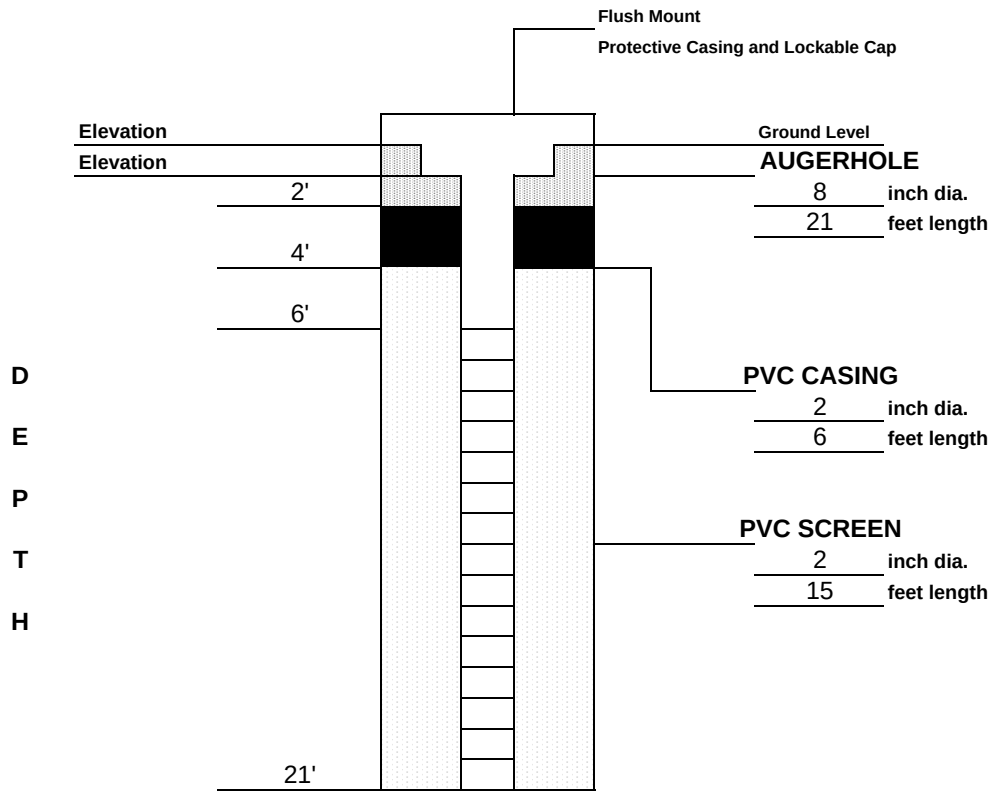
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/10/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-6	Gravel, some sand and clay
6-8	Silt and clay, some gravel
8-9	Sand, some gravel
9-12	Gravel, some clay
12-15	Silt and clay, some gravel and sand
15-20	Sand, some silt
20-21	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 4.0-21
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 2.0-4.0

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-12**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

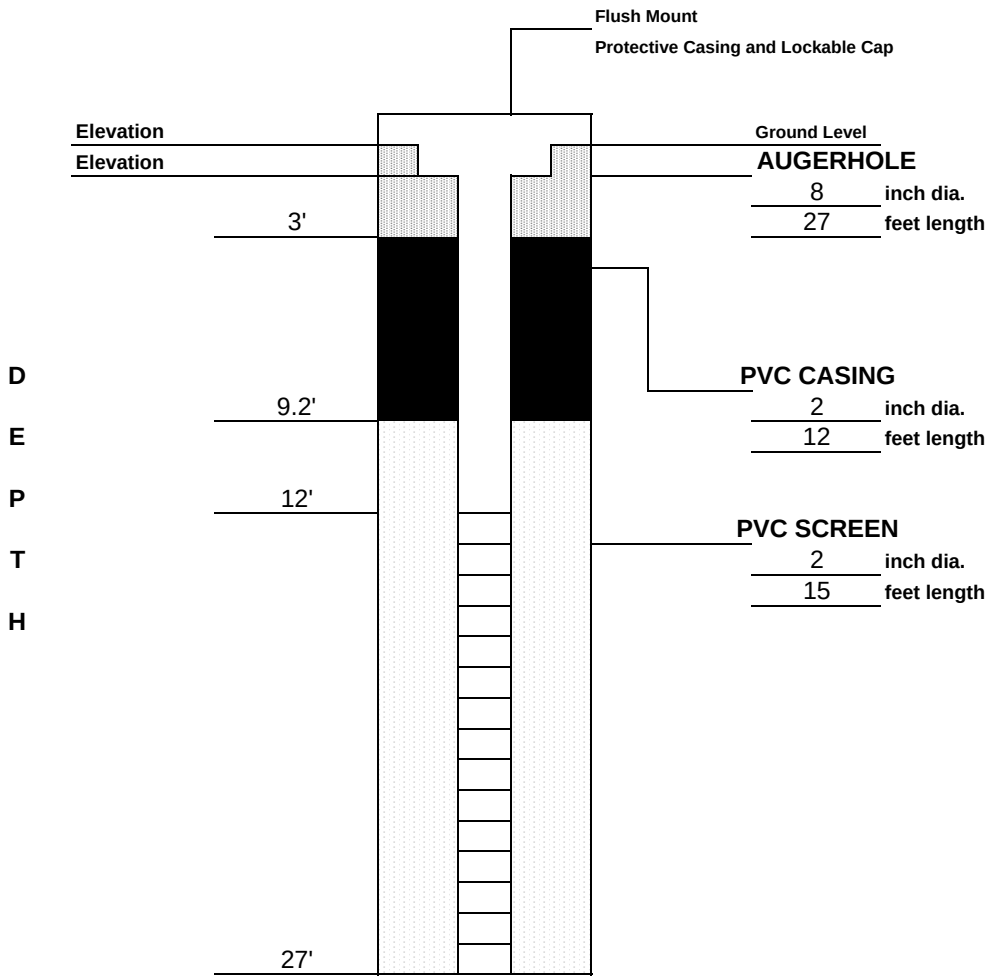
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/10/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-10	Gravel, some sand, clay and silt
10-27	Sand, some gravel, silt and clay



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 9.2-27
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 3.0-9.2

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-13**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

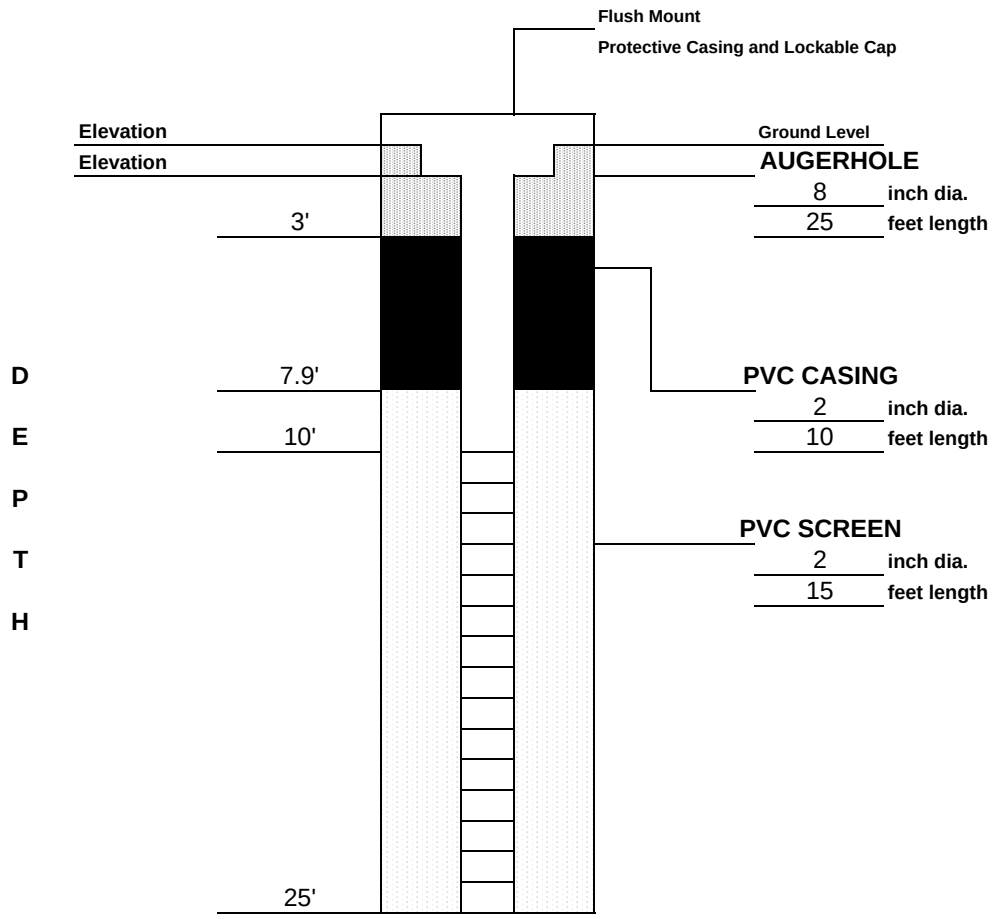
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/11/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-2	Silt, some gravel
2-7	Gravel, some sand, clay and silt
7-25	Sand and gravel



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 7.9-25
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 3.0-7.9

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-14**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

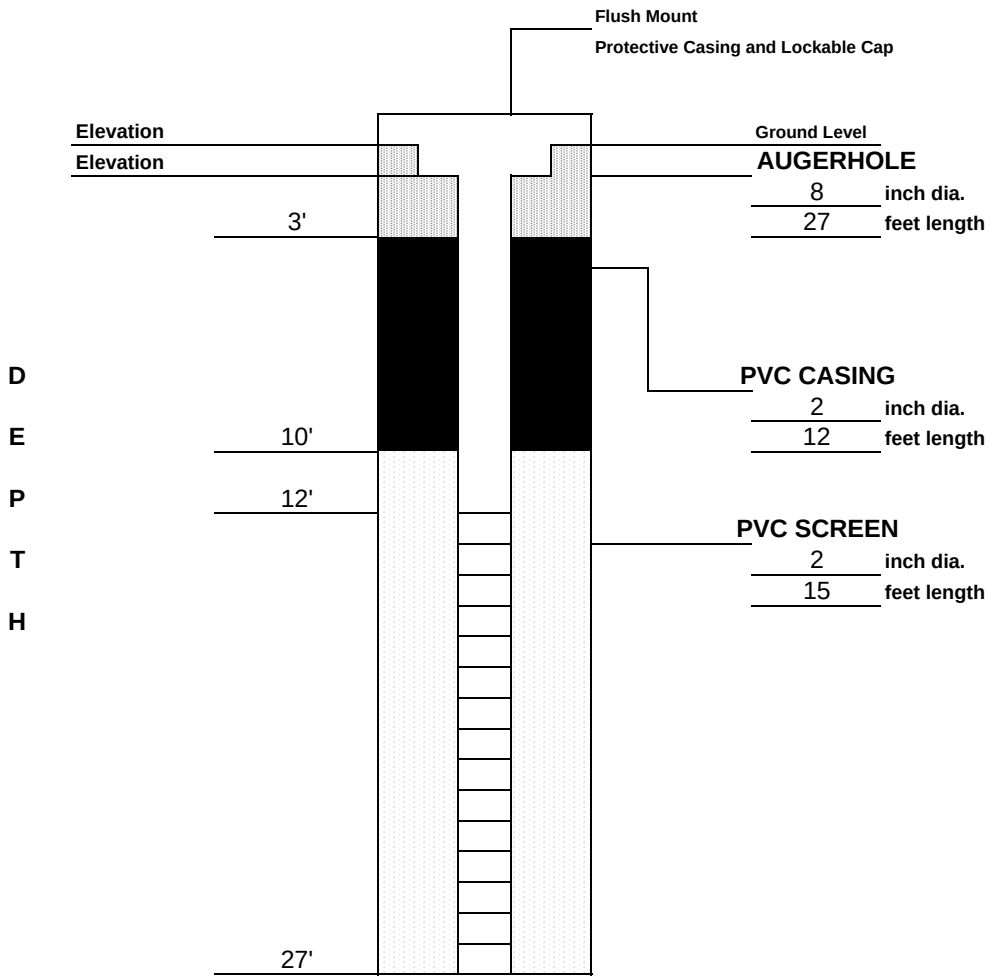
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/14/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-9	Gravel, some clay and silt
9-10	Sand, some gravel
10-12	Silt and clay, some sand and gravel
12-14	Gravel, some sand and silt
14-16	Sand, some gravel and silt
16-17	Silt and clay, some gravel
17-25	Gravel, some sand
25-27	Sand and Gravel



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 10-27
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 3.0-10

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-15**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

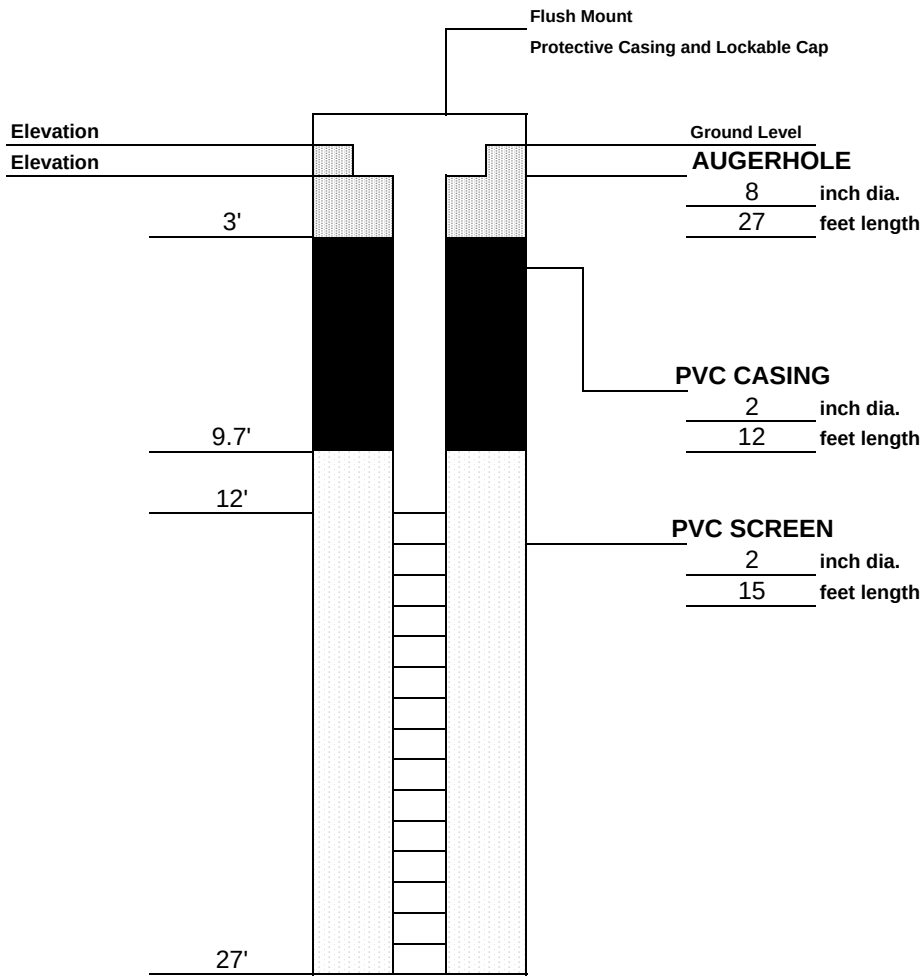
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/15/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-4	Gravel, some silt and sand
4-5	Silt, some gravel
5-15	Gravel, some sand, silt and clay
15-17	Silt and clay, some gravel
17-20	Gravel, some silt and sand
20-27	Sand, some gravel, silt and clay



D E P T H

WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 9.7-27
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 3.0-9.7

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-16**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

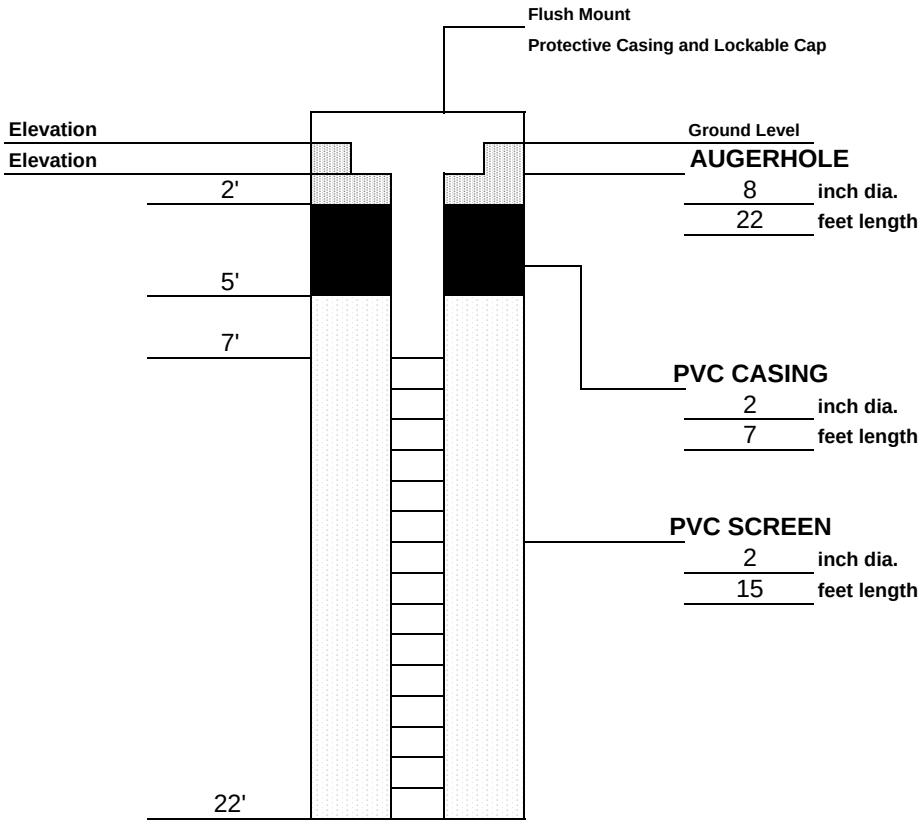
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/15/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-3	Silt, some gravel and sand
3-4	Gravel, some silt
4-5	Silt, some gravel
5-6	Gravel, some sand
6-10	Silt and clay, some gravel and sand
10-13	Sand, some silt, clay and gravel
13-22	Gravel, some sand and silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 5.0-22
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 2.0-5.0

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-17**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

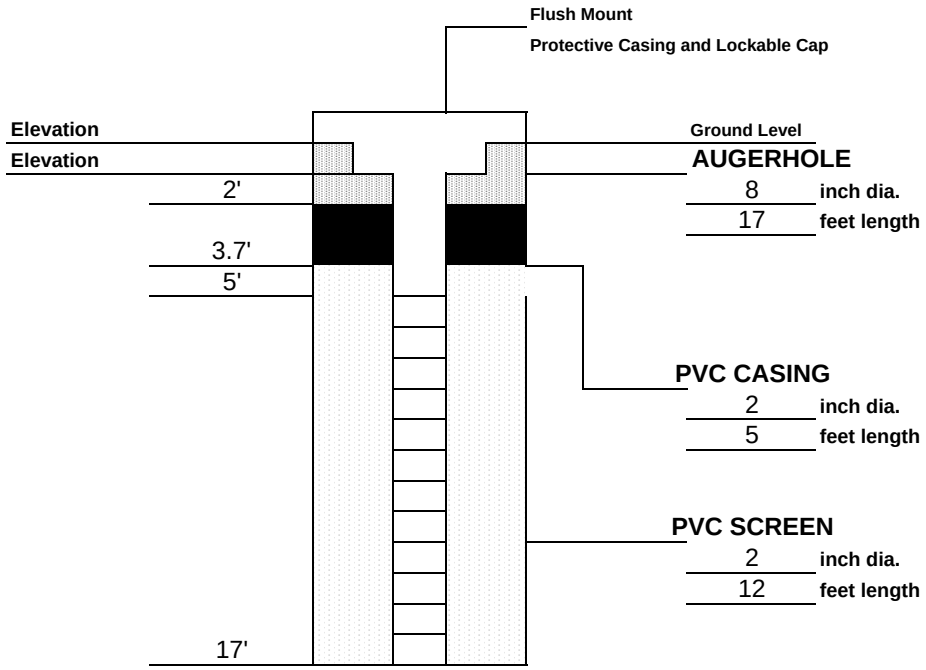
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/16/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-2	Gravel, some sand
2-7	Silt and clay, some gravel and sand
7-9	Gravel, some silt and clay
9-10	Silt and clay, some gravel and sand
10-17	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 3.7-17
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 2.0-3.7

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-18**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

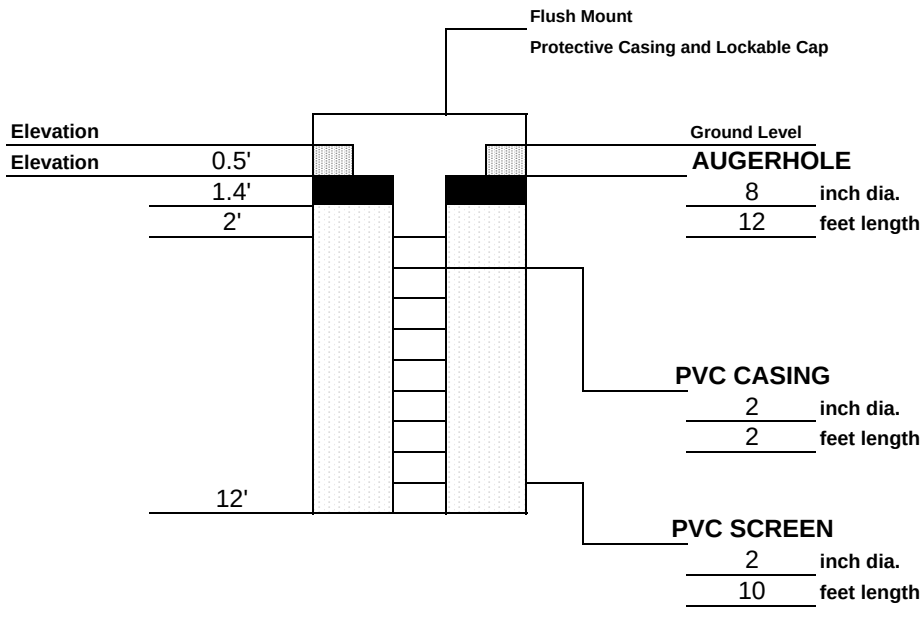
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/16/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-3	Gravel, some silt
3-4	Clay, some gravel
4-12	Gravel, some sand
10-17	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 1.4-12'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 0.5-1.4'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-19**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

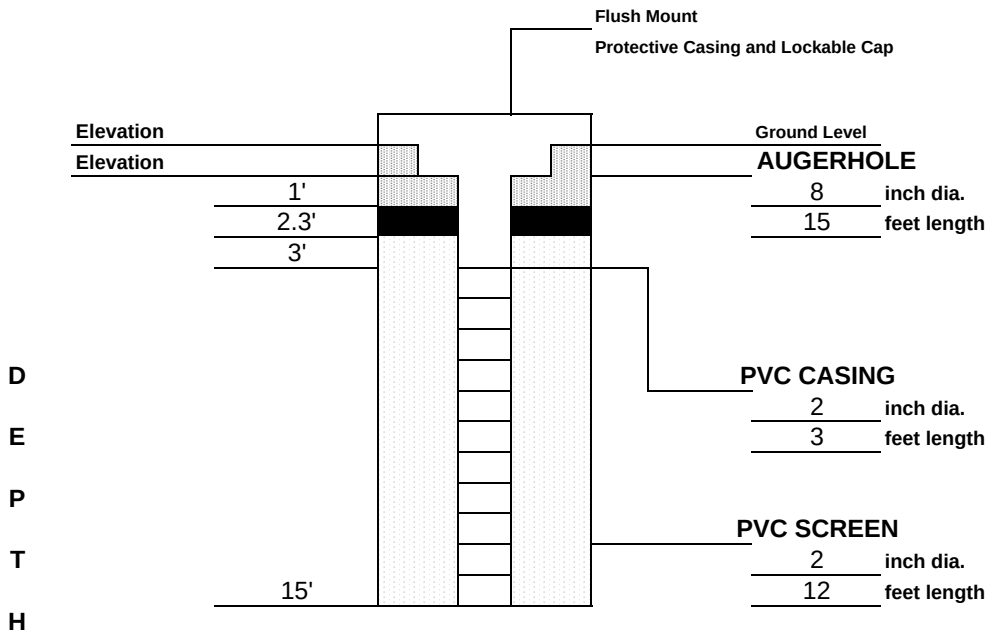
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/16/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-2	Gravel, some sand
2-4	Sand, some gravel, silt and clay
4-15	Gravel, some sand
10-17	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.3-15'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.3'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-20**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

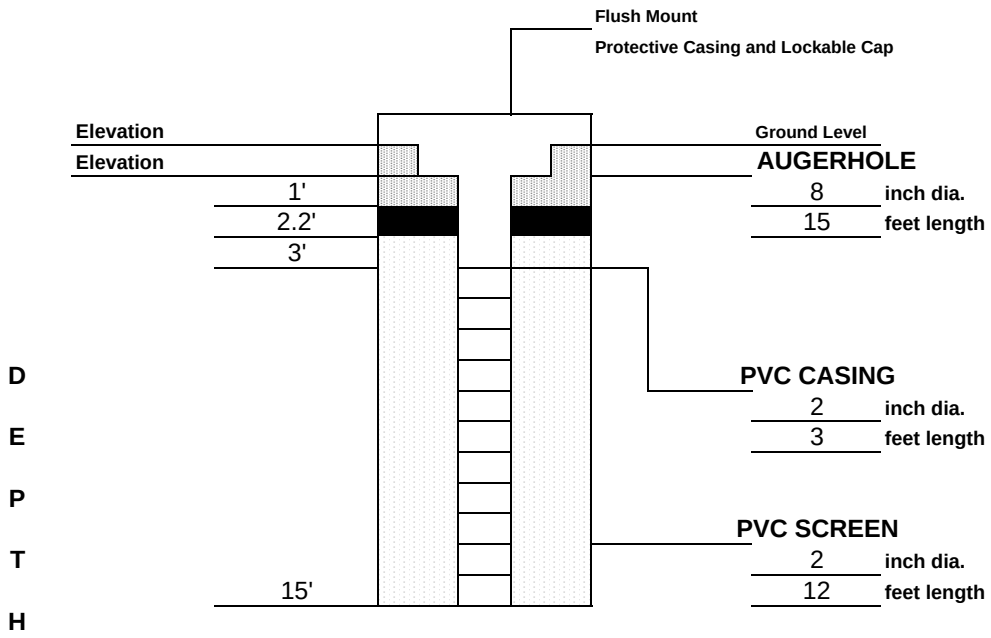
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/16/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-4	Gravel, some sand & sand
4-8	Silt & Clay, some gravel, trace sand
8-15	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.2-15'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.2'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-21**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

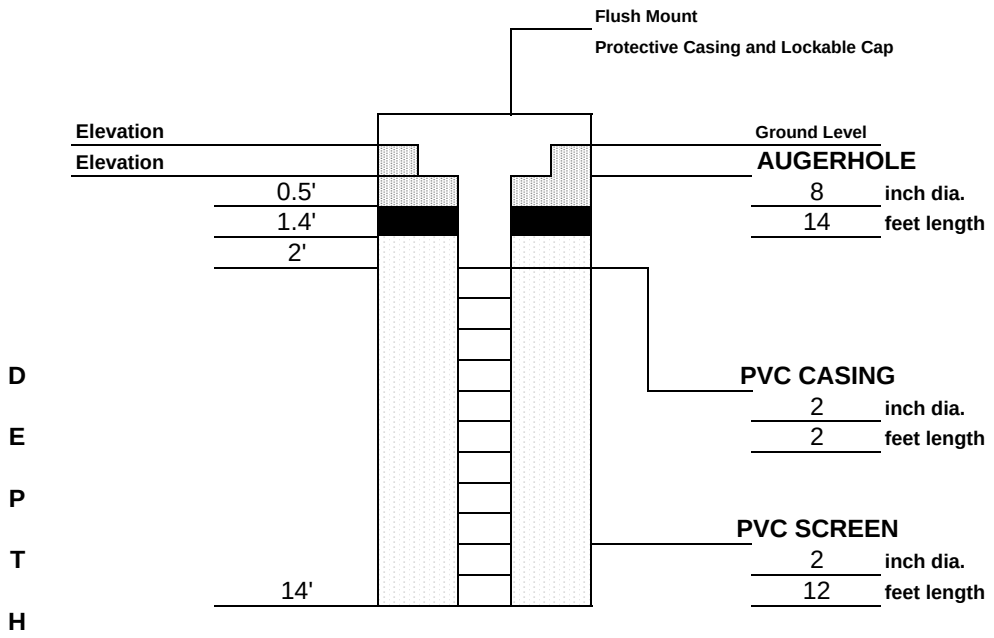
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/17/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-6	Gravel, some sand, tr. silt
6-14	Gravel, some sand
10-17	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 1.4-14'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 0.5-1.4'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-22**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

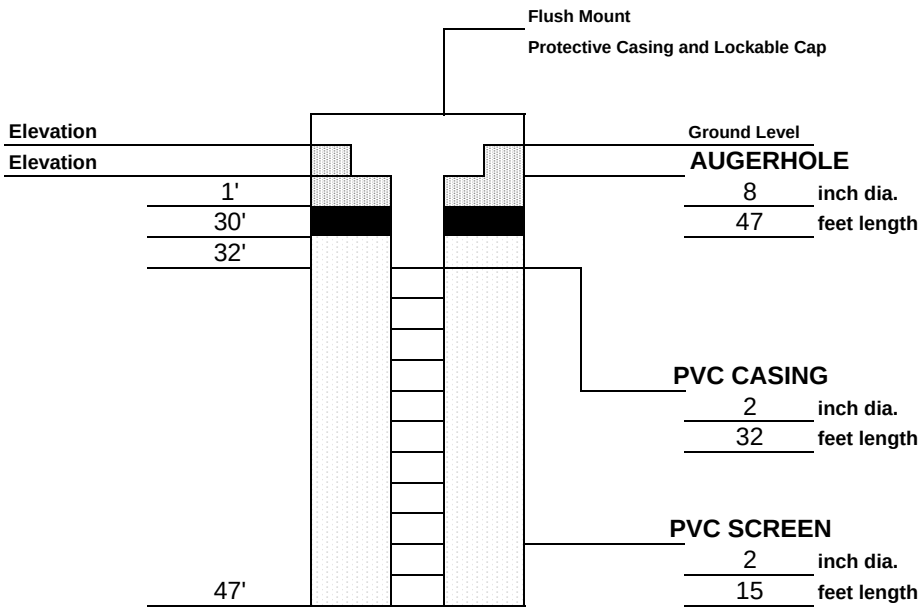
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/22/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-10	Gravel, some sand & silt
10-15	Gravel, some sandy silt and clay
15-25	Gravel, some sand & silt
25-30	sand, some gravel and silt
30-37	Gravel, some clay and silt
37-38	Gravel, some sand
38-40	Silt & clay, some sand & gravel
40-47	Gravel, some sand and silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 30-47'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1-30'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-23**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

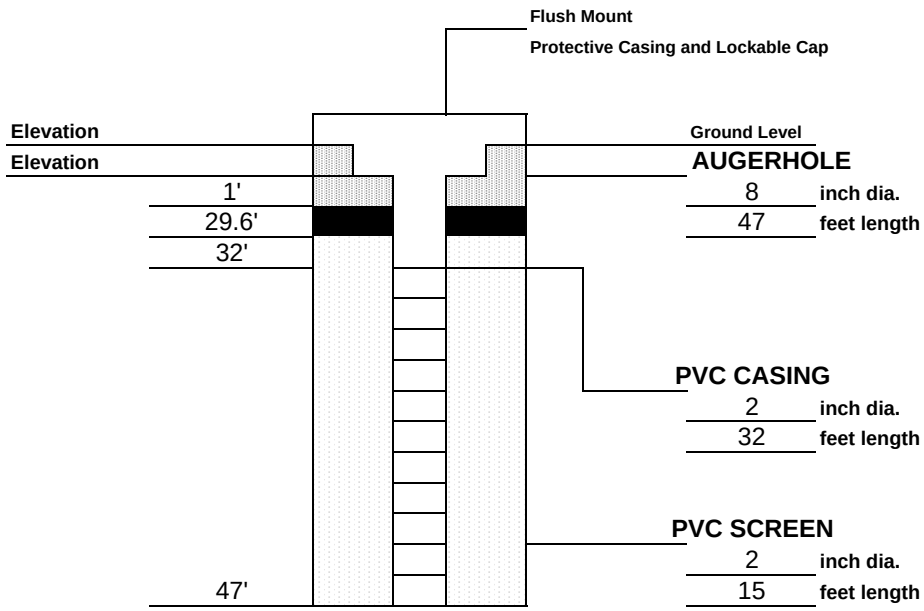
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/23/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.25	Silt, some gravel
0.25-0.5	Asphalt
0.5-6	Silt, some gravel, tr. Sand
6-15	no sample
15-32	Gravel, some sand & silt
32-36	Silt, some gravel, tr. sand
36-40	Gravel, some silt & sand
40-42	Silt & clay, some gravel
42-47	Gravel, some sand & clay



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 29.6-47'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL***
		Type: Bentonite **Setting:** 1.0-29.6'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-24**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

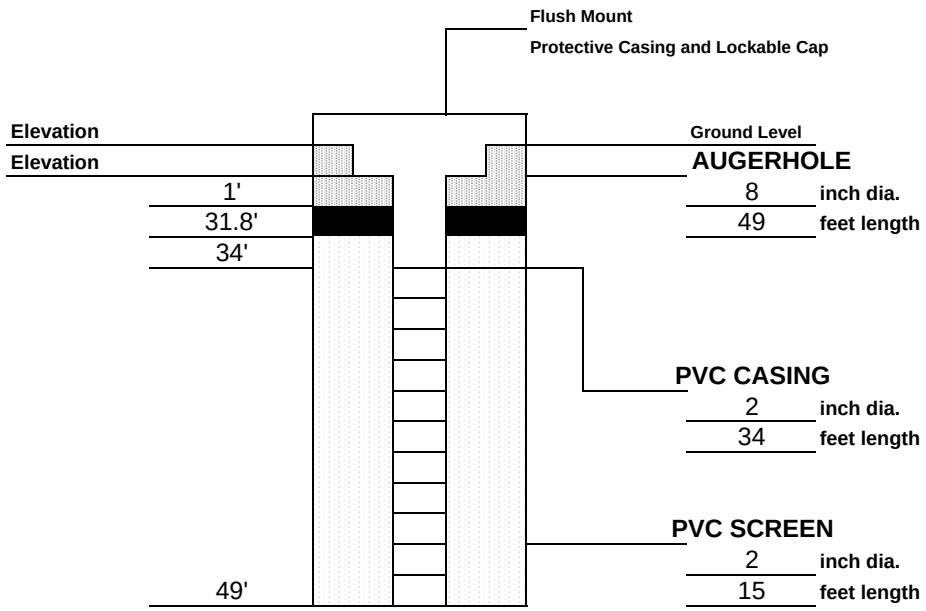
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/23/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-5.0	Gravel, some silt & sand
5.0-10	Sand, some gravel, tr.silt and clay
10-20	Gravel, some sand & silt
20-21	Sand, some gravel
21-26	Gravel, some sand
26-41	Sand, some gravel & silt
41-48	Sand, some clay & silt
48-49	Gravel, some sand & silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 31.8-49'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-31.8'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-25**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

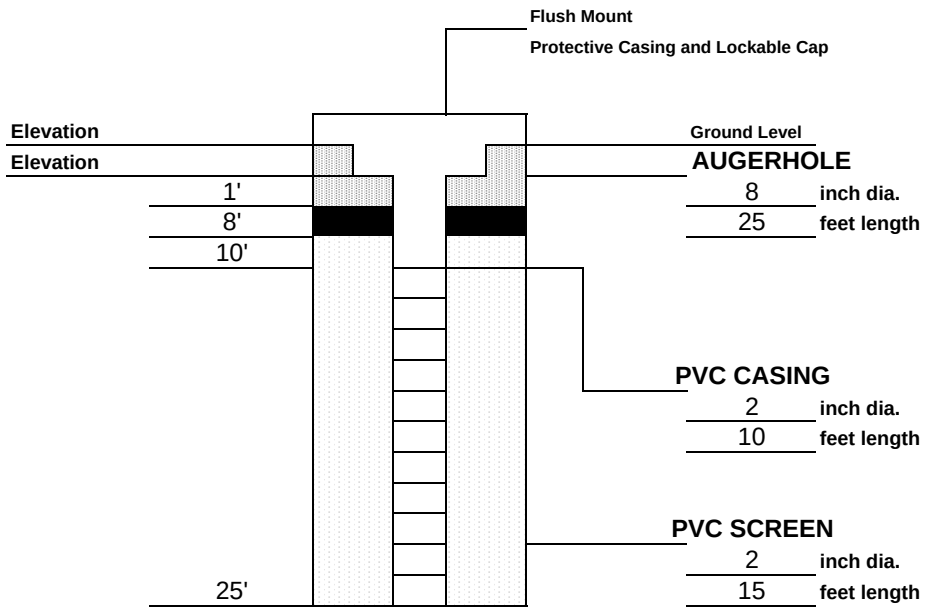
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/21/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-4.5	Gravel, some sand, tr. silt
4.5-6	Gravel, some sand & silt
6-6.5	Sand, some silt and gravel
6.5-8	Gravel, some silt and clay trace sand
8-10	Silt & clay, some sand & gravel
10-12	Grqavel, some sand
12-12.5	Silt, some gravel and sand
12.5-16	Gravel, some sand & silt
16-23	Silt & clay, some sans & silt
23-23.5	Sand
23.5-25	Gravel, some sand & silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 8-25'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1-8'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-26**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

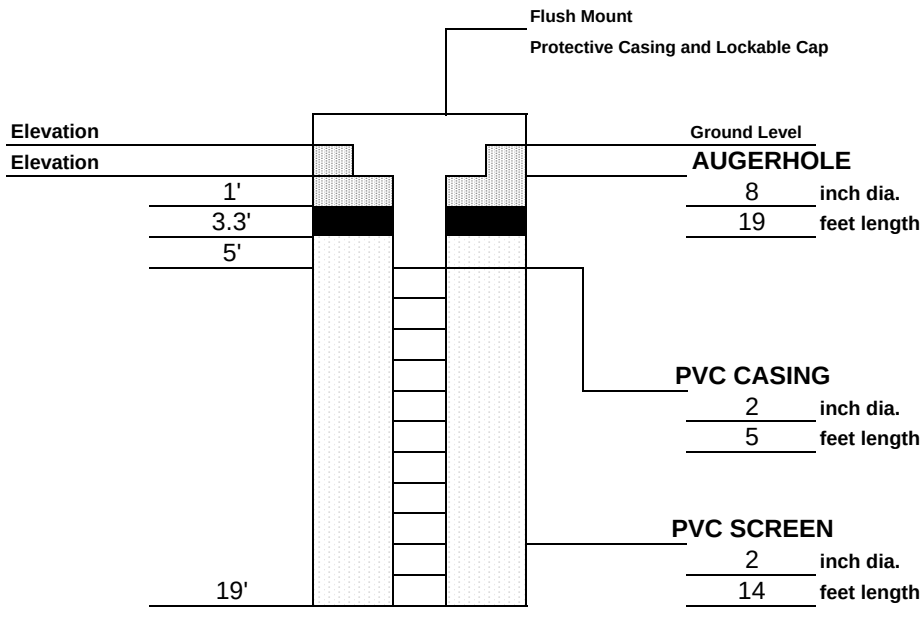
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/17/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-6	Gravel, some sand, tr. silt
6-8	Sand, some gravel, and silt
8-12	Gravel, some sand
12-16	Gravel, some sand, tr. silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 3.3-19'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-3.3'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-27**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

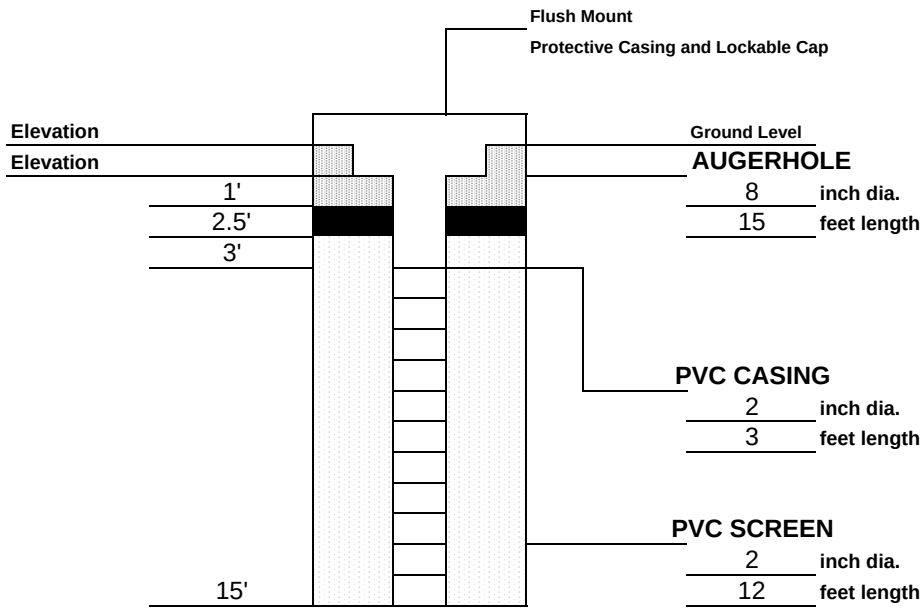
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/18/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some sand
0.5-4	Gravel, some sand & silt
4-6	Gravel, some silt & clay
6-13.5	Sand, some silt & clay
	trace gravel
13.5-15	Silt & clay, some sand and gravel



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.5-15'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.5'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-28**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

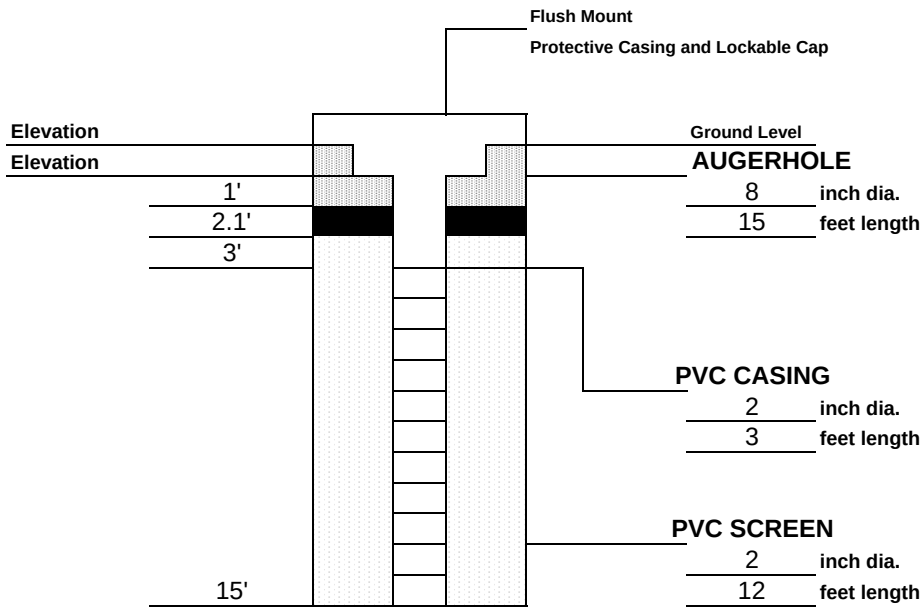
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/17/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-0.5	Silt, some gravel
0.5-2.5	Gravel, some sand & silt
2.5-6	Sand, some gravel
6-8	Silt, trace gravel
8-13	Silt & clay, some sand trace gravel
13-15	Sand, some gravel, tr. Silt



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.1-15'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.1'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-29**

DRILLING SUMMARY

Geologist:
Brian Weeks

Drilling Company:
Nothnagle

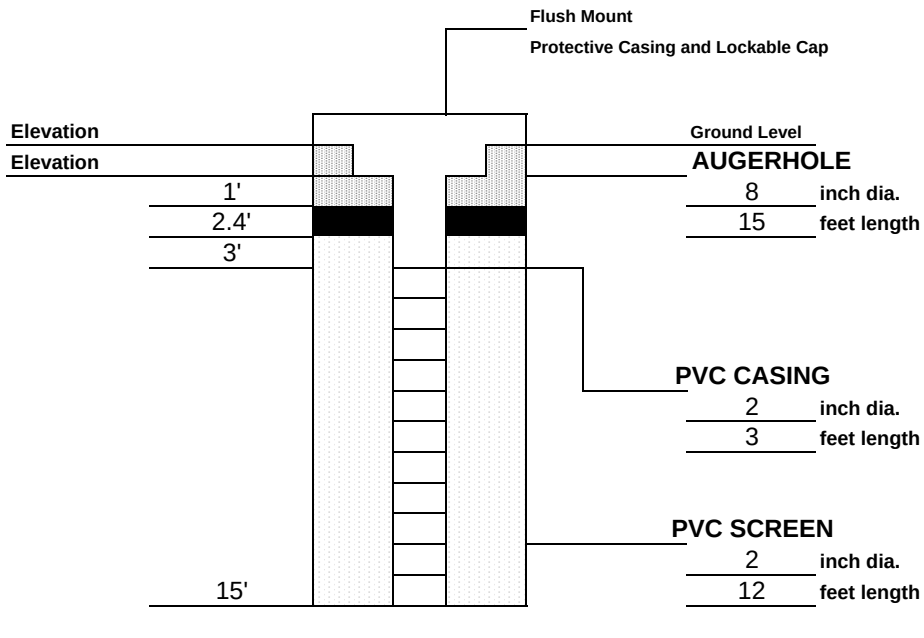
Driller:
Kevin Busch

Rig Make/Model:

Date:
8/18/2006

GEOLOGIC LOG

Depth(ft.)	Description
0-1	Silt, some gravel
1-4	Gravel, some sand & silt
4-8	Sand, some silt, tr. sand
8-15	Gravel, some sand



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 2" PVC	**Type:** #00 Sand **Setting:** 2.4-15'
Monitor: 2" PVC	**Slot Size:** 0.010"	***SEAL MATERIAL*** **Type:** Bentonite **Setting:** 1.0-2.4'

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client: NYSDEC	**Location: Cortlandville, NY**	**Project No.: 11174536.00000**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number: DEC-30**

APPENDIX B

MONITORING WELL DEVELOPMENT LOGS

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-01S

PROJECT NO.: 11174586.00000 | Start: 9:39

STAFF: Andy Brayman | Stop: 11:25

DATE(S): 8/24/2006

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	12.78
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.38
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.40
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.09
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.44
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	76

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	70	75		
pH	7.81	7.50	7.45	7.44	7.44	7.41	7.93	7.54	7.51		
SPEC. COND. (umhos)	573	565	564	563	564	564	563	561	562		
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	562	73	47.4		
TEMPERATURE (°C)	16.4	16.3	16.4	16.3	16.3	16.3	16.1	16.6	16.4		
ORP (mV)	115	113	110	99	98	109	124	127	131		
TIME	9:39	9:46	9:51	9:58	10:05	10:12	11:16	11:22	11:24		

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-02D

PROJECT NO.: 11174586.00000 | Start: 12:25

STAFF: Andy Brayman | Stop: 14:28

DATE(S): 8/24/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	43.66	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	30.79	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	12.87	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	2.19	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	10.94	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	61	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60				
pH	7.94	7.92	7.79	7.78	7.81	7.75	7.92				
SPEC. COND. (umhos)	608	644	655	638	638	646	649				
TURBIDITY (NTU)	>1000	>1000	>1000	213	570	591	17				
TEMPERATURE (°C)	12.9	13.4	12.5	14.1	13.6	13.7	12.1				
ORP (mV)	177	122	109	111	116	118	129				
TIME	12:25	12:38	12:50	13:07	13:22	13:37	14:28				

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-07

PROJECT NO.: 11174586.00000 | Start: 15:51

STAFF: Andy Brayman | Stop:

DATE(S): 8/15/06, 8/16/06, 8/21/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	20.50	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	15.59	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	4.91	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	0.83	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	4.17	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	2	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	1.5	2								
pH	6.96	7.03	8.09								
SPEC. COND. (umhos)	924	841	842								
TURBIDITY (NTU)	>1000	>1000	>1000								
TEMPERATURE (°C)	14.7	15.6	15.0								
ORP (mV)	-15	-23	-316								
TIME	15:51	17:05	10:21								

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Well dry after removing one well volume. Attempted to regulate pump speed, but well was not recharging well. Suspended development at 17:20. Will attempt to resume development in morning.
8/16/06 DTW at 15:16 was 17.94'. Pumped about 1/4 gallon before well went dry again.
8/21/06 DTW was 16.98'. Removed about 1/4 gallon before well went dry.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-08

PROJECT NO.: 11174586.00000 | Start: 17:53

STAFF: Andy Brayman | Stop: 18:31

DATE(S): 8/15/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	18.66
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	12.29
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.37
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.08
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.41
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	41

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	1	2	3	4	5	10	15	25	35	40
pH	6.79	7.22	7.58	7.81	7.76	7.72	7.72	7.62	7.59	7.47	7.57
SPEC. COND. (umhos)	823	852	861	851	847	822	830	826	822	821	819
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	500	70	22
TEMPERATURE (°C)	16.5	14.7	14.2	14.5	13.9	13.5	13.6	13.7	13.8	13.5	13.4
ORP (mV)	1	-42	-83	-94	-81	-72	-70	-67	-62	-53	-64
TIME	17:53	17:56	17:57	17:59	18:02	18:04	18:08	18:12	18:19	18:25	18:30

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-09

PROJECT NO.: 11174586.00000 | Start: 7:40

STAFF: Andy Brayman | Stop: 8:15

DATE(S): 8/16/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.89	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	9.06	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.83	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.33	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	6.66	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	36	8"	2.60
			OR	
			$V=0.0408 \times (\text{CASING DIAMETER})^2$	

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	3	5	10	20	30	35				
pH	6.98	7.37	7.37	7.47	7.38	7.30	7.34				
SPEC. COND. (umhos)	938	932	918	928	926	924	923				
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	360	75	31				
TEMPERATURE (°C)	12.5	12.7	12.3	12.1	12.0	12.0	11.9				
ORP (mV)	-14	-44	-50	-54	-46	-40	-46				
TIME	7:40	7:47	7:51	7:55	8:03	8:10	8:14				

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-10

PROJECT NO.: 11174586.00000 | Start: 9:27

STAFF: Andy Brayman | Stop: 11:26

DATE(S): 8/16/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.49
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.87
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.62
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.13
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.63
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	2	5	10	15	20	30	40	50	70	90
pH	7.05	7.11	7.22	7.23	7.34	7.53	7.08	7.25	7.53	6.90	6.78
SPEC. COND. (umhos)	924	887	698	674	659	680	652	651	651	642	649
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000
TEMPERATURE (°C)	16.6	14.3	13.9	13.9	13.8	14.1	14.3	14.1	14.0	15.0	14.0
ORP (mV)	-21	-21	-34	-35	-37	-55	-21	-28	-55	-12	79
TIME	9:27	9:29	9:32	9:38	9:43	9:48	9:55	10:02	10:10	11:07	11:20

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Turbidity was decreasing toward end of development. Stopped development due to high purge volume. Turbidity should clear up under low flow conditions.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-10

PROJECT NO.: 11174586.00000 | Start: 9:27

STAFF: Andy Brayman | Stop: 11:26

DATE(S): 8/16/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.49	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.87	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.62	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.13	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.63	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	100										
pH	7.00										
SPEC. COND. (umhos)	644										
TURBIDITY (NTU)	450										
TEMPERATURE (°C)	14.3										
ORP (mV)	114										
TIME	11:26										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Turbidity was decreasing toward end of development. Stopped development due to high purge volume. Turbidity should clear up under low flow conditions.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-11

PROJECT NO.: 11174586.00000 | Start: 12:24

STAFF: Andy Brayman | Stop: 14:05

DATE(S): 8/16/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	15.43
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	9.14
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.29
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.07
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.35
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	91

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	90
pH	7.39	7.44	7.48	7.73	7.86	7.62	7.70	8.01	7.70	7.57	7.56
SPEC. COND. (umhos)	709	695	703	708	710	710	706	707	712	709	714
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	1000	>1000	1100	36
TEMPERATURE (°C)	15.3	14.7	15.3	13.8	14.2	13.8	14.6	15.5	13.9	14.0	13.8
ORP (mV)	186	107	110	103	101	109	105	147	147	142	141
TIME	12:24	12:28	12:33	12:41	12:50	12:58	13:04	13:46	13:53	13:59	14:05

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-12

PROJECT NO.: 11174586.00000 | Start: 16:10

STAFF: Andy Brayman | Stop: 16:45

DATE(S): 8/16/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	20.74
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	14.62
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.12
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.20
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	51

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	45	47	50		
pH	7.63	7.49	7.46	7.43	7.92	7.87	7.94	7.92	7.91		
SPEC. COND. (umhos)	909	873	874	869	869	866	867	870	866		
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	1100	190	50	55	25		
TEMPERATURE (°C)	14.5	12.2	12.1	12.3	12.6	12.0	11.9	11.4	11.8		
ORP (mV)	207	182	187	193	157	157	148	150	144		
TIME	16:10	16:13	16:17	16:24	16:31	16:38	16:41	16:43	16:45		

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-13

PROJECT NO.: 11174586.00000 | Start: 17:53

STAFF: Andy Brayman | Stop: 19:49

DATE(S): 8/16/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	26.36
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.76
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.60
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.12
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.61
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	81

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	15	20	30	40	50	60	70	75
pH	7.68	7.56	7.54	7.55	7.56	7.56	7.55	7.57	7.58	7.86	7.71
SPEC. COND. (umhos)	1,641	1,012	1,087	1,074	1,034	988	960	967	961	996	1,005
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	1100	560	130	75	400	55
TEMPERATURE (°C)	15.2	13.3	12.6	13.2	13.0	12.4	12.2	11.6	11.9	12.7	12.1
ORP (mV)	-39	-152	-96	-56	-22	-7	9	5	7	41	-2
TIME	17:53	17:59	18:07	18:14	18:25	18:32	18:55	19:02	19:07	19:34	19:43

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-13

PROJECT NO.: 11174586.00000 | Start: 17:53

STAFF: Andy Brayman | Stop: 19:49

DATE(S): 8/16/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	26.36	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.76	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.60	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.12	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.61	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	81	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	80										
pH	7.73										
SPEC. COND. (umhos)	1,012										
TURBIDITY (NTU)	40										
TEMPERATURE (°C)	11.6										
ORP (mV)	-2										
TIME	19:48										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-14

PROJECT NO.: 11174586.00000 | Start: 7:17

STAFF: Andy Brayman | Stop: 8:53

DATE(S): 8/17/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	24.31
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	18.38
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.93
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.01
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.04
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	96

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	85
pH	7.74	7.66	7.64	7.65	7.68	7.69	7.74	7.98	7.92	7.92	7.90
SPEC. COND. (umhos)	1,346	871	826	809	809	803	802	801	799	800	799
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	1000	400	650	500	190
TEMPERATURE (°C)	11.4	10.9	10.8	10.8	10.9	10.9	10.9	11.3	11.2	11.2	11.1
ORP (mV)	-8	-47	-34	-8	-5	-1	17	100	108	115	124
TIME	7:17	7:20	7:24	7:32	7:39	7:45	7:51	8:28	8:34	8:41	8:45

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-14

PROJECT NO.: 11174586.00000 | Start: 7:17

STAFF: Andy Brayman | Stop: 8:53

DATE(S): 8/17/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	24.31	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	18.38	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.93	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.01	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.04	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	96	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	90	95									
pH	7.86	7.90									
SPEC. COND. (umhos)	798	797									
TURBIDITY (NTU)	75	32									
TEMPERATURE (°C)	11.2	11.2									
ORP (mV)	132	139									
TIME	8:49	8:52									

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-15

PROJECT NO.: 11174586.00000 | Start: 9:59

STAFF: Andy Brayman | Stop: 11:38

DATE(S): 8/17/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	26.28
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.50
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.78
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.15
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.76
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	90

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	85
pH	7.70	7.78	7.67	7.62	7.55	7.54	7.56	7.70	7.66	7.71	7.67
SPEC. COND. (umhos)	925	787	772	745	737	737	732	726	726	725	726
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	800	850	550	>1000	130	55
TEMPERATURE (°C)	14.2	12.1	11.3	11.7	12.0	10.9	11.1	11.6	11.5	11.6	11.3
ORP (mV)	117	115	114	118	153	182	174	127	161	135	159
TIME	9:59	10:09	10:14	10:21	10:28	10:35	10:42	11:17	11:24	11:31	11:35

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-15

PROJECT NO.: 11174586.00000 | Start: 9:59

STAFF: Andy Brayman | Stop: 11:38

DATE(S): 8/17/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	26.28	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.50	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.78	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.15	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.76	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	90	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	90										
pH	7.66										
SPEC. COND. (umhos)	721										
TURBIDITY (NTU)	40										
TEMPERATURE (°C)	11.2										
ORP (mV)	159										
TIME	11:38										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-16

PROJECT NO.: 11174586.00000 | Start: 12:47

STAFF: Andy Brayman | Stop: 14:05

DATE(S): 8/17/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	26.71
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.42
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.29
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.24
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	6.20
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	71

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70		
pH	7.69	7.49	7.44	7.48	7.52	7.54	7.72	7.69	7.51		
SPEC. COND. (umhos)	1,600	888	820	793	776	769	755	754	754		
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	950	340	360	40		
TEMPERATURE (°C)	14.4	12.9	11.9	12.3	11.9	11.9	12.2	13.3	12.6		
ORP (mV)	117	117	156	149	145	141	115	116	137		
TIME	12:47	12:51	12:54	13:01	13:08	13:16	13:23	13:58	14:05		

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-17

PROJECT NO.: 11174586.00000 | Start: 14:49

STAFF: Andy Brayman | Stop: 9:10

DATE(S): 8/17/06, 8/18/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	21.40	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	14.19	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.21	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.23	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	6.13	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	91	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	30	40	50	60	70	80	85	90
pH	7.69	7.67	7.67	7.64	7.59	7.62	7.65	7.67	7.66	7.60	7.57
SPEC. COND. (umhos)	921	620	636	596	611	592	611	592	587	587	592
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	360	70	650	140	70	32
TEMPERATURE (°C)	14.7	12.1	11.8	12.6	12.4	11.8	12.2	11.9	11.5	11.4	11.6
ORP (mV)	97	101	125	80	109	97	96	94	79	81	86
TIME	14:49	15:08	15:13	7:47	7:55	8:06	8:18	8:29	9:03	9:06	9:10

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Had problems with pump.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-18

PROJECT NO.: 11174586.00000 | Start: 10:03

STAFF: Andy Brayman | Stop: 11:29

DATE(S): 8/18/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.66
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	9.28
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.25
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	6.27
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	95

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	90
pH	7.66	7.53	7.52	7.55	7.58	7.68	7.39	7.71	7.29	7.23	7.17
SPEC. COND. (umhos)	791	690	656	631	619	616	616	611	609	606	605
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	850	>1000	210	>1000	>1000	180	80
TEMPERATURE (°C)	16.2	15.7	15.5	15.4	15.7	14.9	14.6	15.4	15.2	15.4	14.7
ORP (mV)	80	116	106	101	99	95	31	113	34	40	44
TIME	10:03	10:08	10:12	10:20	10:27	10:34	10:41	11:09	11:14	11:19	11:24

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-18

PROJECT NO.: 11174586.00000 | Start: 10:03

STAFF: Andy Brayman | Stop: 11:29

DATE(S): 8/18/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.66	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	9.28	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.38	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.25	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	6.27	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	95	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	95										
pH	7.17										
SPEC. COND. (umhos)	606										
TURBIDITY (NTU)	40										
TEMPERATURE (°C)	14.8										
ORP (mV)	45										
TIME	11:29										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-19

PROJECT NO.: 11174586.00000 | Start: 12:15

STAFF: Andy Brayman | Stop: 13:25

DATE(S): 8/18/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	11.57
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	2.99
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	8.58
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.46
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	7.29
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	83

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	
pH	7.45	7.36	7.38	7.37	7.37	7.35	7.32	7.75	7.47	7.47	
SPEC. COND. (umhos)	708	571	574	573	573	574	576	573	578	577	
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	251	33.5	
TEMPERATURE (°C)	15.4	14.5	14.4	14.4	14.4	14.3	14.3	15.2	14.9	15.4	
. ORP (mV)	255	213	212	207	204	198	192	194	189	185	
TIME	12:15	12:17	12:19	12:24	12:28	12:33	12:38	13:14	13:20	13:24	

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-20

PROJECT NO.: 11174586.00000 | Start: 14:24

STAFF: Andy Brayman | Stop: 12:10

DATE(S): 8/18/06, 8/21/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.39	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.89	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.50	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.11	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.53	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	80	90
pH	7.55	7.34	7.33	7.43	7.49	7.87	7.64	7.58	7.55	7.52	7.50
SPEC. COND. (umhos)	735	628	592	570	589	564	562	562	561	561	560
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	1100	100	120
TEMPERATURE (°C)	16.8	15.3	15.4	15.8	18.4	15.4	14.5	14.5	14.4	14.2	14.5
ORP (mV)	167	-7	3	8	51	79	111	119	126	119	118
TIME	14:24	14:28	14:34	14:47	15:27	11:13	11:18	11:23	11:27	11:32	11:37

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Water level dropped too low for effective pumping after removing about 20 gallons.
8/21/06 DTW wsa 7.99'

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-20

PROJECT NO.: 11174586.00000 | Start: 14:24

STAFF: Andy Brayman | Stop: 12:10

DATE(S): 8/18/06, 8/21/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.39	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.89	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.50	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.11	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.53	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	100										
pH	7.68										
SPEC. COND. (umhos)	559										
TURBIDITY (NTU)	24										
TEMPERATURE (°C)	14.8										
. ORP (mV)	147										
TIME	12:10										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Water level dropped too low for effective pumping after removing about 20 gallons.
8/21/06 DTW wsa 7.99'

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-21

PROJECT NO.: 11174586.00000 | Start: 12:53

STAFF: Andy Brayman | Stop: 14:08

DATE(S): 8/21/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.51	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	8.37	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.14	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.04	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.22	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	77	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	75	
pH	7.82	7.52	7.46	7.40	7.40	7.37	7.37	7.62	7.45	7.42	
SPEC. COND. (umhos)	498	502	500	497	494	493	495	494	491	491	
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	>1000	70	30	
TEMPERATURE (°C)	15.1	14.5	14.5	14.8	15.6	15.4	15.1	14.9	15.3	15.3	
ORP (mV)	169	176	175	173	168	169	169	191	183	176	
TIME	12:53	12:56	12:58	13:04	13:09	13:13	13:18	14:02	14:06	14:08	

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-22

PROJECT NO.: 11174586.00000 | Start: 15:30

STAFF: Andy Brayman | Stop: 16:50

DATE(S): 8/21/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	13.47	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	6.59	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.88	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.17	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.85	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	77	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	75	
pH	7.89	7.69	7.60	7.54	7.49	7.48	7.44	7.64	7.52	7.49	
SPEC. COND. (umhos)	560	498	494	492	494	489	493	483	483	483	
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	350	110	45	
TEMPERATURE (°C)	15.5	14.6	14.5	14.4	15.0	15.1	15.4	16.6	15.5	15.4	
ORP (mV)	97	84	106	120	142	151	155	169	173	173	
TIME	15:30	15:32	15:34	15:39	15:47	15:52	15:56	16:43	16:47	16:49	

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-23

PROJECT NO.: 11174586.00000 | Start: 16:28

STAFF: Andy Brayman | Stop: 18:08

DATE(S): 8/23/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	47.58	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	40.77	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.81	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.16	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.79	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	71	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	70			
pH	8.02	7.63	7.56	7.57	7.60	7.58	7.61	7.62			
SPEC. COND. (umhos)	755	810	791	787	782	787	784	788			
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	606	34.2			
TEMPERATURE (°C)	14.9	12.5	12.2	12.2	12.9	11.8	12.5	12.2			
ORP (mV)	203	75	42	57	67	61	75	86			
TIME	16:28	16:34	16:44	16:51	17:19	17:26	18:00	18:07			

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-24

PROJECT NO.: 11174586.00000 | Start: 18:42

STAFF: Andy Brayman | Stop: 7:23

DATE(S): 8/23/06, 8/24/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	47.76
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	41.12
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.64
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.13
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.64
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	52.5

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	52.5				
pH	7.40	7.59	7.58	7.63	7.63	8.20	7.72				
SPEC. COND. (umhos)	1,122	770	774	757	748	750	748				
TURBIDITY (NTU)	>1000	>1000	1014	>1000	155	371	46.3				
TEMPERATURE (°C)	17.1	13.0	12.3	12.2	13.6	12.3	14.4				
ORP (mV)	128	39	15	19	26	106	68				
TIME	18:42	19:31	19:52	20:21	20:55	7:09	7:22				

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-25

PROJECT NO.: 11174586.00000 | Start: 7:45

STAFF: Andy Brayman | Stop: 9:03

DATE(S): 8/24/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	50.41
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	43.39
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	7.02
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.19
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.97
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	61

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	61			
pH	7.72	7.51	7.56	7.62	7.66	7.69	7.77	7.73			
SPEC. COND. (umhos)	885	755	689	676	668	662	654	661			
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	67.8	49.6			
TEMPERATURE (°C)	12.5	11.4	11.2	11.5	11.6	12.3	12.5	11.7			
ORP (mV)	-149	-31	-28	-32	-15	3	73	76			
TIME	7:45	7:55	8:02	8:11	8:20	8:30	8:58	9:02			

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-26

PROJECT NO.: 11174586.00000 | Start: 15:12

STAFF: Andy Brayman | Stop: 9:18

DATE(S): 8/22/06, 8/23/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	27.11	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	20.87	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.24	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.06	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.30	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	70	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	70			
pH	7.33	8.14	7.76	7.70	7.71	7.71	7.79	7.74			
SPEC. COND. (umhos)	1,097	470	457	447	455	441	431	431			
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	778	323	219	45.8			
TEMPERATURE (°C)	17.5	14.4	13.9	13.8	13.8	13.9	14.2	14.2			
ORP (mV)	39	2	-29	-15	-3	12	40	26			
TIME	15:12	8:00	8:07	8:15	8:25	8:34	9:12	9:18			

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Dry after removing about 2 gallons.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-27

PROJECT NO.: 11174586.00000 | Start: 14:31

STAFF: Andy Brayman | Stop: 17:48

DATE(S): 8/22/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	21.98
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	16.11
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.87
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.00
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	4.99
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	88

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	30	40	50	60	70	80	87.5	
pH	7.80	7.78	7.66	7.83	7.69	7.66	7.83	7.68	7.67	7.77	
SPEC. COND. (umhos)	505	500	482	480	503	507	506	495	504	504	
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	248	234	32.5	
TEMPERATURE (°C)	17.5	17.1	18.2	16.0	14.9	14.2	15.5	14.8	14.7	14.3	
ORP (mV)	70	76	77	101	78	80	136	98	94	102	
TIME	14:31	15:48	16:12	16:30	16:42	16:47	17:21	17:29	17:39	17:47	

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Dry after removing about 7 gallons.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-28

PROJECT NO.: 11174586.00000 | Start: 12:25

STAFF: Andy Brayman | Stop: 14:02

DATE(S): 8/22/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	17.84	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	11.67	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.17	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.05	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.24	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	71	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	10	20	35	40	50	60	70			
pH	7.93	7.62	7.61	7.67	7.62	7.60	7.92	7.73			
SPEC. COND. (umhos)	555	568	559	558	561	562	552	554			
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	210	34			
TEMPERATURE (°C)	14.0	13.0	13.2	13.3	12.8	12.5	15.2	14.0			
ORP (mV)	102	54	77	88	83	79	122	105			
TIME	12:25	12:31	12:36	12:44	12:46	12:51	13:56	14:01			

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-29

PROJECT NO.: 11174586.00000 | Start: 7:21

STAFF: Andy Brayman | Stop: 11:49

DATE(S): 8/22/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.19	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.47	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.72	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.14	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.71	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70	75	85
pH	8.33	7.85	7.64	7.55	7.60	7.53	7.50	7.65	7.57	7.48	7.46
SPEC. COND. (umhos)	1,012	810	631	615	605	599	597	584	587	592	595
TURBIDITY (NTU)	>1000	>1000	>1000	800	>1000	>1000	600	>1000	450	110	210
TEMPERATURE (°C)	15.2	15.4	15.1	15.3	16.5	17.5	16.5	17.5	17.5	17.0	17.2
. ORP (mV)	86	71	114	134	137	140	151	146	142	144	137
TIME	7:21	7:34	7:57	8:31	9:00	9:30	9:56	10:43	10:58	11:08	11:29

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Water level dropped to a point where the pump would get air locked. Had to continuously turn pump on and off.
This significantly slowed down development.
Turbidity should clear up under low flow conditions.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-29

PROJECT NO.: 11174586.00000 | Start: 7:21

STAFF: Andy Brayman | Stop: 11:49

DATE(S): 8/22/06

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	14.19	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	7.47	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.72	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.14	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.71	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	100	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	100										
pH	7.49										
SPEC. COND. (umhos)	588										
TURBIDITY (NTU)	180										
TEMPERATURE (°C)	18.2										
ORP (mV)	119										
TIME	11:49										

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.
Water level dropped to a point where the pump would get air locked. Had to continuously turn pump on and off.
This significantly slowed down development.
Turbidity should clear up under low flow conditions.

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville | WELL NO.: DEC-30

PROJECT NO.: 11174586.00000 | Start: 17:38

STAFF: Andy Brayman | Stop: 18:37

DATE(S): 8/21/06

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	18.15
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	11.16
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.99
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.19
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x _5_)	=	5.94
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	72

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	0	5	10	20	30	40	50	60	70		
pH	7.66	7.56	7.56	7.62	7.64	7.64	7.60	7.84	7.68		
SPEC. COND. (umhos)	754	619	589	581	575	572	571	567	568		
TURBIDITY (NTU)	>1000	>1000	>1000	>1000	>1000	>1000	>1000	330	31		
TEMPERATURE (°C)	16.2	15.0	14.8	14.8	14.9	14.7	14.6	15.3	14.5		
ORP (mV)	89	52	67	98	102	96	82	131	105		
TIME	17:38	17:41	17:43	17:48	17:53	17:57	18:02	18:32	18:37		

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

APPENDIX C

MONITORING WELL SAMPLING LOGS AND CHAIN OF CUSTODY FORMS

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: MW-015

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9/14/06 Sample : 0825

			WELL ID.	(GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	37.00'	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	19.13'	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	17.87	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	3.04	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	9.11	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=		8"	2.60

OR

V=0.0408 x (CASING DIAMETER)²

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										INSTRUMENT
	INITIAL	2	4	6	8	9.5					
pH	6.93	7.25	7.38	7.50	7.51	7.52					
SPEC. COND. (umhos)	.639	.637	.631	.630	.629	.634					
APPEARANCE	Clear										
TEMPERATURE (°C)	10.4	10.3	11.1	11.5	11.6	11.6					
TURBIDITY (NTU)	91					5.0					
DISSOLVED OXYGEN	9.58	8.26	7.96	7.98	7.99	8.34					
WATER LEVEL	19.15	19.15	19.15	19.13	19.14	19.14					
TIME	0754	0755	0803	0811	0820	0825					
COMMENTS: ORP	196	187	152	114	105	116					

pumping 2300 ↑ ↑ ↑ 750 ml/mn → └ SAMPLE

Turbidity meter not working, NTU definetly under 50

SPLIT SAMPLE w/Buck Env.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: MW-025

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9/3/06 Sample: 1615

			WELL ID.	(GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	70.43'	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	44.21'	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	26.22'	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	4.46	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	13.37	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	15	8"	2.60

OR

V=0.0408 x (CASING DIAMETER)²

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	INITIAL	1.0	2.0	3.0	8.0	13.0					INSTRUMENT
pH	7.75	7.69	7.68	7.68	7.69	7.69					
SPEC. COND. (~~umhos~~) m S/cm	.765	.774	.774	.773	.772	.771					
APPEARANCE	CLEAR										
TEMPERATURE (°C)	11.2	10.9	11.1	11.3	11.4	11.4					
TURBIDITY (NTU)											
DISSOLVED OXYGEN	10.49	9.70	9.67	9.67	9.65	9.69					
WATER LEVEL	44.21	44.22	44.23	44.23	44.23						
TIME	1540	1541	1544	1546	1556	1610					
COMMENTS: ORP	120	85	78	77	76	82					

Pumping @ ~1500 ml/min
Turbidity meter broken on both instruments (LaMotte/Horiba)
Split Sample w/ Buck Env.

Gals. ||||

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: MW-4S

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9-14-06 Sample: 1105

			WELL ID.	. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	73.41	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	42.59	(2")	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	30.82	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	5.24	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	15.72	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=		8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	INITIAL	1	3	5	7	9	11	13	15		INSTRUMENT
pH	7.66	7.60	7.62	7.63	7.64	7.65	7.65	7.66	7.66		
SPEC. COND. (~~umhos~~) m s/cm	.831	.834	.832	0.839	.837	.838	.837	.835	.836		
APPEARANCE	CLEAR										
TEMPERATURE (°C)	11.2	11.6	11.9	11.9	11.9	11.9	12.0	11.9	11.9		
TURBIDITY (NTU)	.70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
DISSOLVED OXYGEN	10.85	10.39	10.36	10.38	10.35	10.37	10.39	10.40	10.36		
WATER LEVEL	42.61	42.61	42.61	42.61	42.61	42.61	42.61	42.61	42.61		
TIME	0951	0957	1006	1015	1025	1034	1044	1054	1104		
COMMENTS: ORP	63	65	67	71	71	73	75	76	76		

Pumping @ 800 ml/min

Sample 1105

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: MW-05s

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9/13/06 Sample 10:10

Buck Engineering - Andrew Kotik - split samples

			WELL ID.	. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	39.46	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	10.87	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	28.59	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	4.86	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	14.58	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	16.5	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS GALS	INITIAL	1.25	3.0	5.5	8.0	10.0	13.5	15.5			INSTRUMENT
pH	7.46	7.63	7.74	7.76	7.77	7.77	7.76	7.77			
SPEC. COND. (umhos)	.656	.654	.649	.647	.646	.645	.644	.644			
APPEARANCE	CLEAR										
TEMPERATURE (°C)	11.8	11.9	12.2	12.2	12.2	12.1	12.1	12.1			
TURBIDITY (NTU)	6.4	2.8	1.1	1.2	1.1	1.5	1.0	1.4			
DISSOLVED OXYGEN	11.70	11.58	11.54	11.60	11.61	11.72	11.67	11.68			
WATER LEVEL	10.87	10.84	10.85	10.87	10.86	10.85	10.86	10.87			
TIME	0938	0940	0945	0950	0955	1000	1005	1008			
COMMENTS: ORP	79	74	95	100	105	103	108	111			

↓

Generator stops for ~ 1 min.

Redi-flow pump

Light rain throughout purging/sampling

Sample @ 1010

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-015

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 7.37' Depth to Well Bottom: 12.65' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (~~liters~~): 0.90 gal Estimated Purge Volume (~~liters~~): 3 gal

Sample ID: DEC-015 Sample Time: 17:00 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.31	13.4	.691	10.98	700	150	650	7.37
1645	7.57	12.7	.688	3.27	160	149		7.37
1650	7.52	12.8	.652	9.77	95	151		7.37
1655	7.51	12.8	.651	10.14	55	154		7.37
1700 SAMPLE	7.52	12.8	.650	10.13	19	155		7.37
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES~0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville — WELL NO.: DEC-025

PROJECT NO.: 11174586.00000 — Start: ~~0740~~ 17:40

STAFF: Andy Brayman, Bob Fabian — Stop: ~~0815~~ 18:15

DATE(S): 9/12/06 ~~9/13/06~~ — Sample: ~~0730~~ 18:15

			WELL ID.	. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	38.70'	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	32.14'	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.56'	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.12	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	3.35	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	8 gals	8"	2.60

OR

V=0.0408 x (CASING DIAMETER)²

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	INITIAL	1.0	1.75	2.50	3.25	3.25	5.00	6.00	7.00	8.00	INSTRUMENT
pH	7.65	7.69	7.65	7.68	7.70	7.72	7.71	7.70	7.70	7.71	
SPEC. COND. (~~umhos~~ m s/cm)	1.00	.91	.999	.93	.97	1.04	.99	1.02	1.05	1.05	
APPEARANCE	Turbid	Slight Turbid	→	Clearing up		Slight Turbid	→	Clear	→	→	
TEMPERATURE (°C)	11.6	11.5	12.1	13.5	13.4	13.0	12.8	12.8	12.8	12.8	
TURBIDITY (NTU)	>1000	>1000	750	61		280	200	85	40	33	
DISSOLVED OXYGEN	4.26	6.41	7.54	8.30	8.50	8.90	8.79	8.84	8.93	8.96	
WATER LEVEL	32.14	33.15	33.15	33.15		33.30	33.30	33.34	33.29	33.39	
TIME	1740	1742	1746	1750	1755	1800	1804	1808	1810	1815	
COMMENTS: ORP	94	86	83	65	↓	49	55	50	48	48	
					Generator stopped					SAMPLE	

~~9/13/06 07[illegible] 16.02'~~

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-03D

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 6.99' Depth to Well Bottom: 15.07' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (~~liters~~): 1.37 gal Estimated Purge Volume (liters): 4.5 gals.

Sample ID: DEC-03D Sample Time: 1525 QA/QC: None

Sample Parameters: VOCs TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.62	14.8	.644	10.08	37	144	750	6.99
1507	7.55	14.5	.662	6.88	65	143		7.07
1512	7.53	14.4	.658	6.34	34	144		7.07
1517	7.53	14.4	.656	6.30	13	144		7.07
1522	7.54	14.4	.653	6.24	8	145		7.07
SAMPLE 1525	7.54	14.4	.652	6.40	6.5	145		7.07
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-04D

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: ~~25.70~~ 14.25 Depth to Well Bottom: 25.70 Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.27 Estimated Purge Volume (liters): 3

Sample ID: DEC-04D Sample Time: 14:55 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.45	11.8	.945	10.93	165	39	700	18.25
1435	7.52	11.5	.921	10.96	16	58		18.28
1440	7.41	11.4	.928	10.96	7.3	91		18.28
1445	7.38	11.4	.916	10.61	2.1	109		18.28
1450	7.40	11.4	.916	10.32	1.6	116		18.28
1455	7.44	11.4	.911	10.71	1.6	119		18.28
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-05D

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fablan Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 9.29' Depth to Well Bottom: 18.17' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.51 Estimated Purge Volume (liters): 5 gals

Sample ID: Sample Time: 1655 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.61	12.9	.754	5.11	260	-51	500	9.38
1630	7.50	12.3	.739	4.62	120	-38	700	9.40
1635	7.30	12.1	.710	5.19	28	49	700	9.40
1640	7.31	12.1	.708	5.35	11	70	700	9.39
1645	7.34	12.1	.703	5.47	9.6	80	700	9.39
1650	7.35	12.0	.696	5.66	6.7	85	↓	↓
SAMPLE 1655	7.36	12.0	.694	5.47		88	↓	↓
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-6D

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: ~~12.21'~~ 12.42' Depth to Well Bottom: ~~13.95'~~ 18.39' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.01 Estimated Purge Volume (liters): 4 gals

Sample ID: DEC-6D Sample Time: 1412 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	6.68	11.7	.969	7.27	716	184	700	12.42
1350	7.17	11.5	.934	6.41	480	181	↓	12.45
1355	7.14	12.0	.876	6.77	>1000	182	↓	12.44
1400	7.15	11.6	.880	7.30	234	178	↓	12.45
1405	7.21	11.6	.858	6.78	119	169	600	12.45
1410	7.27	11.5	.900	6.45	23	162		12.45
SAMPLE 1412								
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-07

Date: 9/12/06, 9/13/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Grapuno 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 17.92' Depth to Well Bottom: 20.50' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.44 Estimated Purge Volume (liters):

Sample ID: DEC-07 Sample Time: 07:30 QA/QC: None

Sample Parameters: VOCs + TICs

Purge ~.75 gal - dry

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	6.46	11.4	.90	10.04	>1000	-86	500	17.92
0800	7.14	11.3	.967	2.12		-110		20.20
0803	7.28	11.3	.909	7.88		-131		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

9/13/06 - DTW - 18.02'

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-08

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 13.41' Depth to Well Bottom: 18.66' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.89 Estimated Purge Volume (liters): 3 gals.

Sample ID: DEC-08 Sample Time: 1530 QA/QC: MS/D

Sample Parameters: VOC + TIC

PURGE PARAMETERS

	TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
	Initial	7.52	13.1	.999	10.34	37	132	600	13.48
	1515	7.41	12.9	.985	9.03	29	130		13.48
PTF	1520	7.37	13.1	.967	8.53	13	130		13.48
SAMPLE	1525	7.38	13.2	.950	8.49	7.3	129		13.48
SAMPLE	1530	7.38	13.2	.937	8.47	4.9	129	↓	13.48
	Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-09

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geo pump 2 w/ Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 9.72' Depth to Well Bottom: 16.89 Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.22 Estimated Purge Volume (liters): 3.75 gals.

Sample ID: DEC-09 Sample Time: 1610 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~Initial~~	7.64	12.7	.991	10.11	9.2	136	750	9.72
1550	7.44	12.3	.984	8.18	16	134		9.79
1555	7.39	12.2	.970	8.03	6.2	133		9.79
1600	7.43	12.2	.969	8.57	4.2	132		9.79
1605	7.42	12.2	.981	7.95	3.9	131		9.79
SAMPLE 1610	7.43	12.2	.973	7.92	2.6	130		9.79
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-10

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/ Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 8.70' Depth to Well Bottom: 14.31' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.95 Estimated Purge Volume ~~(liters)~~: 3 gal

Sample ID: DEC-10 Sample Time: 1730 QA/QC: None

Sample Parameters: VOCs + TICs

NOTE: W.L. meter broken, we called Pine to get replacement tomorrow

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~Initial~~	7.51	14.1	.723	7.29	35	116	750	
1710	7.28	13.8	.674	2.76	40	114		
1715	7.22	13.8	.654	3.97	15	114		
1720	7.21	13.8	.652	3.47	7.4	114		
1725	7.21	13.8	.650	3.99	4.7	114		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-11

Date: 9/11/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 10.06' Depth to Well Bottom: 15.43 Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing ~~(liters)~~: 0.91 gal Estimated Purge Volume (liters): 3 gals

Sample ID: DEC-11 Sample Time: 1800 QA/QC: ~~Note~~ Dup DEC-31

Sample Parameters: VOCs + TICs

Note: W.L. meter broken

PURGE PARAMETERS

	TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
	~~Initial~~	7.38	13.3	.745	7.17	180	127	750	
1743	~~1745~~	7.30	13.2	.931	6.52	26	127		
1748	~~1750~~	7.25	13.3	.721	6.24	12	128		
	~~1753~~	7.26	13.4	.720	6.26	8.6	128		
	1758	7.27	13.4	.716	6.31	5.4	129		
SAMPLE	1800								
	Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES–0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-12

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: ~~16.82~~ 15.82 Depth to Well Bottom: 20.74' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.84 Estimated Purge Volume (liters): 2.5 gals

Sample ID: DEC-12 Sample Time: 0835 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.42	11.9	.999	11.53	100	66	600	15.82
0820	7.13	11.7	.999	8.76	80	75		15.85
0825	7.25	11.6	.976	8.32	12	88		15.85
0830	7.30	11.6	.937	8.39	4.5	97		↓
Sample 0835	7.30	11.6	.937	8.42	2.6	103		↓
	2							
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-13

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 21.05' Depth to Well Bottom: 26.36' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.90 Estimated Purge Volume (liters): 3 gals.

Sample ID: DEC-13 Sample Time: 0910 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.63	12.0	.950	10.99	700	102	650	21.05
0855	7.62	11.7	.931	9.19	13	103		21.14
0900	7.62	11.7	.923	9.83	5.7	104		21.14
0905	7.63	11.8	.915	9.93	3.6	105		21.14
SAMPLE 0910	7.63	11.8	.931	9.74	2.5	105		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 Inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-14

Date: 9/12/08 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 19.76' Depth to Well Bottom: 24.31' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing ~~(liters)~~: 0.77 gal Estimated Purge Volume ~~(liters)~~: 3 gal

Sample ID: DEC-14 Sample Time: 0940 QA/QC: ms/msD

Sample Parameters: VOCs + TICs

Take ms/msD here

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.64	13.0	.886	12.01	>1000	109	650	19.76
0925	7.66	11.9	.908	8.54	100	111	↓	19.79
0930	7.62	11.7	.891	8.62	16	114		19.82
0935	7.63	11.7	.881	7.94	6.5	114		19.82
Sample 0940	7.65	11.6	.868	8.69		116	↓	19.82
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-15

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Grdpump 2 w/Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 20.85' Depth to Well Bottom: 26.28' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.92 Estimated Purge Volume (liters): 3.25 gals

Sample ID: DEC-15 Sample Time: 11:10 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	7.19 pH RIT	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	~~9.29~~	13.8	.875	11.18	27	117	700	20.85
1053	7.67	12.7	.884	10.38	39	119		21.03
1058	7.59	11.3	.879	11.01	34	127		21.05
1103	7.58	11.4	.858	11.74	16	132		20.99
1108	7.60	11.4	.852	11.23	9.2	135		20.99
SAMPLE 1110	7.60	11.4	.851	10.67	8.6	136		20.99
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEG-16

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/ Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 20.73' Depth to Well Bottom: 26.71' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.02 Estimated Purge Volume (liters): 4 gals

Sample ID: DEG16 Sample Time: 1030 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.76	13.7	.832	10.11	71000	109	700	20.73
1009	7.68	12.8	.734	9.67	55	112		20.82
1014	7.60	11.4	.728	9.63	13	120		
1019	7.58	11.4	.721	9.61	4.8	124		
1024	7.60	11.4	.713	9.59	3.1	126		
SAMPLE 1030	7.61	11.3	.728	9.52	3.1	129	V	V
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-17

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 15.60' Depth to Well Bottom: 21.40' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (~~liters~~): 0.99 gal Estimated Purge Volume (~~liters~~): 3 gal

Sample ID: DEC-17 Sample Time: 1630 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.24	14.0	.745	10.95	180	147	700	15.60
1614	7.36	12.5	.745	6.61	300	147		15.68
1619	7.31	12.0	.723	5.10	38	150		15.68
1624	7.31	12.0	.706	5.22	15	150		15.68
SAMPLE 1630	7.31	12.0	.708	5.30	18	151	↓	15.68
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-18

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 10.55' Depth to Well Bottom: 16.66' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.04 Estimated Purge Volume (liters): 3.75 gals

Sample ID: DEC-R Sample Time: 1600 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.13	15.5	.749	2.02	80	138	700	10.55
1543	7.09	14.8	.677	1.39	17	137	↓	10.62
1548	7.11	14.9	.649	2.97	9.4	138		10.62
1553	7.11	14.9	.648	2.95	2.3	137		10.62
SAMPLE 1600	7.11	14.9	.646	2.93	2.3	136	↓	10.62
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES–0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-19

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 4.03' Depth to Well Bottom: 11.57 Well Diameter: Screen Length:

Casing Type: PVC Volume in 1 Well Casing ~~(liters)~~: 1.28 gal Estimated Purge Volume ~~(liters)~~: 4.75 gal

Sample ID: DEC-19 Sample Time: 1450 QA/QC: None

Sample Parameters: VOCs & TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~Initial~~	7.31	14.1	.670	6.60	65	138	300	4.03
1432	7.30	14.0	.658	4.76	9.8	138		4.06
1437	7.28	13.9	.654	4.46	4.4	139		4.07
1442	7.28	13.9	.651	4.48	2.5	139		4.07
1447	7.29	13.9	.649	4.46	1.7	140		4.07
SAMPLE 1450	7.29	13.9	.646	4.47	1.6	140		4.07
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-20

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 8.88' Depth to Well Bottom: 14.39' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.94 Estimated Purge Volume (liters): 3.75 gals

Sample ID: DEC-20 Sample Time: 1410 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

	TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
	Initial	7.48	13.2	.653	6.95	37	57	750	8.88
	1357	7.40	13.1	.649	7.26	8.3	81	↓	8.91
	1402	7.33	13.1	.649	7.01	3.6	109	↓	8.91
	1407	7.32	13.1	.647	6.89	2.3	120	↓	8.91
SAMPLE	1410	7.32	13.1	.647	6.89	1.6	125	↓	8.91
	Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 Inch diameter well = 87 ml/ft; 1 Inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-21

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 w/silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 9.12' Depth to Well Bottom: 14.51' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (~~liters~~): .92 gal Estimated Purge Volume (~~liters~~): 3.5 gal

Sample ID: DEC-21 Sample Time: 1340 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.38	14.7	.568	7.47	95	138	700	9.12
1325	7.19	14.3	.572	5.71	12	138		9.13
1330	7.13	13.9	.572	4.65	5.7	136		9.13
1335	7.14	13.9	.571	4.45	2.4	134		9.13
1340	7.13	13.8	.571	4.43	2.0	133		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

SAMPLE

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-22

Date: 9/12/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: GS pump 2 w/ 5:1 cond Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 7.19 Depth to Well Bottom: 13.47' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.02 Estimated Purge Volume (liters): 4 gals

Sample ID: DEC-22 Sample Time: 1305 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.70	14.3	.528	10.54	>1000	139	700	7.19
12.50	7.43	14.0	.530	4.10	150	141		7.19
12.55	7.31	14.0	.534	2.83	39	141		7.20
1300	7.30	14.0	.531	2.90	16	139		7.20
SAMPLE 1305	7.32	14.0	.529	2.91	10	137	↓	7.20
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: DEC-23

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9/14/06 Sample: 0925

			WELL ID.	(GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	46.32'	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	40.85'	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.47'	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	0.93	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	2.79	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=		8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										INSTRUMENT
	INITIAL	1.5	3.0	4.0	5.0	6.0					
pH	7.51	7.51	7.54	7.55	7.56	7.56					
SPEC. COND. (umhos)	.765	.765	.784	.795	.798	.799					
APPEARANCE	Turbid										
TEMPERATURE (°C)	12.0	12.2	13.5	13.8	13.6	13.6					
TURBIDITY (NTU)			482 ~~827~~	121	66.1	41.8					
DISSOLVED OXYGEN	9.53	9.48	9.77	9.94	9.95	9.97					
WATER LEVEL	41.0	41.0	40.98	40.92	40.92	40.93					
TIME	0903	0905	0910	0915	0918	0922					
COMMENTS: ORP	96	98	89	63	57	55					

~~SAMPLE~~ RIF

Pumping @ 900 ml/mn
Turbidity meter not working for first couple readings

GdS - 11

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: DEC-24

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman

DATE(S): 9/13/06 Sample: 1715

1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	46.45'
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	41.03'
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	5.42'
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	0.92
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	2.76
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	

WELL ID.	VOL. (GAL/FT)
1"	0.04
2"	0.17
3"	0.38
4"	0.66
5"	1.04
6"	1.50
8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
	0	1	2	3	4	5	6				
pH	7.57	7.59	7.60	7.61	7.63	7.63	7.63				
SPEC. COND. (umhos)	.888	.840	.834	.832	.827	.824	.826				
TURBIDITY (NTU)	Turbid			258	78.4	70.3	37.0				
TEMPERATURE (°C)	12.8	12.5	13.5	13.6	13.5	13.5	13.4				
D.O.	8.15	8.98	9.21	9.50	9.80	9.78	9.87				
ORP	127	115	97	62	57	55	54				

COMMENTS: Well Developed with submersible pump using dedicated/disposable HDPE tubing.

Time	1645	1650	1654	1658	1705	1709	1715
W.L.	41.03	41.38	41.40	41.40	41.40	41.40	41.40

Pumping @ 750ml/min

Turb meter broke

850 ml/min

SAMPLE

Split Sample w/ Buck Env.

WELL PURGING LOG

URS Corporation

PROJECT TITLE: SCM Cortlandville WELL NO.: DEC-25

PROJECT NO.: 11174586.00000

STAFF: Andy Brayman, Bob Fabian

DATE(S): 9/13/06 Sample: 15:10

			WELL ID.	. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	48.35	1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	42.26	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	6.09	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.04	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=	3.11	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	16	8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										INSTRUMENT
	INITIAL	1.0	2.0	3.0	4.0	5.0	10.0	14.0			
pH	7.85	7.68	7.65	7.66	7.63	7.61	7.65	7.69			
SPEC. COND. (m s/cm ~~umhos~~)	.751	.771	.769	.761	.763	.770	.770	.770			
APPEARANCE	Turb.d										
TEMPERATURE (°C)	11.4	11.1	11.9	15.7	11.6	11.5	11.8	11.7			
TURBIDITY (NTU)	>1000	>1000	>1000	850	>1000	260	110	33			
DISSOLVED OXYGEN	10.34	9.40	8.97	8.82	10.35	9.46	9.42	9.34			
WATER LEVEL	42.39	42.35	42.31	42.29	42.67	42.49	42.45	42.44			
TIME	1433	1435	1440	1445	1450	1455	1500	1505			
COMMENTS: ORP	130	117	100	112	74	94	85	73			
	↑ 1700	↑	500 ml/min →			2200 ml/min.					

Pumping Rate ~ 1250 ml/min.

1510 SAMPLE

Split sample w/ Buck Env.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-26

Date: 9/13/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/ Sampling Device: Geopump 2 Tubing Type: LDPE + silicone Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 22.79' Depth to Well Bottom: 27.75' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.84 Estimated Purge Volume (liters): 2.75 gals

Sample ID: DEC-26 Sample Time: 1345 QA/QC: None

Sample Parameters: VOCs TICs

PURGE PARAMETERS

	TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
	~~Initial~~	7.85	14.2	.525	10.61	2.10	162	700	22.79
	1330	7.65	13.9	.503	7.24	6.8	161	↓	
	1335	7.66	14.0	.471	6.67	5.5	161		22.88
	1340	7.66	14.0	.463	6.64	3.6	160	↓	
SAMPLE	1345								
	Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-27

Date: 9/13/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 16.68' Depth to Well Bottom: 21.35' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 0.79 Estimated Purge Volume (liters):

Sample ID: DEC-27 Sample Time: 1310 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~Initial~~	7.69	15.10	.504	8.37	16	165	750	~~16.68'~~
1255	7.64	14.8	.504	6.06	9.1	164		16.81
1300	7.64	14.4	.512	5.87	2.7	162		16.81
1305	7.65	14.3	.515	5.79	0	161		
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-29

Date: 9/13/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Gapump 2 w/silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 12.15' Depth to Well Bottom: ~~17.84~~ 17.07' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (~~liters~~): 0.84 gal Estimated Purge Volume (~~liters~~): 3 gal

Sample ID: DEC-29 Sample Time: 1215 QA/QC: Field Dup DEC-32D

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
~~Initial~~	7.60	12.8	~~.601~~ .654	7.58	270	158	500	12.15
1152	7.62	12.8	.646	7.94	25	159		12.20
1157	7.58	12.9	.637	7.35	5.8	159		12.20
1202	7.57	12.9	.639	7.37	3.5	161		12.20
1207	7.58	13.0	.638	7.31	2.6	162		12.21
1212	7.58	13.0	.638	7.33	2.3	163		12.22
SAMPLE 1215	7.58	13.1	.633	7.28	1.8	164	↓	12.22
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-29

Date: 9/13/06 Sampling Personnel: Andy Brayman, Bob Fablan Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/ Silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 8.57 Depth to Well Bottom: 14.19' Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing ~~(liters)~~: 0.96 gal Estimated Purge Volume ~~(liters)~~: 3.5 gal

Sample ID: DEC-29 Sample Time: 11:30 QA/QC: No. 9

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

	TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
	Initial	7.65	15.0	.649	10.04	22	171	800	8.57'
	1117	7.43	15.2	.661	2.50	12	169	↓	8.89
	1122	7.43	15.4	.661	2.00	12	164		8.89
	1127	7.42	15.4	.657	2.25	6.5	160		8.89
SAMPLE	1130	7.42	15.4	.653	2.36	4.8	156		
	Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 11174586.00000 Site: SCM Cortlandville Well I.D.: DEC-30

Date: 9/13/06 Sampling Personnel: Andy Brayman, Bob Fabian Company: URS Corporation

Purging/Sampling Device: Geopump 2 w/silicone Tubing Type: LDPE Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: 11.45' Depth to Well Bottom: 17.39 Well Diameter: 2" Screen Length:

Casing Type: PVC Volume in 1 Well Casing (liters): 1.01 gal Estimated Purge Volume ~~(liters)~~: 3.25 gal

Sample ID: DEC-30 Sample Time: 1100 QA/QC: None

Sample Parameters: VOCs + TICs

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Initial	7.96	11.7	.648	11.85	170	156	700	11.45'
1040	7.90	11.8	.646	11.78	20	154		11.46
1045	7.88	11.8	.645	11.53	8.4	158		11.47
1050	7.88	11.8	.644	11.60	4.9	160		11.46
1055	7.89	11.8	.644	11.69	4.0	162		11.47
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft (vol $_{cyl} = \pi r^2 h$)

Remarks:

Split sample w/Andy

1100 SAMPLE

CHAIN OF CUSTODY RECORD

URS

PROJECT NO.

SITE NAME: SCM Cortlandville

SAMPLERS (PRINT/SIGNATURE): Bob Fabian / Bob Fabian

DELIVERY SERVICE: Drop off AIRBILL NO.: —

LAB: LSL

COOLER: 1 of 1

PAGE: 1 of 3

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS: TCL VOCs + TICs	BOTTLE TYPE AND PRESERVATIVE: 40 mL vial unpreserved	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO.# (ERPIMS)
DEC-6D	9/11/06	14:12	G	DEC-6D	WG	3	3			N	—	—	
DEC-04D	9/11/06	14:55	G	DEC-04D	WG	3	3			N	—	—	
DEC-08	9/11/06	15:30	G	DEC-08	WG	3	3			N	—	—	
DEC-09	9/11/06	16:10	G	DEC-09	WG	3	3			N	—	—	
DEC-05D	9/11/06	16:55	G	DEC-05D	WG	3	3			N	—	—	
DEC-10	9/11/06	17:30	G	DEC-10	WG	3	3			N	—	—	
DEC-11	9/11/06	18:00	G	DEC-11	WG	3	3			N	—	—	
DEC-12	9/12/06	08:35	G	DEC-12	WG	3	3			N	—	—	
Field QC	9/11/06	—	G	DEC-31	WG	3	3			FR	—	—	
Field QC	9/11/06	—	G	TB-091106	WQ	3	3			TB	—	—	
DEC-13	9/12/06	09:10	G	DEC-13	WG	3	3			N	—	—	
DEC-14	9/12/06	09:40	G	DEC-14	WG	3	3			N	—	—	
DEC-14	9/12/06	09:40	G	DEC-14MS	WG	3	3			MS	—	—	

MATRIX CODES

AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES

TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE

(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
	9/12/06	19:48			
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to coordinator field files

Life Science Laboratories, Inc.
Brittonfield Lab

5000 Brittonfield Parkway, Suite 200
East Syracuse, New York 13057
(315) 437-0200

Chain of Custody

Client: URS

Project: SCM Cortlandville

Sampled by: Andy Blayman/Andy My Bob Fabian/Bob Fabian

Client Contact: Ann Marie Krapovicki Phone # (716) 923-1137

Sample Description

Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	Analysis/Method: 8260 VOCs + TICs	Comments
DEC-14 DEC-14 MSD	9/12/06	09:40	WG	G	3	3	SD,
DEC-16	9/12/06	10:30	WG	G	3	3	N,
DEC-15	9/12/06	11:10	WG	G	3	3	N,
DEC-22	9/12/06	13:05	WG	G	3	3	N,
DEC-21	9/12/06	13:40	WG	G	3	3	N,
DEC-20	9/12/06	14:10	WG	G	3	3	N,
Field QC TB-090106	9/12/06	-	WQ	G	3	3	TB
DEC-19	9/12/06	14:50	WG	G	3	3	N,
DEC-03D	9/12/06	15:25	WG	G	3	3	N,
DEC-18	9/12/06	16:00	WG	G	3	3	N,
DEC-17	9/12/06	16:30	WG	G	3	3	N
DEC-015	9/12/06	17:00	WG	G	3	3	N,

Relinquished by: Andy My	Date: 9/12/06	Time: 19:48	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by Lab: Date: Time:
Shipment Method:			Airbill Number:

Turnaround Time Required:
Routine_____
Rush (Specify)_____

Comments:

Cooler Temperature:_____

Original - Laboratory
Copy - Client

Life Science Laboratories, Inc.
Brittonfield Lab

5000 Brittonfield Parkway, Suite 200
East Syracuse, New York 13057
(315) 437-0200

Chain of Custody

Client: HRS

Project: SCM Cortlandville

Sampled by: Andy Brayman/Andy Brayman Bob Fabian/Bob Fabian

Client Contact: Dr. Marie Kropovitch Phone # (716) 923-1137

Sample Description

Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	Analysis/Method: TCL VOCs + TICs	Comments
DEC-025	9/12/06		WG	G	3	3	MS
DEC-025-MS	9/12/06		WG	G	3	3	MSD
DEC-025 MSD	9/12/06		WG	G	3	3	

Relinquished by:	Date: 9/12/06	Time: 19:48	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by Lab:	Date:	Time:
Shipment Method:			Airbill Number:		

Turnaround Time Required:
Routine_____
Rush (Specify)_____

Comments:

Cooler Temperature:_____

Original - Laboratory
Copy - Client

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 14526 00000

SITE NAME SCM Cortlandville

SAMPLERS (PRINT/SIGNATURE) Bob Fabian / Bob Fabian

DELIVERY SERVICE: Drop off AIRBILL NO.: —

LAB LSL

COOLER 1 of 1

PAGE 1 of 2

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO. OF CONTAINERS	TESTS: TCL VOCs + TICs	BOTTLE TYPE AND PRESERVATIVE: 40mL vial w/ preservative	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (FERPIMS)
DEC-07	9/13/06	07:30	G	DEC-07	WG	3	3			N	–	–	
RB-091306	9/13/06	08:20	G	RB-091306	WQ	3	3			RB	–	–	
MW-05S	9/13/06	10:05	G	MW-05S	WG	3	3			N	–	–	
DEC-30	9/13/06	11:00	G	DEC-30	WG	3	3			N	–	–	
DEC-29	9/13/06	11:30	G	DEC-29	WG	3	3			N	–	–	
DEC-28	9/13/06	12:15	G	DEC-28	WG	3	3			N	–	–	
DEC-27	9/13/06	13:10	G	DEC-27	WG	3	3			N	–	–	
DEC-26	9/13/06	13:45	G	DEC-26	WG	3	3			N	–	–	
DEC-25	9/13/06	15:10	G	DEC-25	WG	3	3			N	–	–	
MW-22S	9/13/06	16:15	G	MW-22S	WG	3	3			N	–	–	
DEC-24	9/13/06	17:15	G	DEC-24	WG	3	3			N	–	–	
DEC-32D	9/13/06	—	G	DEC-32D	WG	3	3			FR	–	–	
FB-091306	9/13/06	—	G	FB-091306	WQ	3	3			FB	–	–	

MATRIX CODES

AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES

TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
	9/14/06	13:15			
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
			M. Petragnani	9/14/06	13:15

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to coordinator field files 3°C cooler temp ice present

URSF-075C/1 OF 1/CofCR/GCM

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. 14458 [illegible]

SITE NAME SCM Carlsbad

SAMPLERS (PRINT/SIGNATURE) [illegible] Rob Fabian/Rob Fabian

DELIVERY SERVICE: Draft AIRBILL NO.: —

LAB LSL

COOLER 1 of 1

PAGE 2 of 2

TESTS: TCL VOCs + TICs

BOTTLE TYPE AND PRESERVATIVE

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO. OF CONTAINERS								REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)
MW-01S	9/14/06	08:35	G	MW-01S	WG	3	3								N	—	—	
DEC-23	9/14/06	09:25	G	DEC-23	WG	3	3								N	—	—	
MW-04S	9/14/06	11:05	G	MW-04S	WG	3	3								N	—	—	
TB-091406	9/14/06	—	G	TB-091406	WQ	3	3								TB	—	—	

MATRIX CODES

AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES

TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE

(# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
[signature]	9/14/06	13:15			
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME
			[signature]	9/14/06	13:15

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to coordinator field files

3°C cooler temp. ice present

URSF-075C/1 OF 1/CofCR/GCM

APPENDIX D

INVESTIGATION DERIVED WASTE MANIFESTS

FRANK'S VACUUM TRUCK SERVICE, INC.
4500 Royal Avenue • Niagara Falls, New York 14303
(716) 284-2132

NYDEC #9A-332
EPA ID # NYD982792814

30234

DATE 9/15/06

PICK UP

SHIPPER
NAME: NYDEC
STREET: RT 13 South
CITY: Cortlandville STATE: NY ZIP CODE:
CONTACT NAME:
SCHEDULED TIME:

DELIVERY

CONSIGNEE
NAME: Veolia
STREET: Medina OH
CITY: STATE: ZIP CODE:
CONTACT NAME:
SCHEDULED TIME:

ADDITIONAL INFORMATION

CUSTOMER P.O. NO.	WORK ORDER NUMBER	MANIFEST NUMBER	BILLING REFERENCE
		VCX 9760	
LOAD NUMBER	**TRACTOR NUMBER**	**TRAILER NUMBER**	**DRIVER'S NAME**
	30	133-3	Somerson

NUMBER & TYPES	WEIGHT OR VOLUME	HAZ. MAT.	DESCRIPTION OF WASTE(S) PER 49 CFR	CUSTOMER CODE #
21DM	24000	N	non Reg Soil WATE, PPE	
			46 DM left on Site Does Abandoned.	

TYPE (CIRCLE ONE)	PLACARDS PROVIDED OR AFFIXED	
TANK (S/S) (R/L)		
VAC		
DUMP	SHIPPER'S CHECK LIST	
(VAN)	X DOT LABELS APPLIED AND SECURE	✓ NOT APPLICABLE CONTAINERS
ROLL-OFF	✓ PROPER DOT NAME ON ALL PACKAGES	✓ CHECKED FOR PROPER LABELS
FLATBED		

WHEN "RQ" QUANTITY RELEASED INTO ENVIRONMENT, IMMEDIATELY NOTIFY NAT. RESPONSE CENTER - 800-424-8802 AND 911 EMERGENCY SYSTEM OR LOCAL OPERATOR

EMERGENCY RESPONSE PHONE NUMBER:

PICK UP

ARRIVAL DATE 9-15-06
ARRIVAL TIME 930 AM PM RELEASE TIME 145 AM PM
TRAILER EMPTY UPON ARRIVAL X YES ☐ NO
(If not, explain below)
DIP MEASUREMENT (Tankers Only) _____ INCHES
COMMENTS: (EXPLAIN ALL DELAYS) _____
Load, Paperwork.

SHIPPERS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

X _____ TITLE _____
SHIPPER'S SIGNATURE

DELIVERY

DRIVER _____ DATE _____
ARRIVAL TIME _____ AM PM RELEASE TIME _____ AM PM
TRAILER EMPTY UPON DEPARTURE ☐ YES ☐ NO
(If not, explain below)
COMMENTS: (EXPLAIN ALL DELAYS) _____

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

X _____
CONSIGNEE'S SIGNATURE

FRANK'S VACUUM TRUCK SERVICE, INC.

4500 Royal Avenue • Niagara Falls, New York 14303
(716) 284-2132

NYDEC #9A-332
EPA ID # NYD982792814

97930 DATE

PICK UP

SHIPPER

NAME

STREET

CITY STATE ZIP CODE

CONTACT NAME

SCHEDULED TIME

DELIVERY

CONSIGNEE

NAME

STREET

CITY STATE ZIP CODE

CONTACT NAME

SCHEDULED TIME

ADDITIONAL INFORMATION

CUSTOMER P.O. NO.	WORK ORDER NUMBER	MANIFEST NUMBER	BILLING REFERENCE
LOAD NUMBER	TRACTOR NUMBER	TRAILER NUMBER	DRIVER'S NAME

NUMBER & TYPES	WEIGHT OR VOLUME	HAZ. MAT.	DESCRIPTION OF WASTE(S) PER 49 CFR	CUSTOMER CODE #

TYPE (CIRCLE ONE)	PLACARDS PROVIDED OR AFFIXED		WHEN "RQ" QUANTITY RELEASED INTO ENVIRONMENT, IMMEDIATELY NOTIFY NAT. RESPONSE CENTER - 800-424-8802 AND 911 EMERGENCY SYSTEM OR LOCAL OPERATOR	EMERGENCY RESPONSE PHONE NUMBER:
TANK (S/S) (R/L)				
VAC				
DUMP	SHIPPER'S CHECK LIST			
VAN	DOT LABELS APPLIED AND SECURE	DOT AUTHORIZED CONTAINERS		
ROLL-OFF	PROPER DOT NAME ON ALL PACKAGES	CHECKED FOR PROPER SEALING		
FLATBED				

PICK UP

ARRIVAL DATE _____

ARRIVAL TIME _____ AM PM RELEASE TIME _____ AM PM

TRAILER EMPTY UPON ARRIVAL ☐ YES ☐ NO
(If not, explain below)

DIP MEASUREMENT (Tankers Only) _____ INCHES

COMMENTS: (EXPLAIN ALL DELAYS) _____

SHIPPERS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

X _____ TITLE _____
SHIPPER'S SIGNATURE

DELIVERY

DRIVER _____ DATE _____

ARRIVAL TIME _____ AM PM RELEASE TIME _____ AM PM

TRAILER EMPTY UPON DEPARTURE ☐ YES ☐ NO
(If not, explain below)

COMMENTS: (EXPLAIN ALL DELAYS) _____

I, THE UNDERSIGNED, CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND COMPLETE.

X _____
CONSIGNEE'S SIGNATURE

GENERATOR