Building 96 Soil Excavation and Disposal Closure Report

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1.0 Purpose:

The purpose of this Closeout Report is to document the completion of the recent soil excavation project for the Building 96 groundwater remediation system that took place from August – November 2010. This work took place as per the Explanation of Significant Differences (ESD) for Building 96 Remediation (BNL, July 2009). This was an optimization of the Building 96 groundwater treatment system. This report includes some background information on the project and then discusses and documents the soil excavation project. Included is analytical and disposal information for all 37 roll offs, endpoint soil sample results from the excavation, monitoring well installation details, project costs and planned follow up actions for this project.

2.0 Background:

Part of the groundwater cleanup goal for Operable Unit III is to reach drinking water standards for volatile organic compounds (VOCs) in the Upper Glacial aquifer by 2030 or sooner. It was originally determined that for the Building 96 area, this would be achieved with the operation of a source removal system consisting of four re-circulation wells with air-stripping. The system became operational in 2001.

By 2005 it was determined through operational data that the system was no longer reducing VOC concentrations due to a continuing source in the shallow Upper Glacial aquifer. The original assumption at this location was that there was no continuing source of PCE contamination in the groundwater. Following concurrence by the regulators, the system was shutdown and placed on standby with continued monitoring. To cleanup the source area, in 2005 and 2006 three rounds of a potassium permanganate (KMnO4) solution were injected into the saturated zone between 20 and 40 feet below land surface (bls) to oxidize the primary contaminant, tetrachloroethylene (PCE).

The monitoring well data indicated that the $KMnO_4$ injections resulted in a initial reduction of PCE concentrations. However, after several months PCE concentrations rebounded to concentrations at or near those prior to the $KMnO_4$ injections. Due to the elevated PCE concentrations, the treatment system was placed back into operation in 2008. Well RTW-1 was modified from a recirculation well to a pumping well with discharge to the nearby drainage culvert and a SPDES permit equivalency was obtained for this discharge. This well was operational in May 2008 and has remained in operation since this time as a source control to prevent down-gradient migration of the plume.

As a follow-up, additional soil characterization was performed in 2008 to identify the source of the continuing high PCE levels in groundwater.

3.0 Soil Investigation Summary:

A source area soil characterization was performed during 2008 and included soil borings and a soil vapor survey. The soil data, collected via Geoprobe at 22 locations between April and October 2008, indicated that the PCE was located in the unsaturated zone from just below the ground surface to a depth of approximately 15 feet bls (and above the water table) Since the $KMnO_4$ injections occurred in the saturated zone below this contamination, it had little or no effect on the PCE soil contamination.

The maximum concentration of PCE detected was 1,800,000 µg/kg in boring B-2 from 8.5-9 feet bls **(Figure 1).** The detailed soil data identified the extent of soils contaminated with PCE to an approximately 25 by 25 foot area by 15 feet deep just south of the former Building 96. This general area had been historically utilized for drum storage/rinsing and a truck wash.

A subsequent soil gas survey, covering much of the remainder of the Building 96 area did not detect any high concentrations of PCE indicative of additional source areas. The soil vapor survey consisted of 58 points and was performed in September 2008. Additional description of the soil boring and soil vapor results are described in the Final OU III Building 96 Recommendation for Source Area Remediation, dated March 2009 and the ESD For Building 96 Remediation (BNL, July 2009).

The delineation of the contaminated soils to a discrete and relatively shallow area resulted in the recommendation to excavate the soils in this area. In November 2008, BNL placed a plastic impermeable liner over this area to minimize infiltration from precipitation and reduce the amount of PCE being transported to the water table **(**See **Appendix 3,** Photo #1**)**.

4.0 Soil Excavation, Waste Characterization, Transportation, Disposal and Backfill:

Figure 2 identifies the location of the soil excavation. Approximately 370 cubic yards (~ 700 tons) of contaminated soil was removed from the 25 by 25 feet square by 16 feet deep area (See photo 5 in **Appendix 3**). The remediation area was delineated based on the area of soils containing concentrations exceeding 1,400 µg/kg of PCE. This level was based on NYSDEC TAGM 4046 and is a soil cleanup objective to protect groundwater. It also meets the new values established in the NYSDEC CP-51 Soil Cleanup Guidance which is effective in December 2010.

Work was started on August 2, 2010 with the installation of steel shoring to support the sides of the excavation (See **Appendix 3**, Photo #2). The power to the treatment system had to be shutdown during this work as overhead power lines were in close proximity to the work area. The system was restarted upon completion of the work in October 2010. The excavation was performed in two stages. During the initial phase the steel shoring

was installed in the 25 foot by 25 foot area. The shoring was installed to a depth of 35 feet.

A composite sample was obtained from each roll off to classify for disposal and analyzed for total VOCs, total metals, and TCLP for volatile organics. If the TCLP PCE concentration in a sample from a roll-off was greater than 700 µg/L, the waste was considered RCRA regulated (i.e., hazardous) and was disposed of at a Subtitle C facility. If the TCLP PCE concentration in a sample from a roll-off was less than 700 µg/L, the waste was disposed of at a non-hazardous facility.

During the first phase of the excavation from August 9–13, 2010, twenty roll offs were filled with about ten cubic yards of soil each **(**See **Appendix 3,** Photo #4**).** The excavation was then stopped and all of the containers were sampled for VOCs, Metals, PCBs as well as TCLP VOCs and Metals. Upon receiving the analytical results from these roll offs they were classified and sent for disposal. Sixteen of the roll offs were non-hazardous and sent to Veolia/Greentree Landfill in Kersey, Pennsylvania for direct landfill disposal. Four of the roll offs were classified as hazardous for PCE and three of these were sent to Wayne Disposal in Belleville Michigan for direct landfill. One roll off that was greater then 60 ppm for PCE was sent to Michigan Disposal in Belleville, Michigan for treatment and then landfill disposal.

As part of the initial excavation monitoring well 085-353, which was located in the excavation area, was removed.

The second portion of the excavation was performed from September 15-17, 2010. An additional seventeen roll offs were filled during this time. Samples were again collected from each roll off for VOCs, Metals, PCBs as well as TCLP VOCs and Metals. Sixteen of these roll offs were classified as non Hazardous for PCE and sent to Veolia/Greentree in Kersey, Pennsylvania and one roll off was classified as hazardous and sent to Wayne Disposal in Belleville Michigan. Data from all thirty-seven roll offs are included in **Appendix 1**.

The final excavation was approximately 15-16 feet below ground surface **(**See Photo #5 in **Appendix 3)**. The excavation was planned to a depth of about 15 feet. At the 15-16 foot depth, the soil was becoming saturated and it was obvious that the excavation was at or very close to the water table. This was consistent with water level observations in nearby monitoring wells. The objective was to excavate to a depth of 15 feet and not attempt to dig below the water table. Three endpoint samples were obtained from the excavation. The endpoint samples were three composite samples obtained from three lines across the bottom of the excavation (East, Middle, and West). The highest concentration of PCE that was observed in these endpoint samples was 280 ppb which is well below the soil cleanup objective for PCE of 1400 ppb. The endpoint samples were analyzed for VOCs and PCBs. In addition to the endpoint sampling, the last six roll offs filled from the bottom of the excavation were all below the cleanup objective with the highest PCE concentration in the roll offs being 280 ppb in roll off #36. The highest concentration observed in any of the roll offs was 150,000 ppb in roll off #8.

The excavation was backfilled with clean fill, and the shoring was removed based on the endpoint sample results being below the cleanup objective of 1400 ppb for PCE. This work took place from October 5-20, 2010 (**See Appendix 3, Photo #6)**.

5.0 Monitoring Well Installation:

As part of the work plan for this excavation, three additional monitoring wells were planned for installation **(Figure 3).** One well (B96-MW04-2010) was a replacement for well 085-353 which was in the excavation. One well was not installed (B96-MW03-2010) as it was close to existing well 085-348 and would have duplicated results from this well. This was to be a down-gradient monitoring well but there is an adequate number of monitoring wells down-gradient of the excavation. The other well B96-MW-02-2010 was installed about 100 feet up-gradient of the excavation. These wells were installed on November 16-17th, 2010. The well logs for the two new wells are included in **Appendix 2**.

The two new monitoring wells will be sampled on a quarterly frequency for VOC's consistent with the existing monitoring well network for this plume.

6.0 Summary of Project Costs

The costs to perform the Building 96 soil excavation and disposal was approximately $418,000. The cost breakdown is detailed below:

Engineering and Planning:	$20,000
Soil Excavation:	$180,000
Waste Transport and Disposal	$186,000
Analytical:	$20,000
Monitoring Well Installations	$15,000
Total Cost:	**$418,000**

7.0 Future Planned Actions

Groundwater monitoring will continue on the current schedule as described in the BNL Environmental Monitoring Plan (EMP) for all of the groundwater monitoring wells associated with the Building 96 treatment system. There are currently 36 monitoring wells in the monitoring program for Building 96. The sampling frequency is quarterly for 28 wells, semiannual for 5 and annual for 3. Any changed to the schedule will be documented in the EMP and discussed in the Annual BNL Groundwater Status report.

The Building 96 groundwater treatment system will continue to operate. Groundwater modeling was performed to evaluate how long the system would need to operate after removal of the source area soils. The model estimates that RTW-2, 3 and 4 will be shutdown soon after completion of the source removal. It also estimates that well RTW-1 will completely contain the plume from the area of the soil excavation. The modeling estimated that well RTW-1 will need to operate an additional three to six years (2013-2016) before reaching the cleanup goal of 50 ppb for PCE.

Data from the treatment system will continue to be reported in the Quarterly and Annual reports and any changes to the operations will be identified in these reports.

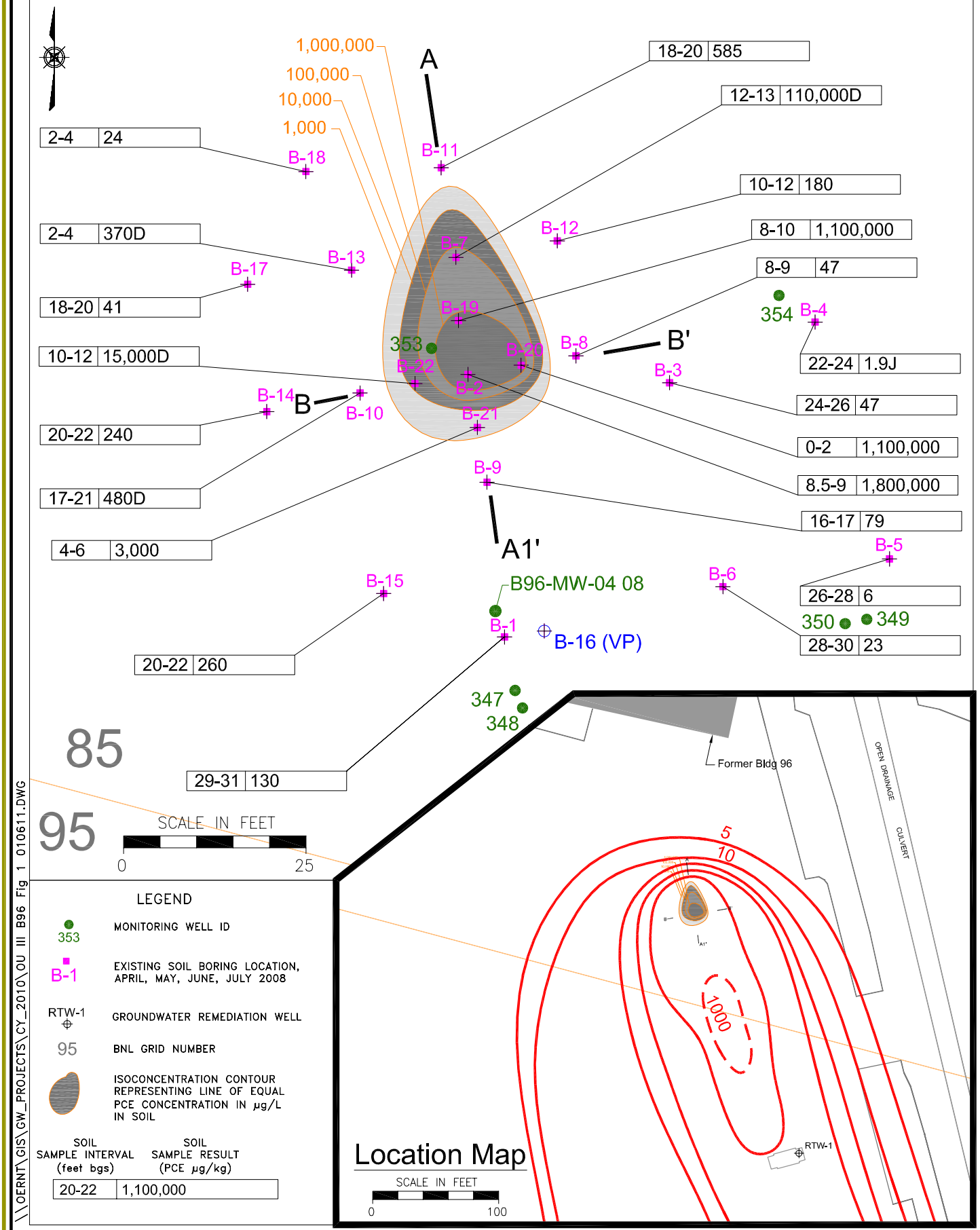
8.0 Lessons Learned

The following is a summary of the lessons learned from this project and the corrective actions for future projects:

1) All workers were required to take BNL Tick Training, and the presence of ticks and hazards associated with working in this area were discussed during daily tailgate safety meetings. In addition, the work area was sprayed for ticks by BNL prior to starting work activities. The workers understanding of and preparation for the high potential of encountering ticks in the work area resulted in no affects to workers from ticks during remediation activities.

2) A NSLS II project (which consisted of installing a new chilled water line in Rowland Street) was being implemented at the same time as the Building 96 work and was impacting the access route to and from the work area. Prior to the start of work a meeting was held with the construction supervisors for the NSLS II project to discuss the coordination of our work activities. An agreement was reached whereby each day that BNL work activities were being conducted, the NSLS II construction supervisor was notified and the specific work being conducted that day by each party was communicated. Based upon these discussions, the most appropriate means of egress to the site was identified and any safety concerns were reviewed. This information was then discussed with the Building 96 construction crew at the Daily Tailgate briefing each morning. This helped contribute to a safe project with minimal impacts to work activities for either project.

Figures



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BROOKHAVEN NATIONAL LABORATORY

EWMS DIVISION

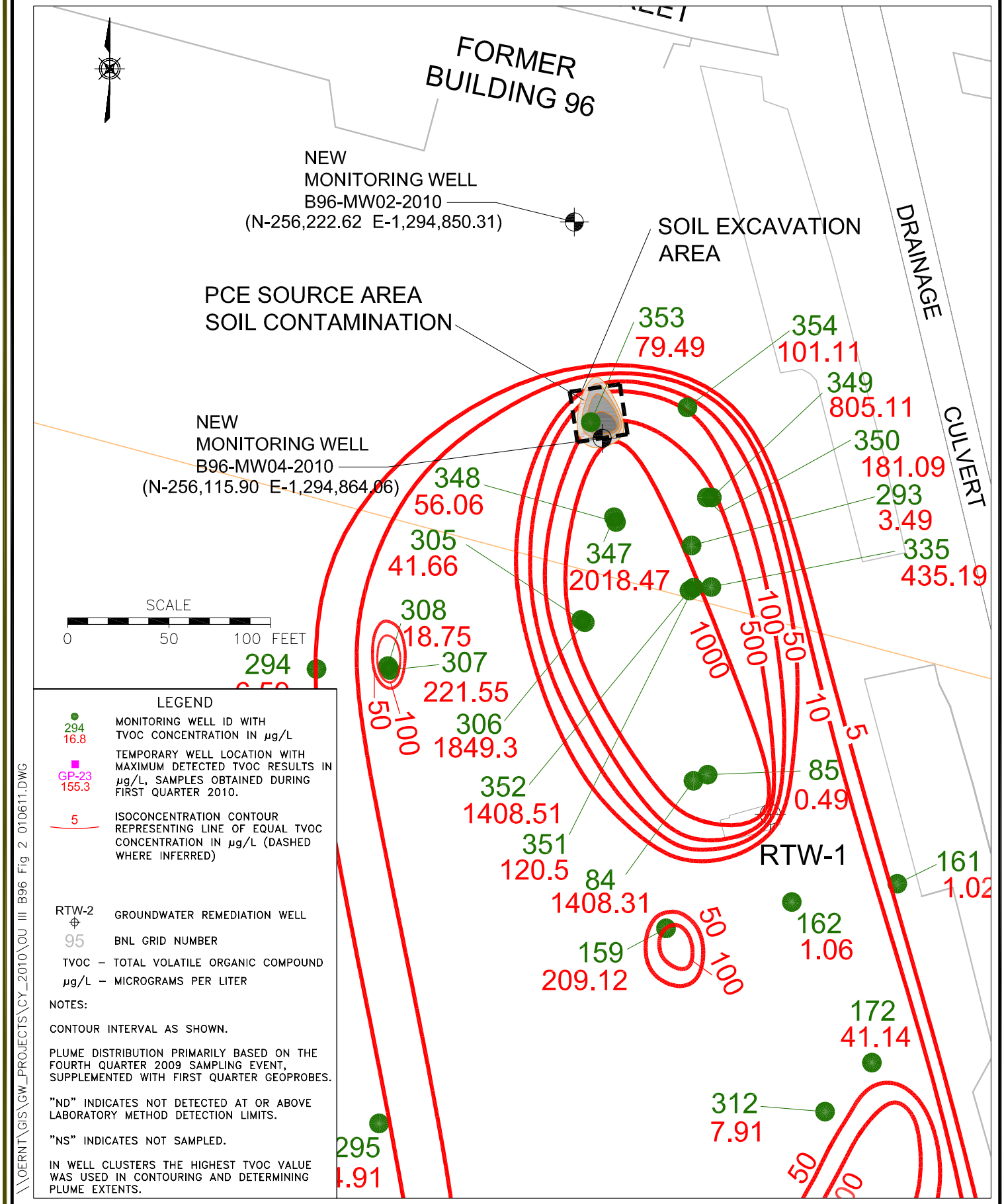
TITLE:

BUILDING 96
2008 BORING LOCATIONS AND PCE RESULTS

OU III BUILDING 96
CLOSURE REPORT FOR SOURCE AREA REMEDIATION

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	11/10/08	–
CHKD:	APPD:	REV.:	NOTES:
–	–	1/06/11	–

FIGURE NO.: 1



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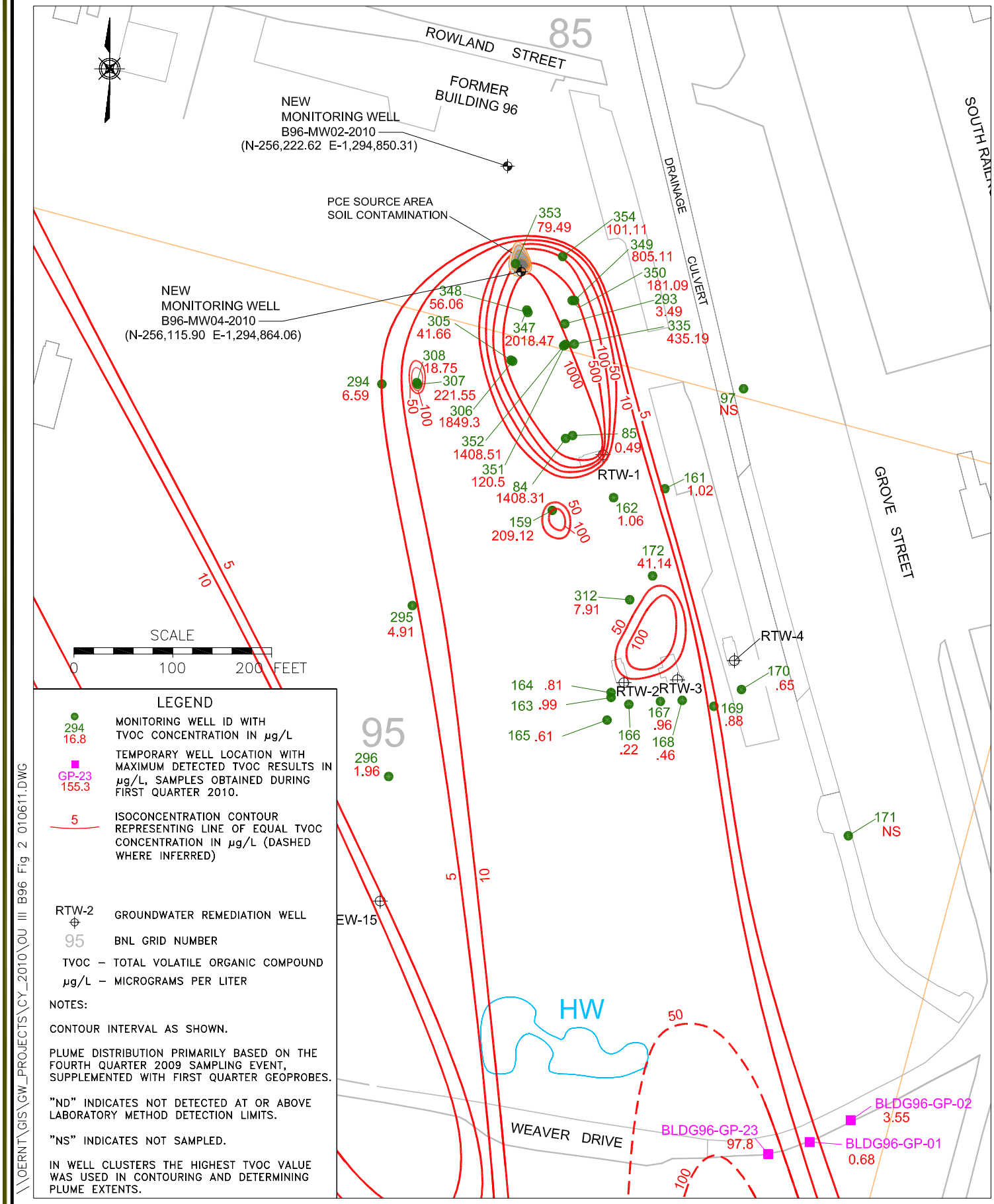
BROOKHAVEN NATIONAL LABORATORY
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
OU III BUILDING 96 AREA SOIL EXCAVATION LOCATION
OU III BUILDING 96
CLOSURE REPORT FOR SOURCE AREA REMEDIATION

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	12/16/10	–
CHKD:	APPD:	REV.:	NOTES:
–	VJR	1/06/11	–

FIGURE NO.: 2



LEGEND

- 294 / 16.8 — MONITORING WELL ID WITH TVOC CONCENTRATION IN µg/L
- GP-23 / 155.3 — TEMPORARY WELL LOCATION WITH MAXIMUM DETECTED TVOC RESULTS IN µg/L, SAMPLES OBTAINED DURING FIRST QUARTER 2010.
- 5 — ISOCONCENTRATION CONTOUR REPRESENTING LINE OF EQUAL TVOC CONCENTRATION IN µg/L (DASHED WHERE INFERRED)
- RTW-2 — GROUNDWATER REMEDIATION WELL
- 95 — BNL GRID NUMBER
- TVOC – TOTAL VOLATILE ORGANIC COMPOUND
- µg/L – MICROGRAMS PER LITER

NOTES:

CONTOUR INTERVAL AS SHOWN.

PLUME DISTRIBUTION PRIMARILY BASED ON THE FOURTH QUARTER 2009 SAMPLING EVENT, SUPPLEMENTED WITH FIRST QUARTER GEOPROBES.

"ND" INDICATES NOT DETECTED AT OR ABOVE LABORATORY METHOD DETECTION LIMITS.

"NS" INDICATES NOT SAMPLED.

IN WELL CLUSTERS THE HIGHEST TVOC VALUE WAS USED IN CONTOURING AND DETERMINING PLUME EXTENTS.

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BROOKHAVEN NATIONAL LABORATORY
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

OU III BUILDING 96 AREA MONITORING WELLS

OU III BUILDING 96
CLOSURE REPORT FOR SOURCE AREA REMEDIATION

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	12/16/10	–
CHKD:	APPD:	REV.:	NOTES:
–	VJR	1/06/11	–

FIGURE NO.: 3

Appendix 1

Analytical Results from Rolloffs and End Point Samples

Building 96 Soil Excavation Analytical Results for VOCs and PCBs

Site ID : B96-01 (LID = 10490) Rolloff 1

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	200	36	0.09	UG/KG	
Methylene chloride	8/12/2010	6.2	5.4	5	UG/KG	B
Tetrachloroethylene	8/12/2010	25	50	5	UG/L	J
Tetrachloroethylene	8/12/2010	110	5.4	5	UG/KG	B

Site ID : B96-02 (LID = 10491) Rolloff 2

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	27	35	0.09	UG/KG	J
Methylene chloride	8/12/2010	6.9	5.3	5	UG/KG	B
Tetrachloroethylene	8/12/2010	49	50	5	UG/L	J
Tetrachloroethylene	8/12/2010	650	5.3	5	UG/KG	B D

Site ID : B96-03 (LID = 10492) Rolloff 3

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	850	35	0.09	UG/KG	
Methylene chloride	8/12/2010	5.9	5.3	5	UG/KG	B
Tetrachloroethylene	8/12/2010	540	50	5	UG/L	
Tetrachloroethylene	8/12/2010	16000	1300	5	UG/KG	D
Trichloroethylene	8/12/2010	1.7	5.3	5	UG/KG	J

Site ID : B96-04 (LID = 10493) Rolloff 4

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	350	35	0.09	UG/KG	
Methylene chloride	8/12/2010	3.5	270	5	UG/KG	J B
Tetrachloroethylene	8/12/2010	54	50	5	UG/L	
Tetrachloroethylene	8/12/2010	66	270	5	UG/KG	J B

Site ID : B96-05 (LID = 10494) Rolloff 5

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	430	35	0.09	UG/KG	
Methylene chloride	8/12/2010	4.2	260	5	UG/KG	J B
Tetrachloroethylene	8/12/2010	27	50	5	UG/L	J
Tetrachloroethylene	8/12/2010	87	260	5	UG/KG	J B

Site ID : B96-06 (LID = 10495) Rolloff 6

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	1500	35	0.09	UG/KG	
Methylene chloride	8/12/2010	6	270	5	UG/KG	J B
Tetrachloroethylene	8/12/2010	570	50	5	UG/L	
Tetrachloroethylene	8/12/2010	12000	1300	5	UG/KG	D

Site ID : B96-07 (LID = 10496) Rolloff 7

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	630	35	0.09	UG/KG	
Methylene chloride	8/12/2010	4.3	260	5	UG/KG	J B
Tetrachloroethylene	8/12/2010	170	50	5	UG/L	
Tetrachloroethylene	8/12/2010	3200	1300	5	UG/KG	D

Site ID : B96-08 (LID = 10497) Rolloff 8

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	8/10/2010	7.4	21	50	UG/KG	J
Aroclor 1260	8/10/2010	1000	35	0.09	UG/KG	
Methylene chloride	8/10/2010	7.3	5.2	5	UG/KG	B
Tetrachloroethylene	8/10/2010	150000	5200	5	UG/KG	D
Tetrachloroethylene	8/10/2010	280	50	5	UG/L	
Trichloroethylene	8/10/2010	25	50	5	UG/L	J

Site ID : B96-09 (LID = 10498) Rolloff 9

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/10/2010	1100	35	0.09	UG/KG	
Methylene chloride	8/10/2010	6.2	5.3	5	UG/KG	B
Tetrachloroethylene	8/10/2010	260	50	5	UG/L	
Tetrachloroethylene	8/10/2010	11000	1300	5	UG/KG	D
Trichloroethylene	8/10/2010	1.2	5.3	5	UG/KG	J

Site ID : B96-10 (LID = 10482) Rolloff 10

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/11/2010	92	35	0.09	UG/KG	
Methyl ethyl ketone	8/11/2010	65	50	50	UG/L	
Methylene chloride	8/11/2010	5.4	5.3	5	UG/KG	B
Tetrachloroethylene	8/11/2010	230	50	5	UG/L	
Tetrachloroethylene	8/11/2010	21	5.3	5	UG/KG	B
Trichloroethylene	8/11/2010	430	50	5	UG/L	

Site ID : B96-11 (LID = 10483) Rolloff 11

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/11/2010	200	34	0.09	UG/KG	
Methylene chloride	8/11/2010	4.1	5.2	5	UG/KG	J B
Tetrachloroethylene	8/11/2010	89	5.2	5	UG/KG	B
Tetrachloroethylene	8/11/2010	41	50	5	UG/L	J
Trichloroethylene	8/11/2010	14	50	5	UG/L	J

Site ID : B96-12 (LID = 10484) Rolloff 12

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	8/11/2010	9.8	22	50	UG/KG	J
Aroclor 1260	8/11/2010	550	36	0.09	UG/KG	
Methylene chloride	8/11/2010	6	5.4	5	UG/KG	B
Tetrachloroethylene	8/11/2010	110	50	5	UG/L	
Tetrachloroethylene	8/11/2010	16000	2700	5	UG/KG	D

Site ID : B96-13 (LID = 19186) Rolloff 13

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/11/2010	760	34	0.09	UG/KG	
Methylene chloride	8/11/2010	5.2	5.2	5	UG/KG	B
Tetrachloroethylene	8/11/2010	46	50	5	UG/L	J
Tetrachloroethylene	8/11/2010	5200	1300	5	UG/KG	D

Site ID : B96-14 (LID = 19187) Rolloff 14

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	8/11/2010	7.6	21	50	UG/KG	J
Aroclor 1260	8/11/2010	640	34	0.09	UG/KG	
Methylene chloride	8/11/2010	6.6	5.2	5	UG/KG	B
Tetrachloroethylene	8/11/2010	210	50	5	UG/L	
Tetrachloroethylene	8/11/2010	33000	2600	5	UG/KG	D

Site ID : B96-15 (LID = 10485) Rolloff 15

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/11/2010	970	35	0.09	UG/KG	
Methylene chloride	8/11/2010	5.8	5.3	5	UG/KG	B
Tetrachloroethylene	8/11/2010	210	50	5	UG/L	
Tetrachloroethylene	8/11/2010	15000	1300	5	UG/KG	D

Site ID : B96-16 (LID = 10486) Rolloff 16

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	460	35	0.09	UG/KG	
Methylene chloride	8/12/2010	6.1	5.3	5	UG/KG	B
Tetrachloroethylene	8/12/2010	220	50	5	UG/L	
Tetrachloroethylene	8/12/2010	5000	530	5	UG/KG	D

Site ID : B96-17 (LID = 10499) Rolloff 17

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	670	35	0.09	UG/KG	
Methylene chloride	8/12/2010	5.2	5.2	5	UG/KG	B
Tetrachloroethylene	8/12/2010	210	50	5	UG/L	
Tetrachloroethylene	8/12/2010	18000	2600	5	UG/KG	D

Site ID : B96-18 (LID = 19191) Rolloff 18

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	8/12/2010	8.1	21	50	UG/KG	J
Aroclor 1260	8/12/2010	890	35	0.09	UG/KG	
Methylene chloride	8/12/2010	6.3	5.3	5	UG/KG	B
Tetrachloroethylene	8/12/2010	7700	1300	5	UG/KG	D
Tetrachloroethylene	8/12/2010	220	50	5	UG/L	

Site ID : B96-19 (LID = 10487) Rolloff 19

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	8/12/2010	9.5	21	50	UG/KG	J
Aroclor 1260	8/12/2010	1000	34	0.09	UG/KG	
Methylene chloride	8/12/2010	5.7	5.2	5	UG/KG	B
Tetrachloroethylene	8/12/2010	23000	1300	5	UG/KG	D
Tetrachloroethylene	8/12/2010	1100	50	5	UG/L	

Site ID : B96-20 (LID = 10500) Rolloff 20

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	8/12/2010	380	35	0.09	UG/KG	
Methylene chloride	8/12/2010	4.5	5.3	5	UG/KG	J B
Tetrachloroethylene	8/12/2010	160	50	5	UG/L	
Tetrachloroethylene	8/12/2010	8000	1300	5	UG/KG	D

Site ID : B96-21 (LID = 19348) Rolloff 21

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	230	35	0.09	UG/KG	
Methylene chloride	9/15/2010	2.1	5.2	5	UG/KG	J B
Tetrachloroethylene	9/15/2010	6.9	50	5	UG/L	J
Tetrachloroethylene	9/15/2010	67	5.2	5	UG/KG	

Site ID : B96-22 (LID = 19349) Rolloff 22

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	200	36	0.09	UG/KG	
Tetrachloroethylene	9/15/2010	4.4	50	5	UG/L	J
Tetrachloroethylene	9/15/2010	69	5.5	5	UG/KG	

Site ID : B96-23 (LID = 19350) Rolloff 23

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	220	41	0.09	UG/KG	
Tetrachloroethylene	9/15/2010	130	6.3	5	UG/KG	
Tetrachloroethylene	9/15/2010	100	50	5	UG/L	

Site ID : B96-24 (LID = 19351) Rolloff 24

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	310	35	0.09	UG/KG	
Methylene chloride	9/15/2010	1.8	5.3	5	UG/KG	J B
Tetrachloroethylene	9/15/2010	120	11	5	UG/KG	D
Tetrachloroethylene	9/15/2010	31	50	5	UG/L	J

Site ID : B96-25 (LID = 19352) Rolloff 25

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	70	35	0.09	UG/KG	
Tetrachloroethylene	9/15/2010	5.3	50	5	UG/L	J
Tetrachloroethylene	9/15/2010	15	5.4	5	UG/KG	

Site ID : B96-26 (LID = 19353) Rolloff 26

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/15/2010	120	39	0.09	UG/KG	
Methylene chloride	9/15/2010	2.3	5.9	5	UG/KG	J B
Tetrachloroethylene	9/15/2010	3.1	50	5	UG/L	J
Tetrachloroethylene	9/15/2010	27	5.9	5	UG/KG	

Site ID : B96-27 (LID = 19354) Rolloff 27

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/16/2010	130	35	0.09	UG/KG	
Methylene chloride	9/16/2010	1.7	5.3	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	5.6	50	5	UG/L	J
Tetrachloroethylene	9/16/2010	8.7	5.3	5	UG/KG	

Site ID : B96-28 (LID = 19355) Rolloff 28

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/16/2010	100	36	0.09	UG/KG	
Methylene chloride	9/16/2010	2.5	5.4	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	6.7	50	5	UG/L	J
Tetrachloroethylene	9/16/2010	44	5.4	5	UG/KG	

Site ID : B96-29 (LID = 19356) Rolloff 29

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aroclor 1260	9/16/2010	50	35	0.09	UG/KG	
Tetrachloroethylene	9/16/2010	3.3	5.3	5	UG/KG	J

Site ID : B96-30 (LID = 19357) Rolloff 30

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/16/2010	9.7	23	50	UG/KG	J
Aroclor 1260	9/16/2010	93	38	0.09	UG/KG	
Methylene chloride	9/16/2010	2	5.7	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	63	29	5	UG/KG	D

Site ID : B96-31 (LID = 19358) Rolloff 31

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/16/2010	9	24	50	UG/KG	J
Aroclor 1260	9/16/2010	740	39	0.09	UG/KG	
Methyl ethyl ketone	9/16/2010	51	50	50	UG/L	
Methylene chloride	9/16/2010	3.5	5.9	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	46000	1200	5	UG/KG	D
Tetrachloroethylene	9/16/2010	880	50	5	UG/L	
Trichloroethylene	9/16/2010	79	50	5	UG/L	

Site ID : B96-32 (LID = 19359) Rolloff 32

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/16/2010	11	24	50	UG/KG	J
Aroclor 1260	9/16/2010	17	40	0.09	UG/KG	J
Methylene chloride	9/16/2010	2.4	6.1	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	5.1	50	5	UG/L	J
Tetrachloroethylene	9/16/2010	2.5	6.1	5	UG/KG	J

Site ID : B96-33 (LID = 19360) Rolloff 33

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/16/2010	9	23	50	UG/KG	J
Aroclor 1260	9/16/2010	35	38	0.09	UG/KG	J
Methylene chloride	9/16/2010	2.8	5.8	5	UG/KG	J B
Tetrachloroethylene	9/16/2010	3.7	5.8	5	UG/KG	J

Site ID : B96-34 (LID = 19361) Rolloff 34

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/17/2010	8	23	50	UG/KG	J
Aroclor 1260	9/17/2010	150	38	0.09	UG/KG	
Methylene chloride	9/17/2010	3.5	5.8	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	3.5	50	5	UG/L	J
Tetrachloroethylene	9/17/2010	38	5.8	5	UG/KG	

Site ID : B96-35 (LID = 19362) Rolloff 35

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/17/2010	8.2	24	50	UG/KG	J
Aroclor 1260	9/17/2010	57	39	0.09	UG/KG	
Methylene chloride	9/17/2010	4.3	6	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	89	30	5	UG/KG	D
Tetrachloroethylene	9/17/2010	9.3	50	5	UG/L	J

Site ID : B96-36 (LID = 19363) Rolloff 36

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/17/2010	13	23	50	UG/KG	J
Aroclor 1260	9/17/2010	410	38	0.09	UG/KG	
Methylene chloride	9/17/2010	3.3	5.8	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	55	50	5	UG/L	
Tetrachloroethylene	9/17/2010	280	29	5	UG/KG	D

Site ID : B96-37 (LID = 19364) Rolloff 37

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Methylene chloride	9/17/2010	3.9	6.3	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	180	6.3	5	UG/KG	

Site ID : B96-EP-E (LID = 19366) East Endpoint

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/17/2010	10	25	50	UG/KG	J
Methylene chloride	9/17/2010	3.8	6.3	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	53	50	5	UG/L	
Tetrachloroethylene	9/17/2010	73	6.3	5	UG/KG	

Site ID : B96-EP-M (LID = 19383) Middle Endpoint

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Acetone	9/17/2010	10	25	50	UG/KG	J
Methylene chloride	9/17/2010	2.9	6.2	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	280	50	5	UG/L	
Tetrachloroethylene	9/17/2010	110	6.2	5	UG/KG	

Site ID : B96-EP-W (LID = 19365) West Endpoint

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Methylene chloride	9/17/2010	3.6	6.3	5	UG/KG	J B
Tetrachloroethylene	9/17/2010	12	50	5	UG/L	J
Tetrachloroethylene	9/17/2010	97	6.3	5	UG/KG	

Qualifiers: B= Detected in Blank, J= Detected below the method detection limit,
D = Sample Diluted

Building 96 Soil Excavation Results for Metals

Site ID : B96-01 (LID = 10490) Rolloff 1

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	6590	5.4	200	MG/KG	J
Antimony	8/12/2010	0.32	0.54	3	MG/KG	B
Arsenic	8/12/2010	45.2	200	10	UG/L	B J
Arsenic	8/12/2010	1.2	1.1	10	MG/KG	
Barium	8/12/2010	114	200	1000	UG/L	B
Barium	8/12/2010	8.8	2.2	1000	MG/KG	
Beryllium	8/12/2010	0.14	0.11	3	MG/KG	
Cadmium	8/12/2010	11	10	5	UG/L	J
Cadmium	8/12/2010	0.035	0.054	5	MG/KG	B
Calcium	8/12/2010	141	271	-1	MG/KG	B
Chromium	8/12/2010	6.6	1.1	50	MG/KG	
Cobalt	8/12/2010	1	0.22	-1	MG/KG	
Copper	8/12/2010	1.7	1.1	200	MG/KG	
Iron	8/12/2010	4820	10.8	300	MG/KG	
Lead	8/12/2010	7.6	100	25	UG/L	B
Lead	8/12/2010	4.3	0.32	25	MG/KG	J
Magnesium	8/12/2010	484	108	35000	MG/KG	J
Manganese	8/12/2010	27.4	0.22	300	MG/KG	
Mercury	8/12/2010	0.016	0.036	0.7	MG/KG	B
Nickel	8/12/2010	2.6	0.54	100	MG/KG	
Potassium	8/12/2010	154	10.8	-1	MG/KG	
Selenium	8/12/2010	0.43	0.54	10	MG/KG	B
Silver	8/12/2010	0.0099	0.22	50	MG/KG	B
Silver	8/12/2010	83.6	20	50	UG/L	
Sodium	8/12/2010	8.2	108	20000	MG/KG	B
Vanadium	8/12/2010	10.5	1.1	-1	MG/KG	
Zinc	8/12/2010	32.8	40	2000	UG/L	B J
Zinc	8/12/2010	9.4	5.4	2000	MG/KG	

Site ID : B96-02 (LID = 10491) Rolloff 2

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	5380	5.3	200	MG/KG	J
Antimony	8/12/2010	0.089	0.53	3	MG/KG	B
Arsenic	8/12/2010	41	200	10	UG/L	B J
Arsenic	8/12/2010	0.86	1.1	10	MG/KG	B
Barium	8/12/2010	84.9	200	1000	UG/L	B
Barium	8/12/2010	7.1	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.12	0.11	3	MG/KG	
Cadmium	8/12/2010	5.8	10	5	UG/L	B J
Cadmium	8/12/2010	0.031	0.053	5	MG/KG	B
Calcium	8/12/2010	80.1	267	-1	MG/KG	B
Chromium	8/12/2010	5.1	1.1	50	MG/KG	
Cobalt	8/12/2010	0.75	0.21	-1	MG/KG	
Copper	8/12/2010	1.2	1.1	200	MG/KG	
Iron	8/12/2010	3840	10.7	300	MG/KG	
Lead	8/12/2010	3.9	0.32	25	MG/KG	J
Lead	8/12/2010	3.2	100	25	UG/L	B
Magnesium	8/12/2010	333	107	35000	MG/KG	J
Manganese	8/12/2010	33.8	0.21	300	MG/KG	
Mercury	8/12/2010	0.012	0.036	0.7	MG/KG	B
Nickel	8/12/2010	2	0.53	100	MG/KG	
Potassium	8/12/2010	125	10.7	-1	MG/KG	
Selenium	8/12/2010	0.37	0.53	10	MG/KG	B
Silver	8/12/2010	44.3	20	50	UG/L	
Silver	8/12/2010	0.011	0.21	50	MG/KG	B
Sodium	8/12/2010	9.4	107	20000	MG/KG	B

Vanadium	8/12/2010	8.5	1.1	-1	MG/KG	
Zinc	8/12/2010	19.4	40	2000	UG/L	B J
Zinc	8/12/2010	5.7	5.3	2000	MG/KG	

Site ID : B96-03 (LID = 10492) Rolloff 3

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	4810	5.3	200	MG/KG	J
Antimony	8/12/2010	0.34	0.53	3	MG/KG	B
Arsenic	8/12/2010	1.1	1.1	10	MG/KG	
Arsenic	8/12/2010	39.5	200	10	UG/L	B J
Barium	8/12/2010	95.2	200	1000	UG/L	B
Barium	8/12/2010	8.6	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.11	0.11	3	MG/KG	
Cadmium	8/12/2010	0.077	0.053	5	MG/KG	
Calcium	8/12/2010	161	265	-1	MG/KG	B
Chromium	8/12/2010	5.5	1.1	50	MG/KG	
Cobalt	8/12/2010	1	0.21	-1	MG/KG	
Copper	8/12/2010	2.3	1.1	200	MG/KG	
Iron	8/12/2010	4030	10.6	300	MG/KG	
Lead	8/12/2010	4.1	0.32	25	MG/KG	J
Magnesium	8/12/2010	473	106	35000	MG/KG	J
Manganese	8/12/2010	18.9	0.21	300	MG/KG	
Mercury	8/12/2010	0.02	0.035	0.7	MG/KG	B
Nickel	8/12/2010	2.3	0.53	100	MG/KG	
Potassium	8/12/2010	135	10.6	-1	MG/KG	
Selenium	8/12/2010	0.47	0.53	10	MG/KG	B
Silver	8/12/2010	0.011	0.21	50	MG/KG	B
Sodium	8/12/2010	8.5	106	20000	MG/KG	B
Vanadium	8/12/2010	9.5	1.1	-1	MG/KG	
Zinc	8/12/2010	13.1	5.3	2000	MG/KG	
Zinc	8/12/2010	31.2	40	2000	UG/L	B J

Site ID : B96-04 (LID = 10493) Rolloff 4

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	6910	5.3	200	MG/KG	J
Antimony	8/12/2010	0.092	0.53	3	MG/KG	B
Arsenic	8/12/2010	38.3	200	10	UG/L	B J
Arsenic	8/12/2010	1.2	1.1	10	MG/KG	
Barium	8/12/2010	73.9	200	1000	UG/L	B
Barium	8/12/2010	8.1	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.12	0.11	3	MG/KG	
Cadmium	8/12/2010	3.6	10	5	UG/L	B J
Cadmium	8/12/2010	0.02	0.053	5	MG/KG	B
Calcium	8/12/2010	125	265	-1	MG/KG	B
Chromium	8/12/2010	6.6	1.1	50	MG/KG	
Cobalt	8/12/2010	0.83	0.21	-1	MG/KG	
Copper	8/12/2010	1.2	1.1	200	MG/KG	
Iron	8/12/2010	4370	10.6	300	MG/KG	
Lead	8/12/2010	3.7	0.32	25	MG/KG	J
Lead	8/12/2010	6.2	100	25	UG/L	B
Magnesium	8/12/2010	427	106	35000	MG/KG	J
Manganese	8/12/2010	37.9	0.21	300	MG/KG	
Mercury	8/12/2010	0.57	2	0.7	UG/L	B
Mercury	8/12/2010	0.016	0.035	0.7	MG/KG	B
Nickel	8/12/2010	2.3	0.53	100	MG/KG	
Potassium	8/12/2010	149	10.6	-1	MG/KG	
Selenium	8/12/2010	6.8	200	10	UG/L	B
Selenium	8/12/2010	0.5	0.53	10	MG/KG	B
Silver	8/12/2010	19.7	20	50	UG/L	B
Silver	8/12/2010	0.013	0.21	50	MG/KG	B
Sodium	8/12/2010	8	106	20000	MG/KG	B
Vanadium	8/12/2010	10.5	1.1	-1	MG/KG	
Zinc	8/12/2010	31.4	40	2000	UG/L	B J
Zinc	8/12/2010	6.2	5.3	2000	MG/KG	

Site ID : B96-05 (LID = 10494) Rolloff 5

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	4890	5.3	200	MG/KG	J
Antimony	8/12/2010	0.17	0.53	3	MG/KG	B
Arsenic	8/12/2010	23.6	200	10	UG/L	B J
Arsenic	8/12/2010	1.1	1.1	10	MG/KG	
Barium	8/12/2010	108	200	1000	UG/L	B
Barium	8/12/2010	8.1	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.12	0.11	3	MG/KG	
Cadmium	8/12/2010	7.1	10	5	UG/L	B J
Cadmium	8/12/2010	0.069	0.053	5	MG/KG	
Calcium	8/12/2010	170	263	-1	MG/KG	B
Chromium	8/12/2010	5.1	1.1	50	MG/KG	
Cobalt	8/12/2010	1.1	0.21	-1	MG/KG	
Copper	8/12/2010	2.3	1.1	200	MG/KG	
Iron	8/12/2010	3960	10.5	300	MG/KG	
Lead	8/12/2010	7.8	100	25	UG/L	B
Lead	8/12/2010	5.7	0.32	25	MG/KG	J
Magnesium	8/12/2010	454	105	35000	MG/KG	J
Manganese	8/12/2010	34.8	0.21	300	MG/KG	
Mercury	8/12/2010	0.022	0.035	0.7	MG/KG	B
Nickel	8/12/2010	2.4	0.53	100	MG/KG	
Potassium	8/12/2010	152	10.5	-1	MG/KG	
Selenium	8/12/2010	0.41	0.53	10	MG/KG	B
Silver	8/12/2010	39.6	20	50	UG/L	
Silver	8/12/2010	0.011	0.21	50	MG/KG	B
Sodium	8/12/2010	9.2	105	20000	MG/KG	B
Vanadium	8/12/2010	8.5	1.1	-1	MG/KG	
Zinc	8/12/2010	11.3	5.3	2000	MG/KG	
Zinc	8/12/2010	69.5	40	2000	UG/L	J

Site ID : B96-06 (LID = 10495) Rolloff 6

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	4870	5.4	200	MG/KG	J
Antimony	8/12/2010	0.37	0.54	3	MG/KG	B
Arsenic	8/12/2010	1.3	1.1	10	MG/KG	
Arsenic	8/12/2010	44.2	200	10	UG/L	B J
Barium	8/12/2010	110	200	1000	UG/L	B
Barium	8/12/2010	9.5	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.12	0.11	3	MG/KG	
Cadmium	8/12/2010	9.7	10	5	UG/L	B J
Cadmium	8/12/2010	0.31	0.054	5	MG/KG	
Calcium	8/12/2010	400	268	-1	MG/KG	
Chromium	8/12/2010	5.5	1.1	50	MG/KG	
Cobalt	8/12/2010	1.3	0.21	-1	MG/KG	
Copper	8/12/2010	6.3	1.1	200	MG/KG	
Iron	8/12/2010	4680	10.7	300	MG/KG	
Lead	8/12/2010	11	100	25	UG/L	B
Lead	8/12/2010	12.4	0.32	25	MG/KG	J
Magnesium	8/12/2010	576	107	35000	MG/KG	J
Manganese	8/12/2010	31.6	0.21	300	MG/KG	
Mercury	8/12/2010	0.2	0.036	0.7	MG/KG	
Nickel	8/12/2010	3.1	0.54	100	MG/KG	
Potassium	8/12/2010	152	10.7	-1	MG/KG	
Selenium	8/12/2010	0.32	0.54	10	MG/KG	B
Silver	8/12/2010	0.026	0.21	50	MG/KG	B
Silver	8/12/2010	50	20	50	UG/L	
Sodium	8/12/2010	14.8	107	20000	MG/KG	B
Vanadium	8/12/2010	10.1	1.1	-1	MG/KG	
Zinc	8/12/2010	65.8	40	2000	UG/L	J
Zinc	8/12/2010	31.3	5.4	2000	MG/KG	

Site ID : B96-07 (LID = 10496) Rolloff 7

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	3400	5.2	200	MG/KG	J
Antimony	8/12/2010	0.11	0.52	3	MG/KG	B
Arsenic	8/12/2010	45.9	200	10	UG/L	B J
Arsenic	8/12/2010	0.87	1	10	MG/KG	B
Barium	8/12/2010	101	200	1000	UG/L	B
Barium	8/12/2010	5.4	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.1	0.1	3	MG/KG	
Cadmium	8/12/2010	11.1	10	5	UG/L	J
Cadmium	8/12/2010	0.031	0.052	5	MG/KG	B
Calcium	8/12/2010	94.5	262	-1	MG/KG	B
Chromium	8/12/2010	4.4	1	50	MG/KG	
Cobalt	8/12/2010	0.92	0.21	-1	MG/KG	
Copper	8/12/2010	2.1	1	200	MG/KG	
Iron	8/12/2010	3120	10.5	300	MG/KG	
Lead	8/12/2010	14.2	100	25	UG/L	B
Lead	8/12/2010	3.1	0.31	25	MG/KG	J
Magnesium	8/12/2010	393	105	35000	MG/KG	J
Manganese	8/12/2010	27	0.21	300	MG/KG	
Mercury	8/12/2010	0.0082	0.035	0.7	MG/KG	B
Nickel	8/12/2010	1.9	0.52	100	MG/KG	
Potassium	8/12/2010	133	10.5	-1	MG/KG	
Selenium	8/12/2010	7.6	200	10	UG/L	B
Selenium	8/12/2010	0.27	0.52	10	MG/KG	B
Silver	8/12/2010	77.1	20	50	UG/L	
Sodium	8/12/2010	6.4	105	20000	MG/KG	B
Vanadium	8/12/2010	7.6	1	-1	MG/KG	
Zinc	8/12/2010	52.1	40	2000	UG/L	J
Zinc	8/12/2010	7.1	5.2	2000	MG/KG	

Site ID : B96-08 (LID = 10497) Rolloff 8

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/10/2010	2700	5.2	200	MG/KG	J
Antimony	8/10/2010	0.16	0.52	3	MG/KG	B
Arsenic	8/10/2010	0.82	1	10	MG/KG	B
Arsenic	8/10/2010	44.3	200	10	UG/L	B J
Barium	8/10/2010	73.4	200	1000	UG/L	B
Barium	8/10/2010	5.2	2.1	1000	MG/KG	
Beryllium	8/10/2010	0.094	0.1	3	MG/KG	B
Cadmium	8/10/2010	8.9	10	5	UG/L	B J
Cadmium	8/10/2010	0.018	0.052	5	MG/KG	B
Calcium	8/10/2010	122	262	-1	MG/KG	B
Chromium	8/10/2010	3.5	1	50	MG/KG	
Cobalt	8/10/2010	0.83	0.21	-1	MG/KG	
Copper	8/10/2010	2.1	1	200	MG/KG	
Iron	8/10/2010	2720	10.5	300	MG/KG	
Lead	8/10/2010	6.2	100	25	UG/L	B
Lead	8/10/2010	2	0.31	25	MG/KG	J
Magnesium	8/10/2010	418	105	35000	MG/KG	J
Manganese	8/10/2010	21.1	0.21	300	MG/KG	
Nickel	8/10/2010	1.8	0.52	100	MG/KG	
Potassium	8/10/2010	160	10.5	-1	MG/KG	
Selenium	8/10/2010	13.4	200	10	UG/L	B
Selenium	8/10/2010	0.86	0.52	10	MG/KG	
Silver	8/10/2010	67.2	20	50	UG/L	
Sodium	8/10/2010	8.1	105	20000	MG/KG	B
Thallium	8/10/2010	0.1	0.21	0.5	MG/KG	B
Vanadium	8/10/2010	6.2	1	-1	MG/KG	
Zinc	8/10/2010	30.8	40	2000	UG/L	B J
Zinc	8/10/2010	5.5	5.2	2000	MG/KG	

Site ID : B96-09 (LID = 10498) Rolloff 9

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/10/2010	4040	5.3	200	MG/KG	J
Antimony	8/10/2010	0.2	0.53	3	MG/KG	B
Arsenic	8/10/2010	49.9	200	10	UG/L	B J
Arsenic	8/10/2010	1.3	1.1	10	MG/KG	
Barium	8/10/2010	87.5	200	1000	UG/L	B
Barium	8/10/2010	8.1	2.1	1000	MG/KG	
Beryllium	8/10/2010	0.13	0.11	3	MG/KG	
Cadmium	8/10/2010	2.7	10	5	UG/L	B J
Cadmium	8/10/2010	0.098	0.053	5	MG/KG	
Calcium	8/10/2010	202	264	-1	MG/KG	B
Chromium	8/10/2010	4.8	1.1	50	MG/KG	
Cobalt	8/10/2010	1	0.21	-1	MG/KG	
Copper	8/10/2010	3.2	1.1	200	MG/KG	
Iron	8/10/2010	3590	10.6	300	MG/KG	
Lead	8/10/2010	4	100	25	UG/L	B
Lead	8/10/2010	4.4	0.32	25	MG/KG	J
Magnesium	8/10/2010	530	106	35000	MG/KG	J
Manganese	8/10/2010	23.4	0.21	300	MG/KG	
Mercury	8/10/2010	0.0067	0.035	0.7	MG/KG	B
Nickel	8/10/2010	2.3	0.53	100	MG/KG	
Potassium	8/10/2010	204	10.6	-1	MG/KG	
Selenium	8/10/2010	13.2	200	10	UG/L	B
Selenium	8/10/2010	0.88	0.53	10	MG/KG	
Silver	8/10/2010	0.012	0.21	50	MG/KG	B
Sodium	8/10/2010	11.6	106	20000	MG/KG	B
Thallium	8/10/2010	0.23	0.21	0.5	MG/KG	
Vanadium	8/10/2010	8	1.1	-1	MG/KG	
Zinc	8/10/2010	39.8	40	2000	UG/L	B J
Zinc	8/10/2010	11.5	5.3	2000	MG/KG	

Site ID : B96-10 (LID = 10482) Rolloff 10

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	2920	5.3	200	MG/KG	J
Antimony	8/11/2010	0.088	0.53	3	MG/KG	B
Arsenic	8/11/2010	35.5	200	10	UG/L	B J
Arsenic	8/11/2010	0.68	1.1	10	MG/KG	B
Barium	8/11/2010	95.6	200	1000	UG/L	B
Barium	8/11/2010	4.9	2.1	1000	MG/KG	
Beryllium	8/11/2010	0.076	0.11	3	MG/KG	B
Cadmium	8/11/2010	0.028	0.053	5	MG/KG	B
Calcium	8/11/2010	59.6	263	-1	MG/KG	B
Chromium	8/11/2010	3.9	1.1	50	MG/KG	
Cobalt	8/11/2010	0.71	0.21	-1	MG/KG	
Copper	8/11/2010	0.99	1.1	200	MG/KG	B
Iron	8/11/2010	2490	10.5	300	MG/KG	
Lead	8/11/2010	2.4	0.32	25	MG/KG	J
Magnesium	8/11/2010	355	105	35000	MG/KG	J
Manganese	8/11/2010	26.2	0.21	300	MG/KG	
Mercury	8/11/2010	0.013	0.035	0.7	MG/KG	B
Nickel	8/11/2010	1.5	0.53	100	MG/KG	
Potassium	8/11/2010	90.6	10.5	-1	MG/KG	
Selenium	8/11/2010	0.37	0.53	10	MG/KG	B
Sodium	8/11/2010	5.8	105	20000	MG/KG	B
Thallium	8/11/2010	0.1	0.21	0.5	MG/KG	B
Vanadium	8/11/2010	5.6	1.1	-1	MG/KG	
Zinc	8/11/2010	39.1	40	2000	UG/L	B J
Zinc	8/11/2010	4.5	5.3	2000	MG/KG	B

Site ID : B96-11 (LID = 10483) Rolloff 11

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	4140	5.2	200	MG/KG	J
Antimony	8/11/2010	0.097	0.52	3	MG/KG	B
Arsenic	8/11/2010	1	1	10	MG/KG	
Barium	8/11/2010	75	200	1000	UG/L	B
Barium	8/11/2010	7.5	2.1	1000	MG/KG	
Beryllium	8/11/2010	0.12	0.1	3	MG/KG	
Cadmium	8/11/2010	0.036	0.052	5	MG/KG	B
Calcium	8/11/2010	145	260	-1	MG/KG	B
Chromium	8/11/2010	5.4	1	50	MG/KG	
Cobalt	8/11/2010	1.3	0.21	-1	MG/KG	
Copper	8/11/2010	1.8	1	200	MG/KG	
Iron	8/11/2010	3780	10.4	300	MG/KG	
Lead	8/11/2010	3.3	0.31	25	MG/KG	J
Magnesium	8/11/2010	457	104	35000	MG/KG	J
Manganese	8/11/2010	35.9	0.21	300	MG/KG	
Mercury	8/11/2010	0.025	0.035	0.7	MG/KG	B
Nickel	8/11/2010	2.3	0.52	100	MG/KG	
Potassium	8/11/2010	153	10.4	-1	MG/KG	
Selenium	8/11/2010	0.4	0.52	10	MG/KG	B
Silver	8/11/2010	0.0084	0.21	50	MG/KG	B
Sodium	8/11/2010	10.5	104	20000	MG/KG	B
Thallium	8/11/2010	0.075	0.21	0.5	MG/KG	B
Vanadium	8/11/2010	7.7	1	-1	MG/KG	
Zinc	8/11/2010	26	40	2000	UG/L	B J
Zinc	8/11/2010	9.7	5.2	2000	MG/KG	

Site ID : B96-12 (LID = 10484) Rolloff 12

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	2990	5.4	200	MG/KG	J
Antimony	8/11/2010	0.089	0.54	3	MG/KG	B
Arsenic	8/11/2010	34.5	200	10	UG/L	B J
Arsenic	8/11/2010	0.63	1.1	10	MG/KG	B
Barium	8/11/2010	62.2	200	1000	UG/L	B
Barium	8/11/2010	5.2	2.2	1000	MG/KG	
Beryllium	8/11/2010	0.083	0.11	3	MG/KG	B
Cadmium	8/11/2010	4	10	5	UG/L	B J
Cadmium	8/11/2010	0.03	0.054	5	MG/KG	B
Calcium	8/11/2010	113	270	-1	MG/KG	B
Chromium	8/11/2010	3.5	1.1	50	MG/KG	
Cobalt	8/11/2010	0.76	0.22	-1	MG/KG	
Copper	8/11/2010	1.8	1.1	200	MG/KG	
Iron	8/11/2010	2590	10.8	300	MG/KG	
Lead	8/11/2010	4.2	100	25	UG/L	B
Lead	8/11/2010	2.9	0.32	25	MG/KG	J
Magnesium	8/11/2010	375	108	35000	MG/KG	J
Manganese	8/11/2010	21.7	0.22	300	MG/KG	
Nickel	8/11/2010	1.7	0.54	100	MG/KG	
Potassium	8/11/2010	141	10.8	-1	MG/KG	
Selenium	8/11/2010	0.29	0.54	10	MG/KG	B
Silver	8/11/2010	22.3	20	50	UG/L	
Sodium	8/11/2010	12.2	108	20000	MG/KG	B
Vanadium	8/11/2010	5.9	1.1	-1	MG/KG	
Zinc	8/11/2010	54.4	40	2000	UG/L	J
Zinc	8/11/2010	6.4	5.4	2000	MG/KG	

Site ID : B96-13 (LID = 19186) Rolloff 13

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	2590	5.2	200	MG/KG	J
Antimony	8/11/2010	0.079	0.52	3	MG/KG	B
Arsenic	8/11/2010	35.4	200	10	UG/L	B J
Arsenic	8/11/2010	0.58	1	10	MG/KG	B
Barium	8/11/2010	5.3	2.1	1000	MG/KG	
Barium	8/11/2010	50.8	200	1000	UG/L	B
Beryllium	8/11/2010	0.095	0.1	3	MG/KG	B
Cadmium	8/11/2010	0.022	0.052	5	MG/KG	B
Calcium	8/11/2010	126	260	-1	MG/KG	B
Chromium	8/11/2010	3.4	1	50	MG/KG	
Cobalt	8/11/2010	0.83	0.21	-1	MG/KG	
Copper	8/11/2010	2.4	1	200	MG/KG	
Iron	8/11/2010	2530	10.4	300	MG/KG	
Lead	8/11/2010	2.2	0.31	25	MG/KG	J
Magnesium	8/11/2010	443	104	35000	MG/KG	J
Manganese	8/11/2010	25.3	0.21	300	MG/KG	
Mercury	8/11/2010	0.0088	0.035	0.7	MG/KG	B
Nickel	8/11/2010	1.8	0.52	100	MG/KG	
Potassium	8/11/2010	188	10.4	-1	MG/KG	
Selenium	8/11/2010	0.28	0.52	10	MG/KG	B
Sodium	8/11/2010	10.6	104	20000	MG/KG	B
Vanadium	8/11/2010	5.4	1	-1	MG/KG	
Zinc	8/11/2010	20.6	40	2000	UG/L	B J
Zinc	8/11/2010	6.9	5.2	2000	MG/KG	

Site ID : B96-14 (LID = 19187) Rolloff 14

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	3280	5.2	200	MG/KG	J
Antimony	8/11/2010	0.094	0.52	3	MG/KG	B
Arsenic	8/11/2010	30.4	200	10	UG/L	B J
Arsenic	8/11/2010	0.8	1	10	MG/KG	B
Barium	8/11/2010	73.8	200	1000	UG/L	B
Barium	8/11/2010	6.6	2.1	1000	MG/KG	

Beryllium	8/11/2010	0.1	0.1	3	MG/KG	
Cadmium	8/11/2010	0.04	0.052	5	MG/KG	B
Calcium	8/11/2010	169	261	-1	MG/KG	B
Chromium	8/11/2010	4.3	1	50	MG/KG	
Cobalt	8/11/2010	0.99	0.21	-1	MG/KG	
Copper	8/11/2010	2.5	1	200	MG/KG	
Iron	8/11/2010	2940	10.5	300	MG/KG	
Lead	8/11/2010	3.2	0.31	25	MG/KG	J
Magnesium	8/11/2010	473	105	35000	MG/KG	J
Manganese	8/11/2010	44.4	0.21	300	MG/KG	
Mercury	8/11/2010	0.026	0.035	0.7	MG/KG	B
Nickel	8/11/2010	2	0.52	100	MG/KG	
Potassium	8/11/2010	183	10.5	-1	MG/KG	
Selenium	8/11/2010	0.29	0.52	10	MG/KG	B
Sodium	8/11/2010	10	105	20000	MG/KG	B
Vanadium	8/11/2010	6.6	1	-1	MG/KG	
Zinc	8/11/2010	35.9	40	2000	UG/L	B J
Zinc	8/11/2010	8.1	5.2	2000	MG/KG	

Site ID : B96-15 (LID = 10485) Rolloff 15

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/11/2010	3100	5.3	200	MG/KG	J
Arsenic	8/11/2010	44.9	200	10	UG/L	B J
Arsenic	8/11/2010	0.67	1.1	10	MG/KG	B
Barium	8/11/2010	6.3	2.1	1000	MG/KG	
Barium	8/11/2010	59	200	1000	UG/L	B
Beryllium	8/11/2010	0.1	0.11	3	MG/KG	B
Cadmium	8/11/2010	0.046	0.053	5	MG/KG	B
Calcium	8/11/2010	166	265	-1	MG/KG	B
Chromium	8/11/2010	4.1	1.1	50	MG/KG	
Cobalt	8/11/2010	0.92	0.21	-1	MG/KG	
Copper	8/11/2010	2.5	1.1	200	MG/KG	
Iron	8/11/2010	2890	10.6	300	MG/KG	
Lead	8/11/2010	2.8	0.32	25	MG/KG	J
Magnesium	8/11/2010	511	106	35000	MG/KG	J
Manganese	8/11/2010	30.2	0.21	300	MG/KG	
Mercury	8/11/2010	0.0088	0.035	0.7	MG/KG	B
Nickel	8/11/2010	2	0.53	100	MG/KG	
Potassium	8/11/2010	205	10.6	-1	MG/KG	
Selenium	8/11/2010	0.28	0.53	10	MG/KG	B
Sodium	8/11/2010	10	106	20000	MG/KG	B
Vanadium	8/11/2010	6.3	1.1	-1	MG/KG	
Zinc	8/11/2010	8.3	5.3	2000	MG/KG	
Zinc	8/11/2010	20.5	40	2000	UG/L	B J

Site ID : B96-16 (LID = 10486) Rolloff 16

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	3210	5.3	200	MG/KG	J
Arsenic	8/12/2010	32.5	200	10	UG/L	B J
Arsenic	8/12/2010	0.6	1.1	10	MG/KG	B
Barium	8/12/2010	8.7	2.1	1000	MG/KG	
Barium	8/12/2010	76.8	200	1000	UG/L	B
Beryllium	8/12/2010	0.13	0.11	3	MG/KG	
Cadmium	8/12/2010	0.028	0.053	5	MG/KG	B
Calcium	8/12/2010	171	263	-1	MG/KG	B
Chromium	8/12/2010	4.6	1.1	50	MG/KG	
Cobalt	8/12/2010	1.2	0.21	-1	MG/KG	
Copper	8/12/2010	2.9	1.1	200	MG/KG	
Iron	8/12/2010	3200	10.5	300	MG/KG	
Lead	8/12/2010	2.5	0.32	25	MG/KG	J
Magnesium	8/12/2010	618	105	35000	MG/KG	J
Manganese	8/12/2010	82.6	0.21	300	MG/KG	
Nickel	8/12/2010	2.4	0.53	100	MG/KG	
Potassium	8/12/2010	282	10.5	-1	MG/KG	
Selenium	8/12/2010	0.31	0.53	10	MG/KG	B
Sodium	8/12/2010	13	105	20000	MG/KG	B
Vanadium	8/12/2010	7.5	1.1	-1	MG/KG	
Zinc	8/12/2010	8.7	5.3	2000	MG/KG	
Zinc	8/12/2010	27.9	40	2000	UG/L	B J

Site ID : B96-17 (LID = 10499) Rolloff 17

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	2210	5.2	200	MG/KG	J
Arsenic	8/12/2010	43	200	10	UG/L	B J
Arsenic	8/12/2010	0.44	1	10	MG/KG	B
Barium	8/12/2010	70.6	200	1000	UG/L	B
Barium	8/12/2010	5.6	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.09	0.1	3	MG/KG	B
Cadmium	8/12/2010	0.038	0.052	5	MG/KG	B
Cadmium	8/12/2010	7.6	10	5	UG/L	B J
Calcium	8/12/2010	279	262	-1	MG/KG	
Chromium	8/12/2010	3	1	50	MG/KG	
Cobalt	8/12/2010	0.82	0.21	-1	MG/KG	
Copper	8/12/2010	4.5	1	200	MG/KG	
Iron	8/12/2010	2380	10.5	300	MG/KG	
Lead	8/12/2010	6.8	100	25	UG/L	B
Lead	8/12/2010	1.8	0.31	25	MG/KG	J
Magnesium	8/12/2010	440	105	35000	MG/KG	J
Manganese	8/12/2010	22.4	0.21	300	MG/KG	
Nickel	8/12/2010	1.6	0.52	100	MG/KG	
Potassium	8/12/2010	163	10.5	-1	MG/KG	
Selenium	8/12/2010	0.19	0.52	10	MG/KG	B
Silver	8/12/2010	51.9	20	50	UG/L	
Sodium	8/12/2010	11.2	105	20000	MG/KG	B
Vanadium	8/12/2010	5.4	1	-1	MG/KG	
Zinc	8/12/2010	56	40	2000	UG/L	J
Zinc	8/12/2010	7.3	5.2	2000	MG/KG	

Site ID : B96-18 (LID = 19191) Rolloff 18

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	2950	5.3	200	MG/KG	J
Antimony	8/12/2010	0.08	0.53	3	MG/KG	B
Arsenic	8/12/2010	46.2	200	10	UG/L	B J
Arsenic	8/12/2010	0.62	1.1	10	MG/KG	B
Barium	8/12/2010	7.2	2.1	1000	MG/KG	
Barium	8/12/2010	151	200	1000	UG/L	B
Beryllium	8/12/2010	0.11	0.11	3	MG/KG	
Cadmium	8/12/2010	0.033	0.053	5	MG/KG	B
Cadmium	8/12/2010	7.6	10	5	UG/L	B J
Calcium	8/12/2010	167	264	-1	MG/KG	B
Chromium	8/12/2010	4	1.1	50	MG/KG	
Cobalt	8/12/2010	1.1	0.21	-1	MG/KG	
Copper	8/12/2010	2.7	1.1	200	MG/KG	
Iron	8/12/2010	3030	10.6	300	MG/KG	
Lead	8/12/2010	3.4	100	25	UG/L	B
Lead	8/12/2010	2.5	0.32	25	MG/KG	J
Magnesium	8/12/2010	544	106	35000	MG/KG	J
Manganese	8/12/2010	30	0.21	300	MG/KG	
Mercury	8/12/2010	0.011	0.035	0.7	MG/KG	B
Nickel	8/12/2010	2.2	0.53	100	MG/KG	
Potassium	8/12/2010	230	10.6	-1	MG/KG	
Selenium	8/12/2010	7.3	200	10	UG/L	B
Selenium	8/12/2010	0.3	0.53	10	MG/KG	B
Silver	8/12/2010	55	20	50	UG/L	
Sodium	8/12/2010	10.4	106	20000	MG/KG	B
Vanadium	8/12/2010	6.5	1.1	-1	MG/KG	
Zinc	8/12/2010	25.4	40	2000	UG/L	B J
Zinc	8/12/2010	8.1	5.3	2000	MG/KG	

Site ID : B96-19 (LID = 10487) Rolloff 19

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	3510	5.2	200	MG/KG	J
Antimony	8/12/2010	0.096	0.52	3	MG/KG	B
Arsenic	8/12/2010	0.44	1	10	MG/KG	B
Arsenic	8/12/2010	34	200	10	UG/L	B J
Barium	8/12/2010	183	200	1000	UG/L	B
Barium	8/12/2010	13.9	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.17	0.1	3	MG/KG	
Cadmium	8/12/2010	5.5	10	5	UG/L	B J
Cadmium	8/12/2010	0.02	0.052	5	MG/KG	B
Calcium	8/12/2010	155	261	-1	MG/KG	B
Chromium	8/12/2010	5.1	1	50	MG/KG	
Cobalt	8/12/2010	1.5	0.21	-1	MG/KG	
Copper	8/12/2010	3.6	1	200	MG/KG	
Iron	8/12/2010	3600	10.4	300	MG/KG	
Lead	8/12/2010	3.4	100	25	UG/L	B
Lead	8/12/2010	2.2	0.31	25	MG/KG	J
Magnesium	8/12/2010	857	104	35000	MG/KG	J
Manganese	8/12/2010	36.8	0.21	300	MG/KG	
Nickel	8/12/2010	3	0.52	100	MG/KG	
Potassium	8/12/2010	396	10.4	-1	MG/KG	
Selenium	8/12/2010	0.36	0.52	10	MG/KG	B
Silver	8/12/2010	37.9	20	50	UG/L	
Sodium	8/12/2010	14	104	20000	MG/KG	B
Vanadium	8/12/2010	8.1	1	-1	MG/KG	
Zinc	8/12/2010	35	40	2000	UG/L	B J
Zinc	8/12/2010	9.1	5.2	2000	MG/KG	

Site ID : B96-20 (LID = 10500) Rolloff 20

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Aluminum	8/12/2010	2970	5.3	200	MG/KG	J
Arsenic	8/12/2010	42.2	200	10	UG/L	B J
Arsenic	8/12/2010	0.53	1.1	10	MG/KG	B
Barium	8/12/2010	156	200	1000	UG/L	B
Barium	8/12/2010	9.5	2.1	1000	MG/KG	
Beryllium	8/12/2010	0.15	0.11	3	MG/KG	
Cadmium	8/12/2010	0.017	0.053	5	MG/KG	B
Cadmium	8/12/2010	9.1	10	5	UG/L	B J
Calcium	8/12/2010	156	267	-1	MG/KG	B
Chromium	8/12/2010	4.4	1.1	50	MG/KG	
Cobalt	8/12/2010	1.3	0.21	-1	MG/KG	
Copper	8/12/2010	2.9	1.1	200	MG/KG	
Iron	8/12/2010	3450	10.7	300	MG/KG	
Lead	8/12/2010	1.9	0.32	25	MG/KG	J
Lead	8/12/2010	5.3	100	25	UG/L	B
Magnesium	8/12/2010	718	107	35000	MG/KG	J
Manganese	8/12/2010	61.5	0.21	300	MG/KG	
Nickel	8/12/2010	2.6	0.53	100	MG/KG	
Potassium	8/12/2010	334	10.7	-1	MG/KG	
Selenium	8/12/2010	0.29	0.53	10	MG/KG	B
Silver	8/12/2010	69.6	20	50	UG/L	
Sodium	8/12/2010	12.3	107	20000	MG/KG	B
Vanadium	8/12/2010	7.1	1.1	-1	MG/KG	
Zinc	8/12/2010	8.1	5.3	2000	MG/KG	
Zinc	8/12/2010	20	40	2000	UG/L	B J

Site ID : B96-21 (LID = 19348) Rolloff 21

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	0.86	20.9	10	MG/KG	B
Arsenic	9/15/2010	21	200	10	UG/L	B
Barium	9/15/2010	5.7	5.2	1000	MG/KG	
Barium	9/15/2010	78.7	200	1000	UG/L	B
Chromium	9/15/2010	3	1	50	MG/KG	
Lead	9/15/2010	1.5	10.5	25	MG/KG	B
Mercury	9/15/2010	0.015	0.035	0.7	MG/KG	B J
Zinc	9/15/2010	28.2	40	2000	UG/L	B

Site ID : B96-22 (LID = 19349) Rolloff 22

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	0.76	22	10	MG/KG	B
Barium	9/15/2010	179	200	1000	UG/L	B
Barium	9/15/2010	10.1	5.5	1000	MG/KG	
Chromium	9/15/2010	4.2	1.1	50	MG/KG	
Lead	9/15/2010	1.8	11	25	MG/KG	B
Mercury	9/15/2010	0.024	0.036	0.7	MG/KG	B J
Zinc	9/15/2010	24.6	40	2000	UG/L	B

Site ID : B96-23 (LID = 19350) Rolloff 23

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	0.62	25.1	10	MG/KG	B
Barium	9/15/2010	87.4	200	1000	UG/L	B
Barium	9/15/2010	9.7	6.3	1000	MG/KG	
Chromium	9/15/2010	4.4	1.3	50	MG/KG	
Lead	9/15/2010	2.1	12.5	25	MG/KG	B
Mercury	9/15/2010	0.039	0.041	0.7	MG/KG	B J
Zinc	9/15/2010	26.2	40	2000	UG/L	B

Site ID : B96-24 (LID = 19351) Rolloff 24

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	0.74	21.2	10	MG/KG	B
Barium	9/15/2010	16	5.3	1000	MG/KG	
Barium	9/15/2010	126	200	1000	UG/L	B
Chromium	9/15/2010	5.4	1.1	50	MG/KG	
Lead	9/15/2010	2.5	10.6	25	MG/KG	B
Mercury	9/15/2010	0.028	0.035	0.7	MG/KG	B J
Zinc	9/15/2010	21.2	40	2000	UG/L	B

Site ID : B96-25 (LID = 19352) Rolloff 25

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	0.89	21.4	10	MG/KG	B
Barium	9/15/2010	109	200	1000	UG/L	B
Barium	9/15/2010	16.8	5.4	1000	MG/KG	
Chromium	9/15/2010	7	1.1	50	MG/KG	
Lead	9/15/2010	2.9	10.7	25	MG/KG	B
Mercury	9/15/2010	0.033	0.035	0.7	MG/KG	B J
Zinc	9/15/2010	23	40	2000	UG/L	B

Site ID : B96-26 (LID = 19353) Rolloff 26

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/15/2010	1.1	23.4	10	MG/KG	B
Barium	9/15/2010	231	200	1000	UG/L	
Barium	9/15/2010	13.5	5.9	1000	MG/KG	
Chromium	9/15/2010	5	1.2	50	MG/KG	
Lead	9/15/2010	2.3	11.7	25	MG/KG	B
Mercury	9/15/2010	0.034	0.039	0.7	MG/KG	B J
Zinc	9/15/2010	17.9	40	2000	UG/L	B

Site ID : B96-27 (LID = 19354) Rolloff 27

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.5	21.1	10	MG/KG	B
Barium	9/16/2010	69.3	200	1000	UG/L	B
Barium	9/16/2010	7	5.3	1000	MG/KG	
Chromium	9/16/2010	3.1	1.1	50	MG/KG	
Lead	9/16/2010	1.4	10.5	25	MG/KG	B
Mercury	9/16/2010	0.031	0.035	0.7	MG/KG	B J
Zinc	9/16/2010	21	40	2000	UG/L	B

Site ID : B96-28 (LID = 19355) Rolloff 28

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.53	21.6	10	MG/KG	B
Barium	9/16/2010	9.7	5.4	1000	MG/KG	
Barium	9/16/2010	138	200	1000	UG/L	B
Chromium	9/16/2010	3.8	1.1	50	MG/KG	
Lead	9/16/2010	1.6	10.8	25	MG/KG	B
Mercury	9/16/2010	0.033	0.036	0.7	MG/KG	B J
Zinc	9/16/2010	27.6	40	2000	UG/L	B

Site ID : B96-29 (LID = 19356) Rolloff 29

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.43	21.2	10	MG/KG	B
Barium	9/16/2010	111	200	1000	UG/L	B
Barium	9/16/2010	9.3	5.3	1000	MG/KG	
Chromium	9/16/2010	3.7	1.1	50	MG/KG	
Lead	9/16/2010	1.7	10.6	25	MG/KG	B
Mercury	9/16/2010	0.02	0.035	0.7	MG/KG	B J
Zinc	9/16/2010	17.9	40	2000	UG/L	B

Site ID : B96-30 (LID = 19357) Rolloff 30

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.97	22.8	10	MG/KG	B
Barium	9/16/2010	264	200	1000	UG/L	
Barium	9/16/2010	17.7	5.7	1000	MG/KG	
Chromium	9/16/2010	6	1.1	50	MG/KG	
Lead	9/16/2010	2.7	11.4	25	MG/KG	B
Mercury	9/16/2010	0.027	0.038	0.7	MG/KG	B J
Zinc	9/16/2010	20.6	40	2000	UG/L	B

Site ID : B96-31 (LID = 19358) Rolloff 31

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	1.2	23.8	10	MG/KG	B
Barium	9/16/2010	344	200	1000	UG/L	
Barium	9/16/2010	25.8	5.9	1000	MG/KG	
Chromium	9/16/2010	7.3	1.2	50	MG/KG	
Lead	9/16/2010	3.2	11.9	25	MG/KG	B
Mercury	9/16/2010	0.035	0.039	0.7	MG/KG	B J
Zinc	9/16/2010	17.5	40	2000	UG/L	B

Site ID : B96-32 (LID = 19359) Rolloff 32

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.99	24.5	10	MG/KG	B
Barium	9/16/2010	20.3	6.1	1000	MG/KG	
Barium	9/16/2010	320	200	1000	UG/L	
Chromium	9/16/2010	6.2	1.2	50	MG/KG	
Lead	9/16/2010	2.5	12.2	25	MG/KG	B
Mercury	9/16/2010	0.024	0.04	0.7	MG/KG	B J
Zinc	9/16/2010	14.4	40	2000	UG/L	B

Site ID : B96-33 (LID = 19360) Rolloff 33

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/16/2010	0.96	23.3	10	MG/KG	B
Barium	9/16/2010	244	200	1000	UG/L	
Barium	9/16/2010	19.9	5.8	1000	MG/KG	
Chromium	9/16/2010	6.3	1.2	50	MG/KG	
Lead	9/16/2010	2.9	11.6	25	MG/KG	B
Mercury	9/16/2010	0.029	0.038	0.7	MG/KG	B J
Zinc	9/16/2010	25.1	40	2000	UG/L	B

Site ID : B96-34 (LID = 19361) Rolloff 34

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/17/2010	0.68	23.1	10	MG/KG	B
Barium	9/17/2010	20.6	5.8	1000	MG/KG	
Barium	9/17/2010	209	200	1000	UG/L	
Chromium	9/17/2010	6.5	1.2	50	MG/KG	
Lead	9/17/2010	4.4	100	25	UG/L	B
Lead	9/17/2010	2.9	11.6	25	MG/KG	B
Mercury	9/17/2010	0.042	0.038	0.7	MG/KG	J
Zinc	9/17/2010	24.8	40	2000	UG/L	B

Site ID : B96-35 (LID = 19362) Rolloff 35

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/17/2010	1.1	23.9	10	MG/KG	B
Barium	9/17/2010	325	200	1000	UG/L	
Barium	9/17/2010	26.9	6	1000	MG/KG	
Chromium	9/17/2010	7.4	1.2	50	MG/KG	
Lead	9/17/2010	3.1	12	25	MG/KG	B
Mercury	9/17/2010	0.031	0.039	0.7	MG/KG	B J
Zinc	9/17/2010	22.6	40	2000	UG/L	B

Site ID : B96-36 (LID = 19363) Rolloff 36

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/17/2010	1.4	23	10	MG/KG	B
Barium	9/17/2010	240	200	1000	UG/L	
Barium	9/17/2010	15.2	5.8	1000	MG/KG	
Chromium	9/17/2010	5.4	1.2	50	MG/KG	
Lead	9/17/2010	2.4	11.5	25	MG/KG	B
Mercury	9/17/2010	0.03	0.038	0.7	MG/KG	B J
Zinc	9/17/2010	17.3	40	2000	UG/L	B

Site ID : B96-37 (LID = 19364) Rolloff 37

Chemical Name	Sample Date	Value	Detlim	STD Level	Units	Qual
Arsenic	9/17/2010	1.9	25.4	10	MG/KG	B
Barium	9/17/2010	28.7	6.3	1000	MG/KG	
Barium	9/17/2010	334	200	1000	UG/L	
Chromium	9/17/2010	8.4	1.3	50	MG/KG	
Lead	9/17/2010	3.7	12.7	25	MG/KG	B
Mercury	9/17/2010	0.04	0.042	0.7	MG/KG	B J
Zinc	9/17/2010	22.1	40	2000	UG/L	B

Qualifiers: B= Detected in Blank, J= Detected below the method detection limit

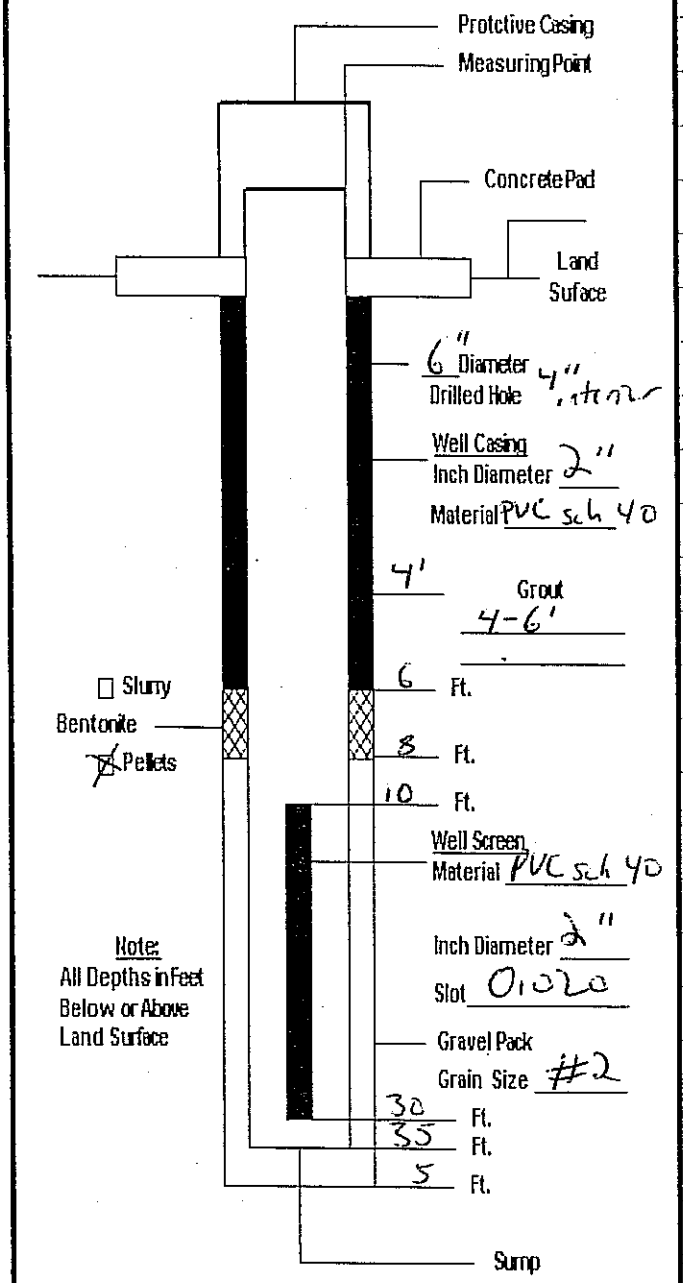
Appendix 2

Monitoring Well Construction Logs

Attachment 3 – BNL Monitoring Well Construction Log

BROOKHAVEN
NATIONAL LABORATORY

MONITORING WELL CONSTRUCTION LOG



BNL Well No: B96-MW02-2010

NYSDEC Permit No.:

Project: B96 Monitoring Wells

Surveyor: Survey Date:

Land Surface Elevation:

Measuring Point Elevation:

BNL Northing:

BNL Easting:

Installation Date: 11/17/10

Drilling Contractor: R+L

Drilling Method: HSA

Drilling Fluid:

Fluid Loss During Drilling: Gallons

Development Technique(s) and Date(s): Grundfos Pump 11/18/10

Water Removed During Development: ~75 Gallons

Static Depth to Water: 20' Feet below M.P.

Pumping Depth to Water: 20'-24' Feet below M.P.

Pumping Duration: 40 min

Yield: GPM: Date:

Specific Capacity: GPM/Ft.

Well Purpose: Monitoring

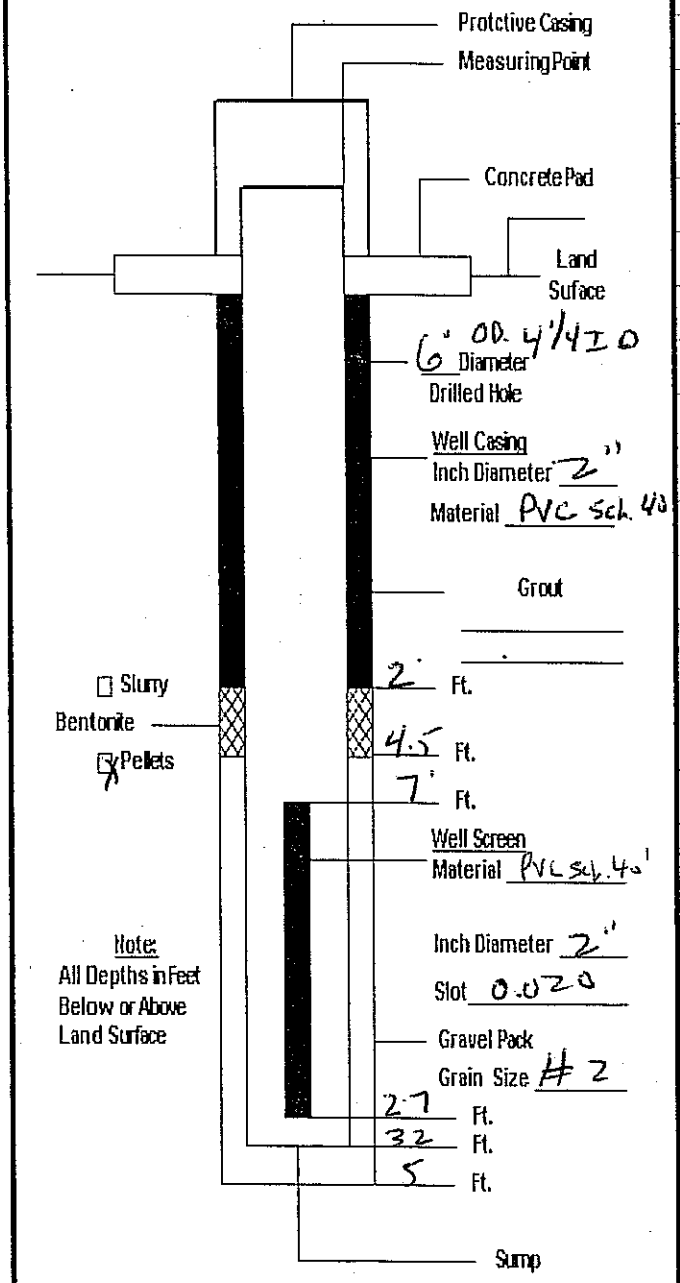
Hydrologist: Chris Anastasiou

Company Name: GEI Consultants

Attachment 3 – BNL Monitoring Well Construction Log

BROOKHAVEN
NATIONAL LABORATORY

MONITORING WELL CONSTRUCTION LOG



BNL Well No: B96-MW-04-2010

NYSDEC Permit No.:

Project: B. 96 Monitoring Wells

Surveyor: Survey Date:

Land Surface Elevation:

Measuring Point Elevation:

BNL Northing:

BNL Easting:

Installation Date: 11/16/10

Drilling Contractor: R&L

Drilling Method: HSA

Drilling Fluid:

Fluid Loss During Drilling: Gallons

Development Technique(s) and Date(s): 11/19/10 Grundfos Pump

Water Removed During Development: ~80-90 Gallons

Static Depth to Water: 16' Feet below M.P.

Pumping Depth to Water: 16-20' Feet below M.P.

Pumping Duration: 50 min

Yield: GPM: Date:

Specific Capacity: GPM/Ft.

Well Purpose: Monitoring

Hydrologist: Chris Morris

Company Name: GEI Consultants

Appendix 3
Photos

Photo 1: Approximate 25'x 25' Source Area Covered with Plastic prior to excavation (Well 085-353 in Center)

Photo 2: Shoring Installation

Photo 3: Excavation Completed awaiting endpoint samples

Photo 4: Rolloffs being loaded for transportation to disposal facility

Photo 5: Bottom of Excavation upon completion of excavation

Photo 6: Area after Excavation was Completed and Backfilled