THIRD PROGRESS REPORT
NORFOLK SOUTHERN RAILWAY COMPANY
OLD ATHENS TURNPIKE LEAD SITE
OLD ATHENS ROAD
PRINCETON, WEST VIRGINIA
NSRC FILE NO. SA08-253-001

September 3, 2009

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1.0 INTRODUCTION

This Progress Report was prepared on behalf of Norfolk Southern Railway Company (NSRC) by Marshall Miller & Associates (MM&A). The Progress Report describes response actions in accordance with Section 8.7 of the Administrative Settlement and Order on Consent for Removal Response Action, hereafter referred to as the Settlement Agreement (SA), between the United States Environmental Protection Agency (USEPA) and NSRC. The effective date of the SA was July 2, 2009. Response actions are being performed in the Old Athens Turnpike right-of-way in accordance with the Response Action Plan (RAP) submitted to USEPA on July 6, 2009, as amended on July 16, 2009. NSRC received USEPA's July 29, 2009 approval of the RAP, as well as notification of access to the portion of the Site not owned by NSRC, on July 31, 2009. In accordance with the SA, NSRC commenced on-site implementation of the RAP on August 5, 2009, within seven business days of receipt of the RAP approval and access notification. The First Progress Report was submitted on August 6, 2009 to provide information on activities undertaken during the first seven days after receipt of the RAP approval and access notification. The Second Progress Report was submitted on August 20, 2009, and provided information on activities performed during the fourteen days following the First Progress Report. In accordance with the SA, this Progress Report provides information on activities performed during the fourteen days following the Third Progress Report.

The Old Athens Turnpike right-of-way (hereafter referred to as the R-O-W) is located in Princeton, Mercer County, West Virginia. For purposes of the RAP, the Site consists of (1) a portion of the R-O-W (approximately 50 feet wide by 300 feet long) adjacent to the former salvage facility (referred to herein as the S.S. Belcher property) that was operated by S.S. Belcher & Company (S.S. Belcher) on NSRC property, and (2) a small overwash area (approximately 30 feet wide by 50 feet long) located on NSRC's property formerly leased to S.S. Belcher. NSRC owns Parcel Number 9 in Princeton, Mercer County, West Virginia, which extends southwestward to the centerline of the former R-O-W. Access to the portion of the Site not owned by NSRC was granted to USEPA by a warrant issued on July 23, 2009. USEPA notified NSRC of the issuance of the warrant granting NSRC access, as

USEPA's agent for that purpose, by letter dated July 29, 2009. Lead-impacted surface soil is being assessed and remediated at the R-O-W in accordance with the approved RAP.

2.0 RESPONSE ACTIONS COMPLETED DURING REPORTING PERIOD

In accordance with the SA and RAP, MM&A has completed the following activities during this reporting period:

1. Maintained high visibility security fencing and keep out signs installed at the R-O-W to prevent access by persons not conducting or overseeing the response actions, to preclude interference with the performance of the response activities and to provide for safety of the public during non-working hours.

2. Completed preparation of 87 soil samples collected from the R-O-W on August 6, 2009 (**Map 1, Appendix A**). X-ray fluorescence (XRF) samples were prepared by drying, homogenizing, sieving, splitting and mounting.

3. The prepared XRF samples were analyzed for total lead using a Niton XRF Model XL3t 500 (Serial Number 30887) in accordance with USEPA Method 6200.

4. Five selected soil samples (G-1B, G-4A, G-7C, G-16D and G-22A) were split and analyzed using both XRF and laboratory methods. Additionally, the split sample G-7c was split once again and submitted as a duplicate for laboratory analysis to evaluate the laboratory precision. In accordance with the RAP, all QA/QC samples were analyzed at a minimum rate of 1:20 and all laboratory analysis was performed by Lancaster Laboratories in Lancaster, Pennsylvania. Preliminary relative percent difference (RPD) calculations for XRF split samples ranged from 1% to 22%. Preliminary RPDs for XRF versus laboratory splits ranged from 4% to 51%, with the RPDs for four out of the five split samples being within 11%. The only significant variation occurred in very high lead concentrations and the laboratory data indicated a lower concentration than the XRF analysis. A preliminary RPD of 2% was calculated for the lab split sample (G-7c). A comparison of preliminary laboratory and XRF analytical results indicates that the correlation coefficient (r^2) was 0.997. In accordance with the RAP, since r^2 is greater than 0.7, the XRF and laboratory data agree and the XRF data can be used for delineation.

5. Laboratory results for five rinse blank samples collected from decontaminated field equipment have not yet been received from the laboratory.

6. Preliminary XRF analytical results indicate that total lead concentrations above 400 parts per million (ppm) are present in Grids 1, 2, 3, 5, 7, 9, 11, 13, 15, 16, 17, 19, 20, 21, 23 and 25 at depths ranging from 0.0 feet to three feet below ground surface. **Appendix A**,

Map 2 shows the maximum depth of lead impacted soil greater than 400 mg/kg, which correlates with the vertical limits of excavation depicted on **Map 7**, **Appendix A**.

7. Preliminary XRF and laboratory analytical results are included at **Table 1** (**Appendix B**) and preliminary QA/QC analytical results are included as **Table 2**, **Appendix B**. **Maps 3 – 6** (**Appendix A**) show preliminary total lead concentrations at the 0 – 0.5 foot, 0.5 – 1 foot, 1 – 2 foot and 2 – 3 foot depth intervals, respectively.

8. Based on preliminary XRF and laboratory analytical results, the vertical and horizontal extent of total lead concentrations in the R-O-W was delineated and excavation limits of excavation were planned. The excavation limits and depths are shown on **Map 7** (**Appendix A**). An estimated volume of 579 cubic yards (yd^3) of lead-impacted soil will be excavated.

9. Three composite soil samples were collected for waste characterization, each representing approximately 200 cubic yards of soil. Each composite sample was comprised of six aliquots collected from locations indicated on Map 7, and are identified as Areas A, B, and C. Individual aliquot sampling locations are identified by suffix numbers 1 through 6, for example A1, A2 etc. Composited soil samples were submitted to Lancaster Laboratories for analysis of full toxicity characteristic leaching procedure (TCLP) analysis in accordance with USEPA Methods 1311/6010C/7470A/8260B/8270C/8081/8151A. Additionally, each composite sample was submitted for analysis for polychlorinated biphenyls (PCBs) per USEPA Method 8082 and extractable petroleum hydrocarbons via USEPA Method TN EPH 12-98. The analytical results for composite soil samples have not yet been received.

3.0 PROBLEMS ENCOUNTERED OR ANTICIPATED

None.

4.0 ACTIONS TO PREVENT OR MITIGATE PROBLEMS

None.

5.0 SCHEDULE FOR COMPLETING PROBLEM MITIGATION

None.

6.0 COPIES OF ANALYTICAL DATA

Copies of preliminary XRF analytical results and preliminary laboratory analytical results are included in **Table 1**, **Appendix B** and a copy of the certificate-of-analysis and chain-of-custody are included in **Appendix C**.

7.0 RESPONSE ACTION PLAN MODIFICATIONS

No modifications were made to the response action, the RAP or the schedule.

8.0 REMEDIAL ACTIONS OVER NEXT FOURTEEN DAYS

The following response actions are anticipated to be completed in the next fourteen days in accordance with the schedule included in the RAP:

1. Validation of the assessment analytical data will be completed.

2. Silt fencing will be installed during excavation activities to prevent the migration of soil from the Site.

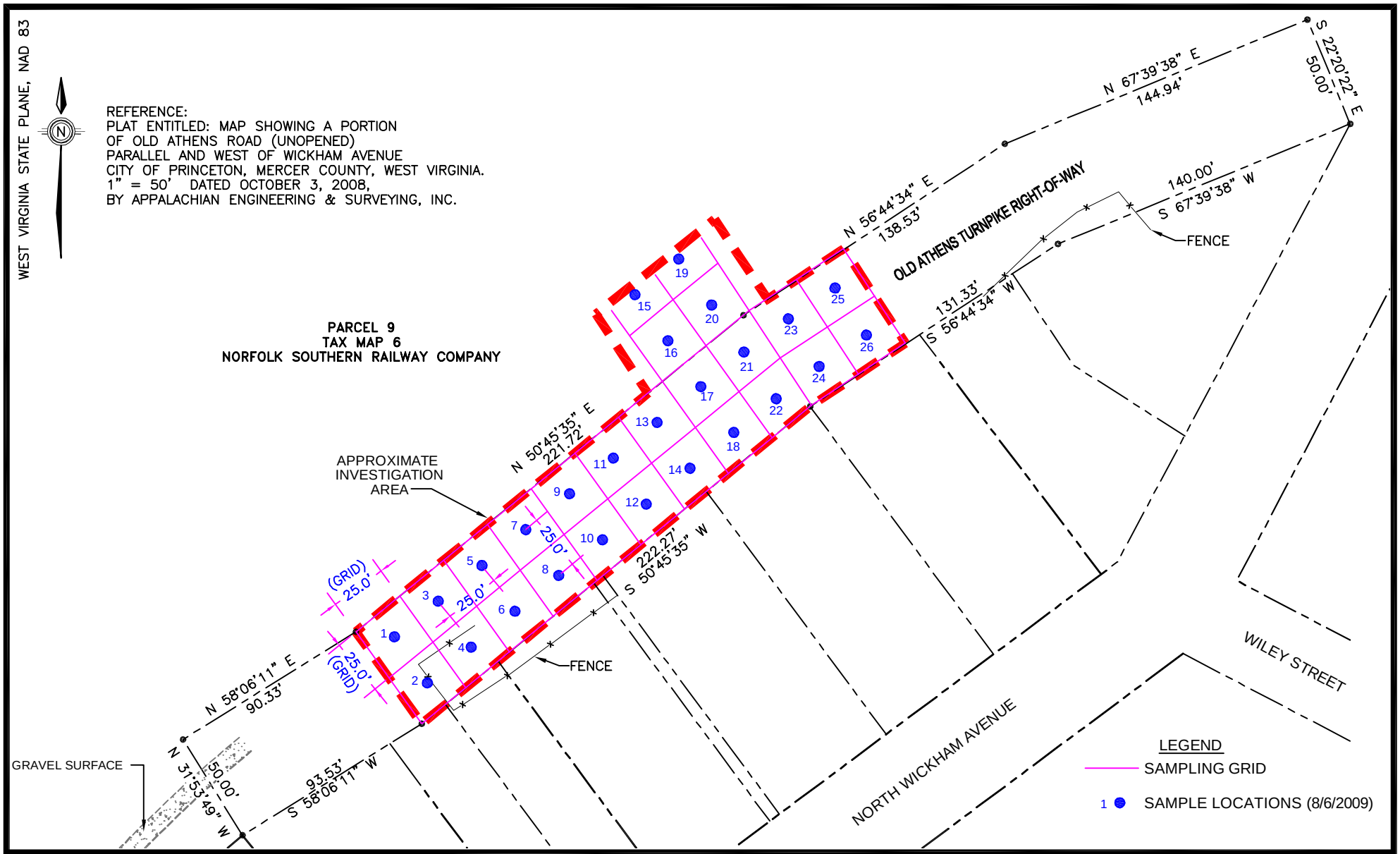
3. Approximately 580 yd^3 of lead-impacted soil and debris (battery casings) will be excavated and transported off-site for recycling/disposal at Domermuth Environmental Service (Domermuth) (if non-hazardous), located at 2908 Tazewell Pike, Suite E in Knoxville, Tennessee. If soil is determined to be hazardous, then a provisional hazardous waste generator number will be obtained from the USEPA for the Site. Pending USEPA approval, any hazardous lead-impacted soil will be transported and disposed of as hazardous waste by Waste Management (WM). WM would transport hazardous lead-impacted soil using trucks provided by BBU Services / Central States Environmental, LLC. WM would dispose/recycle any hazardous lead-impacted soil from the Site at the Waste Management Emelle Treatment Facility No. 2256 at Highway 17 North Mile Marker 163, Emelle, Ala. EPA ID No. ALD000622464.

4. Soil and debris in excess of the cleanup goal in close vicinity of large tree roots or boulders will be removed using hand tools (shovels, trowels). Soil and debris in excess of the cleanup goal very close to large tree roots or boulders that cannot be effectively removed will be covered with clean material and graded.

5. Post-excavation confirmation soil samples will be collected and analyzed for total lead. Confirmation sampling of soil will consist of establishing a sampling grid system using 625 ft^2 (25 ft by 25 ft) grid squares across the excavated area and conducting in situ XRF screening of soil at the center and nodes of each 625 ft^2 grid square. One prepared XRF sample will be collected from the location having the

highest in situ screening reading within each 625 ft^2 grid square. Where screening results are within 60 percent of the cleanup goal of 400 mg/kg (≥240 mg/kg), a soil sample will be collected and submitted to Lancaster for analysis of total lead in accordance with USEPA Method 6010C. Although XRF protocol according to USEPA Method 6200 requires that five percent (1:20) of prepared XRF samples be submitted for laboratory analysis, at least 10 percent (1:10) of prepared XRF confirmation samples will be submitted for laboratory analysis of total lead using USEPA Method 6010C. In the event that XRF analysis and laboratory analysis conflict, laboratory analytical results will be utilized.

Appendix A
Maps



MAP 1 – SAMPLE LOCATIONS
OLD ATHENS TURNPIKE
PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By:
MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'

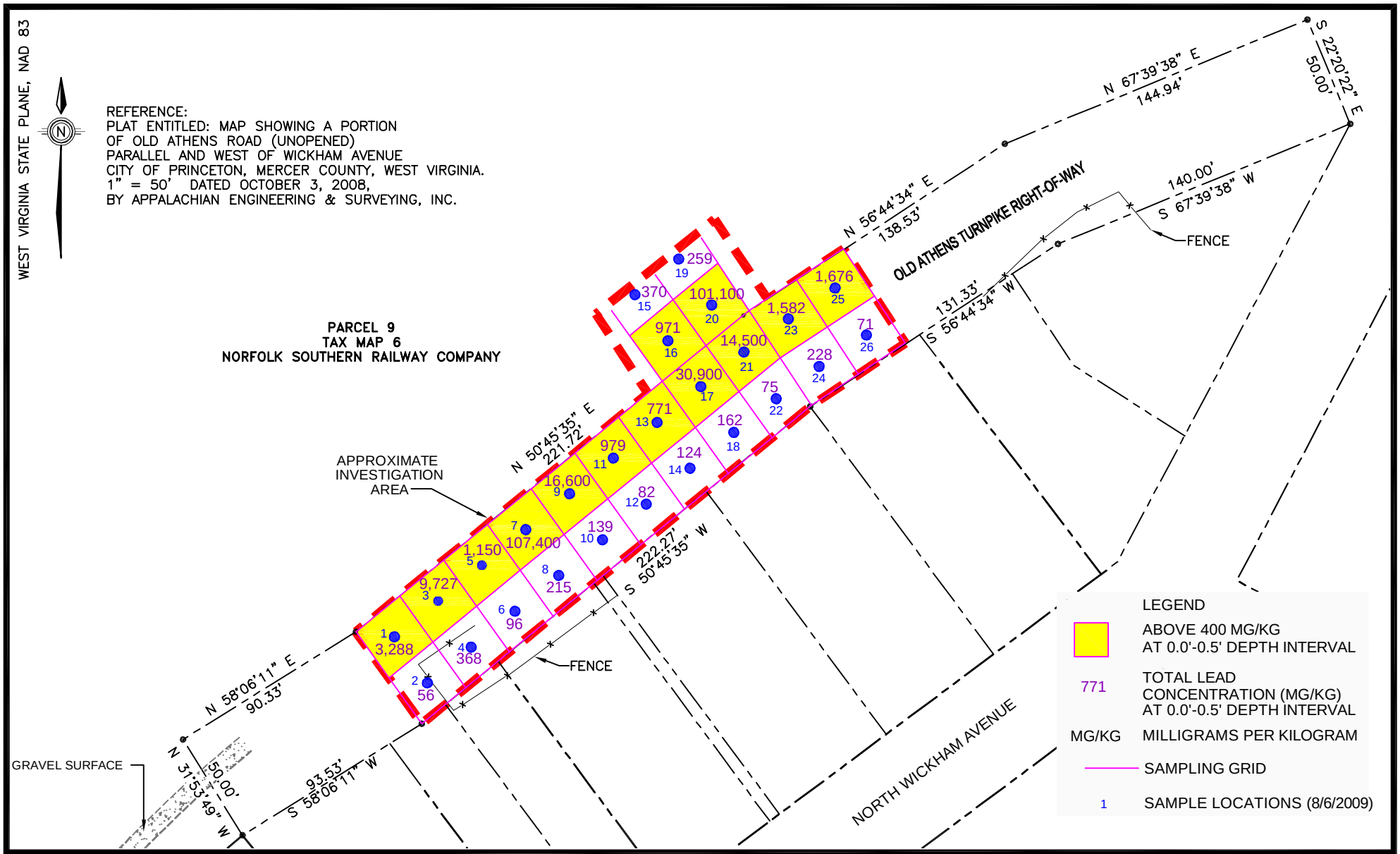
MAP 2 – MAXIMUM DEPTH OF TOTAL LEAD CONCENTRATIONS ABOVE 400 MG/KG
OLD ATHENS TURNPIKE
PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By: MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'



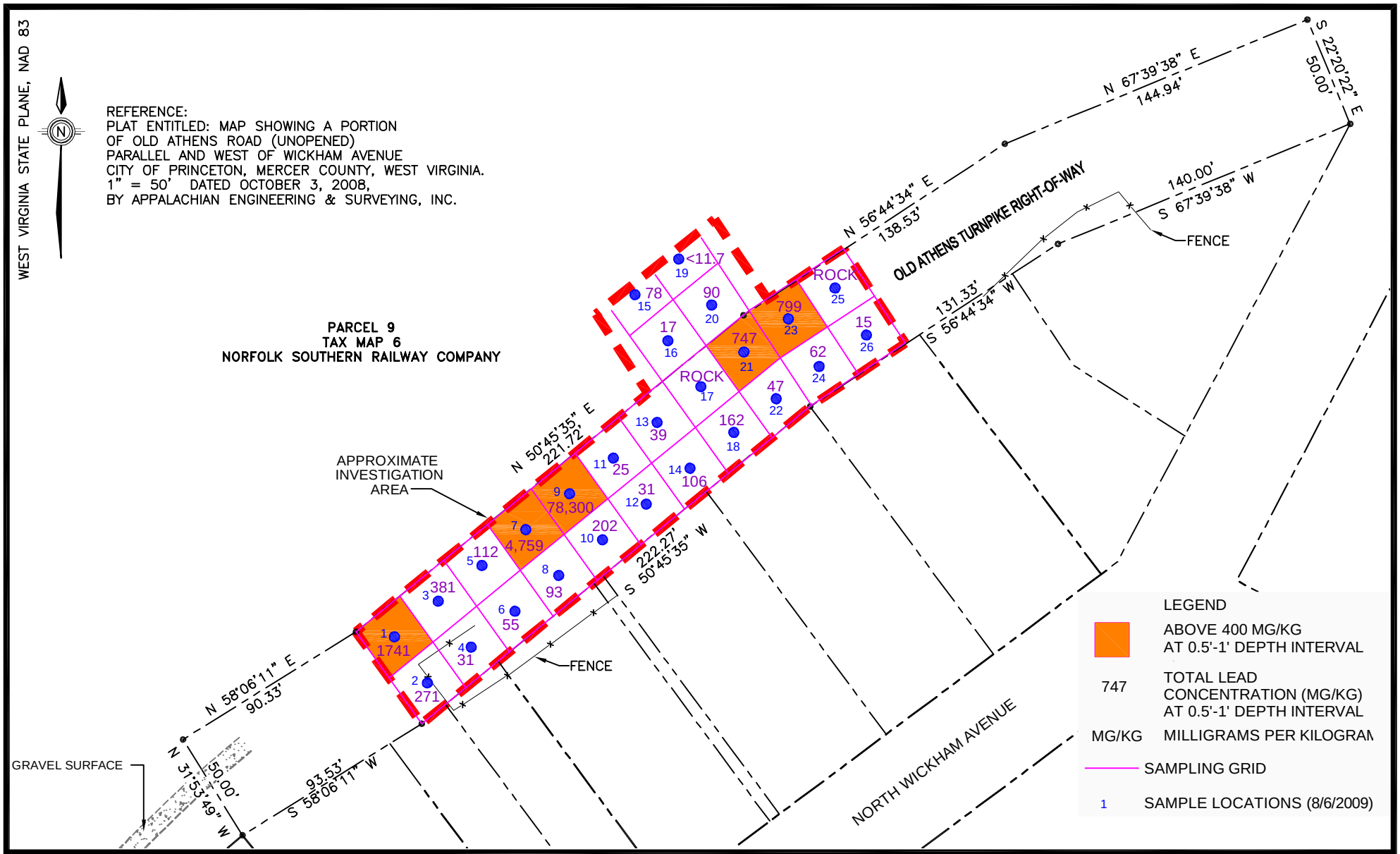
MAP 3 – TOTAL LEAD CONCENTRATIONS AT 0.0'–0.5' DEPTH INTERVAL (AUGUST 6, 2009) OLD ATHENS TURNPIKE PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By: MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'



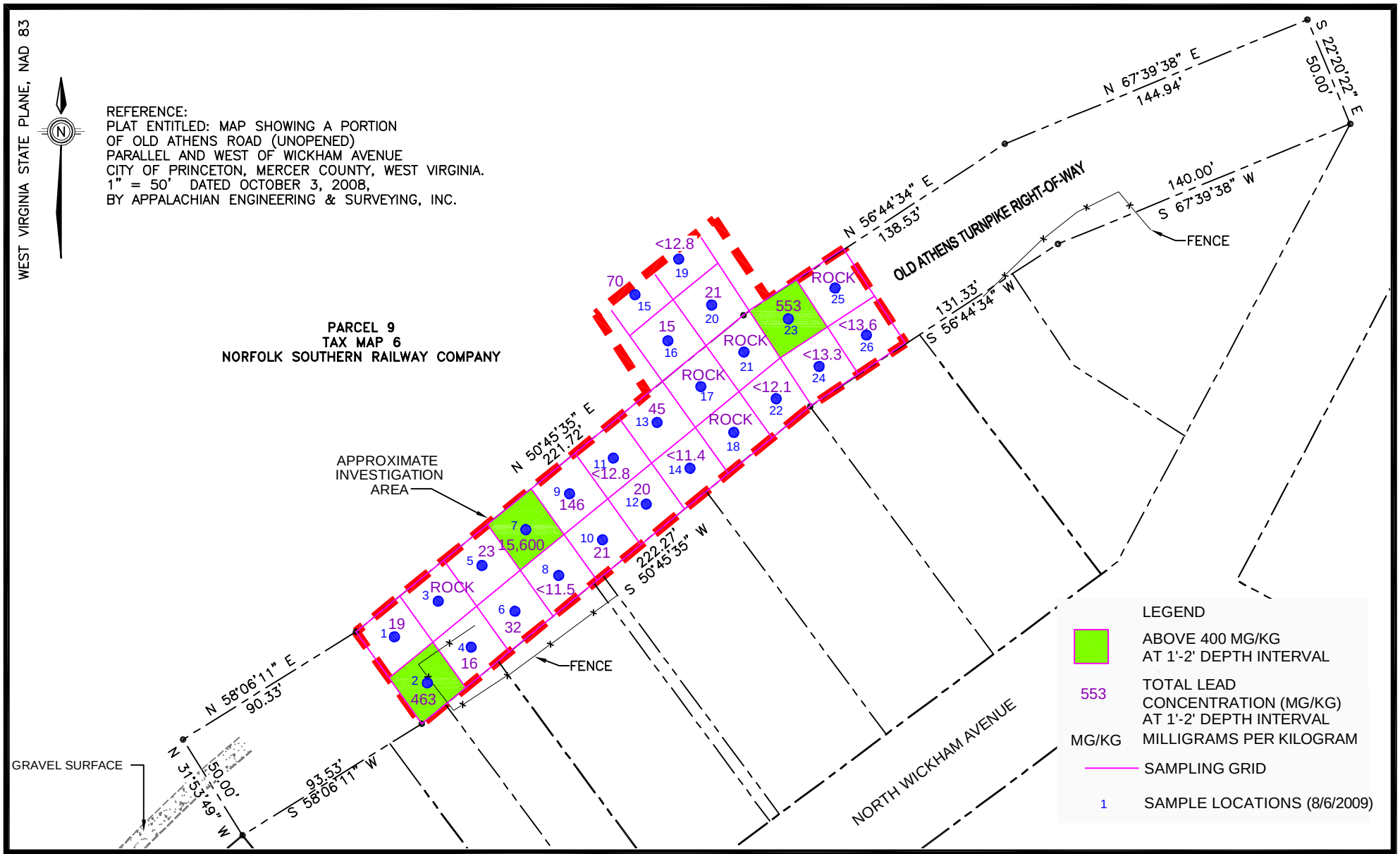
MAP 4 – TOTAL LEAD CONCENTRATIONS AT 0.5'–1' DEPTH INTERVAL (AUGUST 6, 2009) OLD ATHENS TURNPIKE PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By: MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'



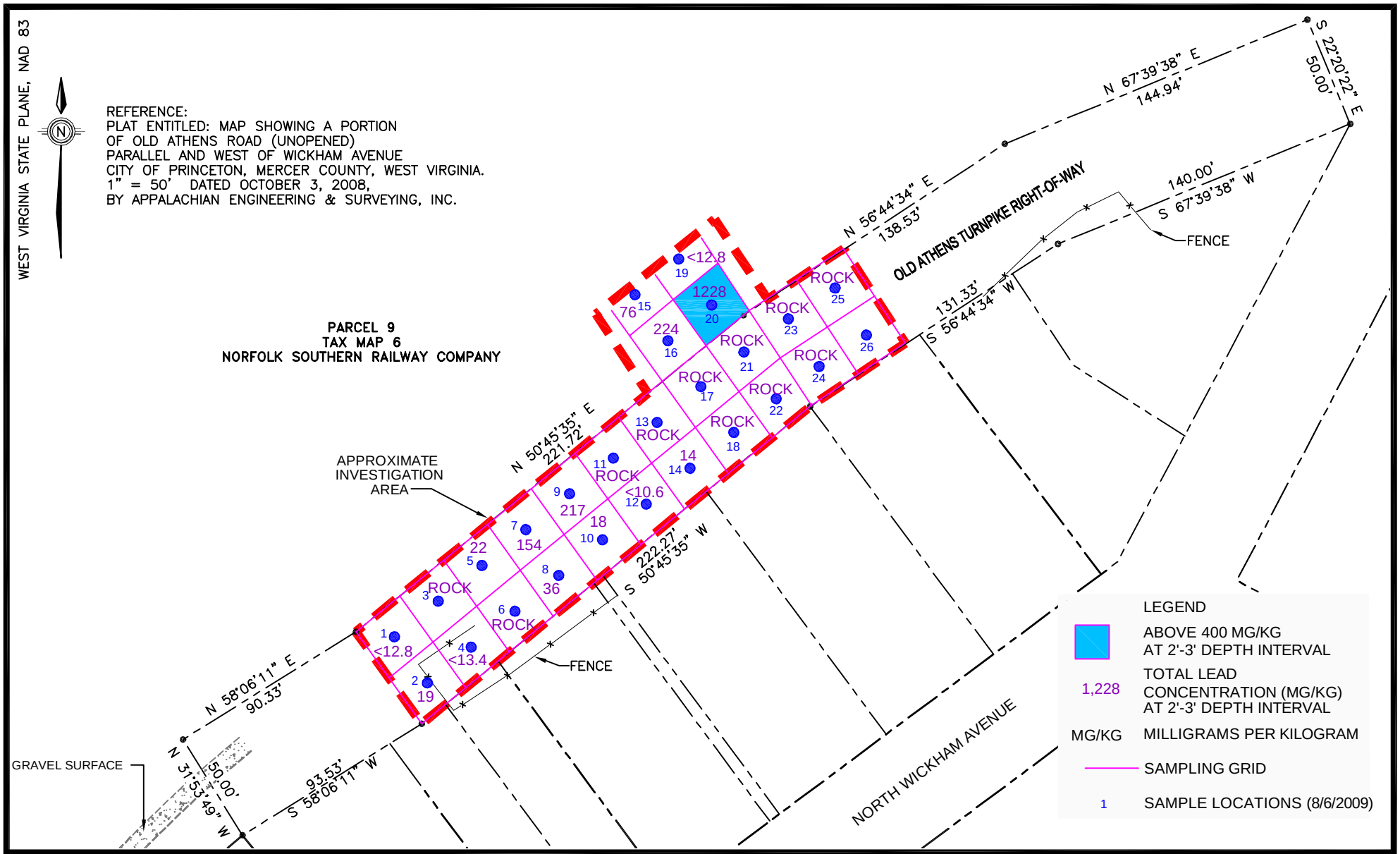
MAP 5 – TOTAL LEAD CONCENTRATIONS AT 1'–2' DEPTH INTERVAL (AUGUST 6, 2009) OLD ATHENS TURNPIKE PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By:
MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'

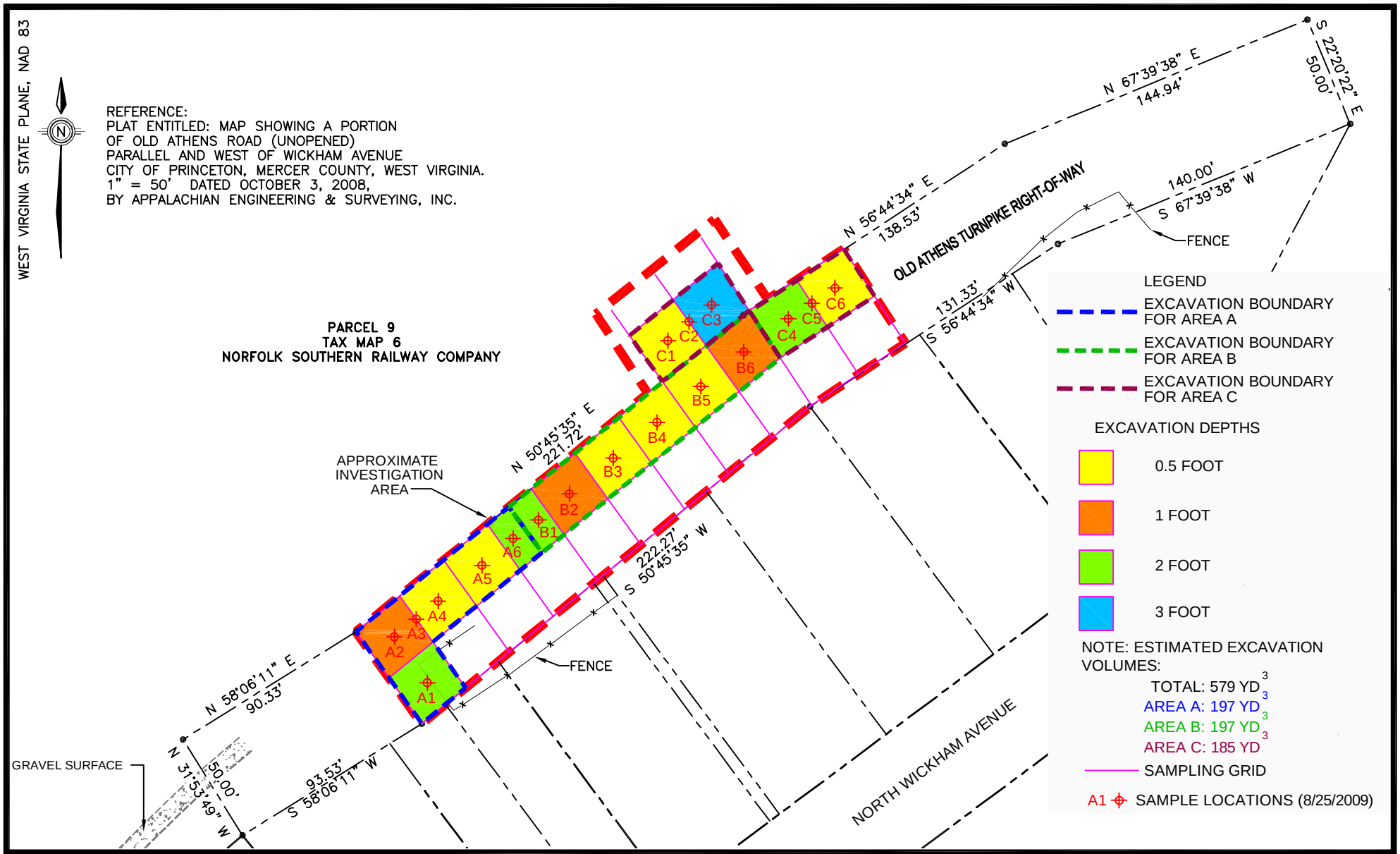


MAP 6 – TOTAL LEAD CONCENTRATIONS AT 2'–3' DEPTH INTERVAL (AUGUST 6, 2009) OLD ATHENS TURNPIKE PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By:
MARSHALL MILLER & ASSOCIATES

60' 0 60'
1" = 60'



MAP 7 – WASTE CHARACTERIZATION SAMPLE LOCATIONS (AUGUST 25, 2009) OLD ATHENS TURNPIKE PRINCETON, WEST VIRGINIA

DATE:	AUGUST 2009
SCALE:	1"=60'
DRAWN:	DJD
CHECKED:	GR
PROJ. #:	NS1691

Prepared By: MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'

Appendix B
Tables

TABLE 1
SOIL SAMPLES ANALYSIS LOG
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Dry Weight Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
G-1A	8/6/2009	1145	0-0.5	JK/GR	**3308**	74	**3288**	77	NA	
G-1B	8/6/2009	1145	0.5-1	JK/GR	**1484**	16	**1727**	54	**1550**	XRF to Lab Split for G-1B
G-1E (G-1B Split)	8/6/2009	1145	0.5-1	JK/GR	**1459**	56	**1741**	55	NA	XRF to XRF Split for G-1B
G-1C	8/6/2009	1145	1-2	JK/GR	17	8	19	9	NA	
G-1D	8/6/2009	1145	2-3	JK/GR	<11.6	NA	<12.8	NA	NA	
G-2A	8/6/2009	1153	0-0.5	JK/GR	61	12	56	10	NA	
G-2B	8/6/2009	1153	0.5-1	JK/GR	171	13	271	21	NA	
G-2C	8/6/2009	1153	1-2	JK/GR	336	24	**463**	29	NA	
G-2D	8/6/2009	1153	2-3	JK/GR	<10.2	NA	19	10	NA	
G-3A	8/6/2009	1202	0-0.5	JK/GR	**3506**	77	**9727**	146	NA	
G-3B	8/6/2009	1202	0.5-1	JK/GR	280	22	381	26	NA	
G-4A	8/6/2009	1210	0-0.5	JK/GR	**416**	26	368	25	383	XRF to Lab Split for G-4A
G-4E (G-4A Split)	8/6/2009	1210	0-0.5	JK/GR	383	25	395	26	NA	XRF to XRF Split for G-4A
G-4B	8/6/2009	1210	0.5-1	JK/GR	<13.0	NA	31	11	NA	
G-4C	8/6/2009	1210	1-2	JK/GR	<11.7	NA	16	10	NA	
G-4D	8/6/2009	1210	2-3	JK/GR	<9.2	NA	<13.4	NA	NA	
G-5A	8/6/2009	1218	0-0.5	JK/GR	**5448**	92	**11500**	200	NA	
G-5B	8/6/2009	1218	0.5-1	JK/GR	82	13	112	16	NA	
G-5C	8/6/2009	1218	1-2	JK/GR	37	11	23	10	NA	
G-5D	8/6/2009	1218	2-3	JK/GR	<11.0	NA	22	10	NA	
G-6A	8/6/2009	1350	0-0.5	JK/GR	53	13	96	14	NA	
G-6B	8/6/2009	1350	0.5-1	JK/GR	42	12	55	12	NA	
G-6C	8/6/2009	1350	1-2	JK/GR	22	10	32	11	NA	
G-7A	8/6/2009	1225	0-0.5	JK/GR	**24600**	300	**107400**	900	NA	
G-7B	8/6/2009	1225	0.5-1	JK/GR	**2144**	64	**4759**	114	NA	
G-7C	8/6/2009	1225	1-2	JK/GR	**6816**	111	**15600**	200	**9290**	XRF to Lab Split for G-7C
G-7E (G7C Split)	8/6/2009	1225	1-2	JK/GR	**7169**	116	**12500**	200	**9100**	XRF-XRF/Lab-Lab Split for G-7C
G-7D	8/6/2009	1225	2-3	JK/GR	74	13	154	17	NA	
G-8A	8/6/2009	1358	0-0.5	JK/GR	112	14	215	20	NA	
G-8B	8/6/2009	1358	0.5-1	JK/GR	86	13	93	14	NA	
G-8C	8/6/2009	1358	1-2	JK/GR	<9.8	NA	<11.5	NA	NA	
G-8D	8/6/2009	1358	2-2.5	JK/GR	23	9	36	11	NA	Direct-push refusal on bedrock
G-9A	8/6/2009	1233	0-0.5	JK/GR	**7040**	115	**16600**	200	NA	

TABLE 1
SOIL SAMPLES ANALYSIS LOG
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Dry Weight Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
G-9B	8/6/2009	1233	0.5-1	JK/GR	**47600**	400	**78300**	800	NA	
G-9C	8/6/2009	1233	1-2	JK/GR	135	17	146	18	NA	
G-9D	8/6/2009	1233	2-3	JK/GR	93	14	217	23	NA	
G-10A	8/6/2009	1405	0-0.5	JK/GR	58	11	139	17	NA	
G-10B	8/6/2009	1405	0.5-1	JK/GR	34	10	202	19	NA	
G-10C	8/6/2009	1405	1-2	JK/GR	<13.0	NA	21	10	NA	
G-10D	8/6/2009	1405	2-3	JK/GR	<12.1	NA	18	10	NA	
G-11A	8/6/2009	1415	0-0.5	JK/GR	281	25	979	40	NA	
G-11B	8/6/2009	1415	0.5-1	JK/GR	<11.3	NA	25	11	NA	
G-11C	8/6/2009	1415	1-2	JK/GR	<8.1	NA	<12.8	NA	NA	
G-12A	8/6/2009	1425	0-0.5	JK/GR	51	10	82	14	NA	
G-12B	8/6/2009	1425	0.5-1	JK/GR	29	9	31	11	NA	
G-12C	8/6/2009	1425	1-2	JK/GR	<9.9	NA	20	9	NA	
G-12D	8/6/2009	1425	2-2.75	JK/GR	<7.4	NA	<10.6	NA	NA	
G-13A	8/6/2009	1432	0-0.5	JK/GR	**716**	33	**771**	37	NA	
G-13B	8/6/2009	1432	0.5-1	JK/GR	18	9	39	11	NA	
G-13C	8/6/2009	1432	1-2	JK/GR	12	8	45	12	NA	Direct-push refusal on bedrock
G-14A	8/6/2009	1440	0-0.5	JK/GR	66	11	124	15	NA	
G-14B	8/6/2009	1440	0.5-1	JK/GR	67	13	106	15	NA	
G-14C	8/6/2009	1440	1-2	JK/GR	<9.9	NA	<11.4	NA	NA	
G-14D	8/6/2009	1440	2-2.2	JK/GR	<8.4	NA	14	9	NA	Direct-push refusal on bedrock
G-15A	8/6/2009	1446	0-0.5	JK/GR	**624**	29	370	25	NA	
G-15B	8/6/2009	1446	0.5-1	JK/GR	67	14	78	13	NA	
G-15C	8/6/2009	1446	1-2	JK/GR	26	11	70	13	NA	
G-15D	8/6/2009	1446	2-3	JK/GR	16	10	76	14	NA	
G-16A	8/6/2009	1453	0-0.5	JK/GR	**718**	32	**971**	39	NA	
G-16B	8/6/2009	1453	0.5-1	JK/GR	<10.7	NA	17	9	NA	
G-16C	8/6/2009	1453	1-2	JK/GR	<10.6	NA	15	9	NA	
G-16D	8/6/2009	1453	2-3	JK/GR	318	33	229	19	231	XRF to Lab Split for G-16D
G-16E (G-16D Split)	8/6/2009	1453	2-3	JK/GR	213	19	224	19	NA	XRF to XRF Split for G-16D

TABLE 1
SOIL SAMPLES ANALYSIS LOG
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Dry Weight Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
G-17A	8/6/2009	1500	0.25	JK/GR	**24700**	200	**30900**	300	NA	
G-18A	8/6/2009	1505	0-0.5	JK/GR	54	10	162	17	NA	
G-18B	8/6/2009	1505	0.5-1	JK/GR	56	11	57	12	NA	Direct-push refusal on bedrock
G-19A	8/6/2009	1510	0-0.5	JK/GR	139	15	259	21	NA	
G-19B	8/6/2009	1510	0.5-1	JK/GR	<11.3	NA	<11.7	NA	NA	
G-19C	8/6/2009	1510	1-2	JK/GR	<10.5	NA	<12.8	NA	NA	
G-19D	8/6/2009	1510	2-3	JK/GR	<9.9	NA	<12.8	NA	NA	
G-20A	8/6/2009	1518	0-0.5	JK/GR	**16900**	200	**101100**	900	NA	
G-20B	8/6/2009	1518	0.5-1	JK/GR	208	19	90	17	NA	
G-20C	8/6/2009	1518	1-2	JK/GR	13	8	21	9	NA	
G-20D	8/6/2009	1518	2-2.75	JK/GR	**4638**	87	**1228**	44	NA	Direct-push refusal on bedrock
G-21A	8/6/2009	1525	0-0.5	JK/GR	**7062**	112	**14500**	200	NA	
G-21B	8/6/2009	1525	0.5-1	JK/GR	49	10	747	38	NA	Direct-push refusal on bedrock
G-22A	8/6/2009	1532	0-0.5	JK/GR	54	8	75	13	67.0	XRF to Lab Split for G-22A
G-22E (G-22A Split)	8/6/2009	1532	0-0.5	JK/GR	45	11	80	13	NA	XRF to XRF Split for G-22A
G-22B	8/6/2009	1532	0.5-1	JK/GR	34	11	47	12	NA	
G-22C	8/6/2009	1532	1-2	JK/GR	<10.2	NA	<12.1	NA	NA	
G-22D	8/6/2009	1532	2-3	JK/GR	<11.2	NA	<11.5	NA	NA	
G-23A	8/6/2009	1538	0-0.5	JK/GR	**768**	33	**1582**	53	NA	
G-23B	8/6/2009	1538	0.5-1	JK/GR	**475**	28	**799**	40	NA	
G-23C	8/6/2009	1538	1-1.5	JK/GR	**612**	31	**553**	32	NA	Direct-push refusal on bedrock
G-24A	8/6/2009	1545	0-0.5	JK/GR	85	12	228	30	NA	
G-24B	8/6/2009	1545	0.5-1	JK/GR	38	10	62	14	NA	
G-24C	8/6/2009	1545	1-2	JK/GR	23	9	<13.3	NA	NA	Direct-push refusal on bedrock
G-25A	8/6/2009	1552	0-0.25	JK/GR	**764**	31	**1676**	53	NA	Direct-push refusal on bedrock
G-26A	8/6/2009	1556	0-0.5	JK/GR	35	9	71	12	NA	
G-26B	8/6/2009	1556	0.5-1	JK/GR	<12.3	NA	15	9	NA	
G-26C	8/6/2009	1556	1-2	JK/GR	<12.3	NA	<13.6	NA	NA	
G-26D	8/6/2009	1556	2-3	JK/GR	<10.8	NA	7	9	NA	

XRF - X-ray fluorescence (Niton Model XL3t 500, Serial Number 30887). ppm or mg/kg - parts per million or milligrams per kilogram.

< - not detected below the following level. NA - not applicable for error or not analyzed for lab. Levels exceeding 400 ppm are **bolded** and highlighted.

Daily QA/QC check completed (XRF standards at beginning and end of day and replicates (low, mid and high) within 20% difference)

JK/GR - Samplers John Keczan and George Robertson. Samples were tracked on Lancaster Laboratories chain-of-custody (see certificate-of-analysis).

TABLE 2
QUALITY ASSURANCE/QUALITY CONTROL ANALYTICAL RESULTS
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	XRF Lead (ppm)	Lab Lead (ppm)	RPD %	Notes
G-1B	8/6/2009	1145	0-0.5	JK/GR	1727	1550	11%	Lab Split for XRF sample G-1B
G-1E	8/6/2009	1145	0-0.5	JK/GR	1741	NA	1%	XRF Split for XRF sample G-1B
G-1B MS	8/6/2009	1145	0-0.5	JK/GR	NA	3090/2690	NA	MS
G-1B MSD	8/6/2009	1145	0-0.5	JK/GR	NA	1550	NA	MSD
G-4A	8/6/2009	1210	0-0.5	JK/GR	368	383	4%	Lab Split for XRF sample G-4A
G-4E	8/6/2009	1145	0-0.5	JK/GR	395	NA	7%	XRF Split for XRF sample G-4A
G-7C	8/6/2009	1225	1-2	JK/GR	15600	9290	51%	Lab Split for XRF sample G-7C
G-7E	8/6/2009	1225	1-2	JK/GR	NA	9100	2%	Lab Split for Lab sample G-7C
G-7E	8/6/2009	1145	0-0.5	JK/GR	12500	NA	22%	XRF Split for XRF sample G-7C
G-16D	8/6/2009	1453	2-3	JK/GR	229	231	1%	Lab Split for XRF sample G-16D
G-16E	8/6/2009	1145	0-0.5	JK/GR	224	NA	2%	XRF Split for XRF sample G-16D
G-22A	8/6/2009	1532	0-0.5	JK/GR	75	67.0	11%	Lab Split for XRF sample G-22A
G-22E	8/6/2009	1145	0-0.5	JK/GR	80	NA	6%	XRF Split for XRF sample G-22A
RB-1	8/6/2009	1145	0-3	JK/GR	NA	not received	NA	Rinse Blank for XRF G-1
RB-2	8/6/2009	1350	0-2	JK/GR	NA	not received	NA	Rinse Blank for XRF G-6
RB-3	8/6/2009	1425	0-2.75	JK/GR	NA	not received	NA	Rinse Blank for XRF G-12
RB-4	8/6/2009	1505	0-1	JK/GR	NA	not received	NA	Rinse Blank for XRF G-18
RB-5	8/6/2009	1545	0-2	JK/GR	NA	not received	NA	Rinse Blank for XRF G-24

ppm - parts per million, milligrams per kilogram (mg/kg for soil), or milligrams per liter (mg/L for liquids).
XRF - X-ray fluorescence Niton Model XL3t 500 analytical results (87 soil samples were analyzed).
Lab - Lancaster Laboratories analytical results (5 XRF splits were analyzed plus a lab split, MS, MSD and 5 RBs.
NA - not applicable MS - matrix spike MSD - matrix spike duplicate RB - rinse blank
RPD - relative percent difference. RPD for XRF-XRF RPD for XRF-Lab RPD for Lab-Lab

Appendix C
Laboratory Certificate-of-Analysis and Chain-of-Custody

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

540-981-4993

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

August 28, 2009

SAMPLE GROUP

The sample group for this submittal is 1158835. Samples arrived at the laboratory on Saturday, August 22, 2009. The PO# for this group is 1-9-WV-PRTN-SA08 and the release number is SC8675#8453760.

Client Description	Lancaster Labs Number
G-1 B Unspiked Grab Soil Sample	5757335
G-1 B Matrix Spike Grab Soil Sample	5757336
G-1 B Matrix Spike Dup Grab Soil Sample	5757337
G-1 B Duplicate Grab Soil Sample	5757338
G-4 A Grab Soil Sample	5757339
G-7 C Grab Soil Sample	5757340
G-7 E Grab Soil Sample	5757341
G-22 A Grab Soil Sample	5757342
G-16 D Grab Soil Sample	5757343

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Marshall Miller & Associates	Attn: Chuck Cline
ELECTRONIC COPY TO	Marshall Miller & Associates	Attn: George Robertson
1 COPY TO	Data Package Group	

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Analysis Report

Questions? Contact your Client Services Representative
Megan A Moeller at (717) 656-2300

Respectfully Submitted,

Max E. Snavely
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5757335

Group No. 1158835
WV

G-1 B Unspiked Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 11:45 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G1B-- SDG#: ATH01-01BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	1,550	3.75	5
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	20.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 18:53	John P Hook	5
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757336

Group No. 1158835
WV

G-1 B Matrix Spike Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 11:45 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G1B-- SDG#: ATH01-01MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	3,090	3.75	5
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00118	Moisture	n.a.	20.1	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:03	John P Hook	5
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757337

Group No. 1158835
WV

G-1 B Matrix Spike Dup Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 11:45 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G1B-- SDG#: ATH01-01MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	2,690	3.75	5
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00118	Moisture	n.a.	20.1	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:06	John P Hook	5
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5757338

Group No. 1158835
WV

G-1 B Duplicate Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 11:45 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G1B-- SDG#: ATH01-01DUP

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	1,550	3.75	5
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00118	Moisture	n.a.	20.1	0.50	1
00121	Moisture Duplicate	n.a.	20.1	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 18:59	John P Hook	5
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00118	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1
00121	Moisture Duplicate	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757339

Group No. 1158835
WV

G-4 A Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 12:10 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G4A-- SDG#: ATH01-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	383	0.842	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	30.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:12	John P Hook	1
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757340

Group No. 1158835
WV

G-7 C Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 12:25 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G7C-- SDG#: ATH01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	9,290	14.1	20
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	16.8	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:15	John P Hook	20
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757341

Group No. 1158835
WV

G-7 E Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 12:25 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G7E-- SDG#: ATH01-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	9,100	7.28	10
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	20.8	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:24	John P Hook	10
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757342

Group No. 1158835
WV

G-22 A Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 15:32 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G22A- SDG#: ATH01-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	67.0	0.708	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	16.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:27	John P Hook	1
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. SW 5757343

Group No. 1158835
WV

G-16 D Grab Soil Sample
Old Athens Turnpike

Collected: 08/06/2009 14:53 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 08/28/2009 at 13:25
Discard: 09/28/2009

Norfolk Southern Railway Co
110 Franklin Road SE
Box 13
Roanoke VA 24042-0013

G16D- SDG#: ATH01-06*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	231	0.753	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	21.1	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06955	Lead	SW-846 6010C	2	092380637001	08/27/2009 19:30	John P Hook	1
10637	SW SW846 (IV) ICP Digest	SW-846 3050B	1	092380637001	08/26/2009 20:10	Annamaria Stipkovits	1
00111	Moisture	SM20 2540 G	1	09236820002B	08/24/2009 16:37	Scott W Freisher	1

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Analysis Report

Quality Control Summary

Client Name: Norfolk Southern Railway Co
Group Number: 1158835
Reported: 08/28/09 at 01:25 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 092380637001	Sample number(s): 5757335-5757343							
Lead	N.D.	0.600	mg/kg	95		85-114		
Batch number: 09236820002B	Sample number(s): 5757335-5757343							
Moisture				100		99-101		
Moisture				100		99-101		
Moisture Duplicate				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 092380637001	Sample number(s): 5757335-5757343 UNSPK: 5757335 BKG: 5757335								
Lead	8206 (2)	6069 (2)	75-125	14	20	1,240	1,230	0	20
Batch number: 09236820002B	Sample number(s): 5757335-5757343 BKG: 5757335								
Moisture						20.1	20.1	0	15
Moisture						20.1	20.1	0	15
Moisture Duplicate						20.1	20.1	0	15

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11716 Group# 1158835 Sample # 5757335-43

COC # 215697

Please print. Instructions on reverse side correspond with circled numbers. (2.2°C)

(1) Norfolk Southern direct

Client: NSRC / mmA Acct. #:

Project Name/#: mmA # NS1691 PWSID #:

Project Manager: Chuck Cline P.O.#:

Sampler: John Keczan Quote #:

Name of state where samples were collected: WV

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water	Other	Total # of Containers	(5) Analyses Requested: Preservation Codes — 6010C TOTAL LEAD	Remarks	(6) Turnaround time upon receipt (if requested)
G-1 B	8/[illegible]-09	1145	X		X			1	X		
G-1 B MS		1145	X		X			1	X		
G-1 B MSD		1145	X		X			1	X		
G-4 A		1210	X		X			1	X		
G-7 C		1225	X		X			1	X		
G-7 E		1225	X		X			1	X		
G-22 A		1532	X		X			1	X		
G-16 D	↓ ↓	1453	X		X			1	X		

(7) **Turnaround Time Requested** (TAT) (please circle): Normal (Rush)

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed: 8/25/09

Rush results requested by (please circle): Phone Fax E-mail

Phone #: 276-322-5467 Fax #: 276-322-1510

E-mail address: chuck.cline@mma1.com

(8) **Data Package Options** (please circle if required)

(Type I (validation/NJ Reg)) TX TRRP-13

Type II (Tier II) MA MCP CT RCP

Type III (Reduced NJ)

Type IV (CLP SOW)

Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Laura Patel / John Keczan	8/20/09	1445	7968 7929 1799	8/20-09	
Relinquished by:	Date	Time	Received by:	Date	Time
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Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Katie Hartlove	8/21/9	10:10

Katie Hartlove.

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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