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

September 17, 2009

Prepared For:

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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. The Third Progress Report was submitted on September 3, 2009, and provided information on activities performed during the fourteen days following the Second 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 deter 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. MM&A validated and released XRF analytical results for 87 soil samples collected from 26 locations in the R-O-W on August 6, 2009 in accordance with USEPA Method 6200 (**Map 1 of Appendix A and Table 1 of Appendix B**).

3. MM&A received laboratory results for five rinse blank samples (RB-1 – RB-5) collected from decontaminated field equipment collected on August 6, 2009, and three waste characterization composite samples (WC-A, WC-B and WC-C) collected on August 25, 2009 (**Tables 2 and 3 of Appendix B**). Composite sample locations from August 25, 2009, are shown on **Map 2 of Appendix A**. All three waste characterization composite samples failed for toxicity characteristic leaching procedure (TCLP) for lead, and as such when excavated, the soil will be considered and handled as hazardous waste. Laboratory certificate-of-analysis and chain-of-custody forms are included as **Appendix C**.

4. The identity and qualifications of an alternate hazardous waste disposal subcontractor, Max Environmental Technologies, Inc. (Max Environmental) and transportation subcontractor, U.S. Bulk, were provided to the USEPA. The USEPA approved the use of Max Environmental for recycling lead-impacted soil at their plant located in Yukon, Pennsylvania and of U.S. Bulk Transport, Inc. (U.S. Bulk) of Erie, Pennsylvania to transport the impacted soil.

5. Copies of the SA were provided to Max Environmental and U.S. Bulk.

6. In accordance with Item 7 of Section 2.1 of the RAP, a temporary hazardous waste generator number (WVP000003957) was obtained for the Old Athens Turnpike Site.

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 the laboratory certificate-of-analysis and chain-of-custody forms are included as **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 laboratory analytical data for the five split soil samples collected on August 6, 2009, will be completed.

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

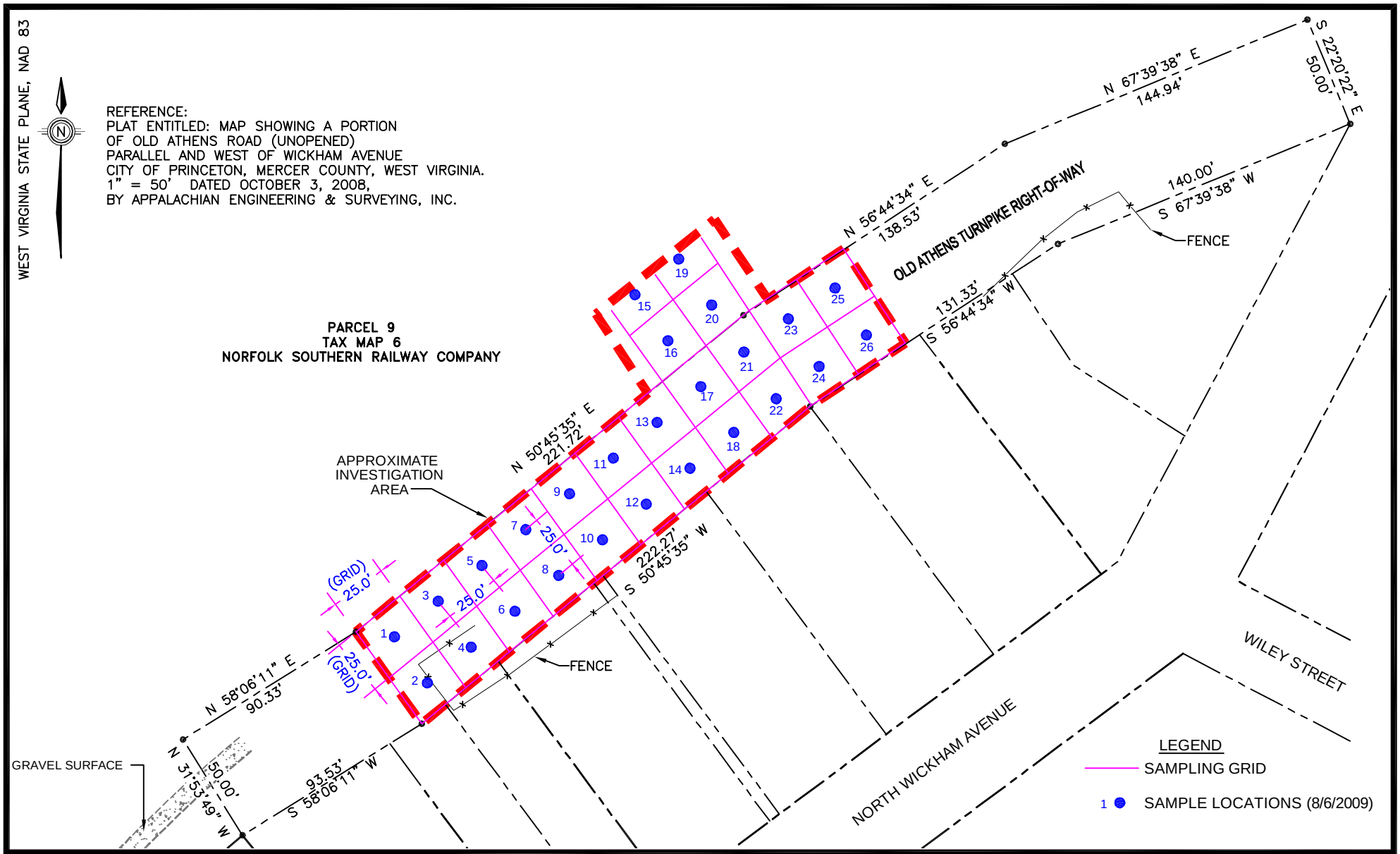
3. Approximately 580 yd^3 of lead-impacted soil and debris (battery casings) will be excavated and transported off-site as hazardous waste by U.S. Bulk Transportation, Inc. The waste will be transported to the Max Environmental Technologies, Inc. facility (Max Environmental) for recycling/disposal. Max Environmental is located at 233 Max Lane in Yukon, Pennsylvania. Max Environmental operates under Permit PAD004835146.

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 Laboratories 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



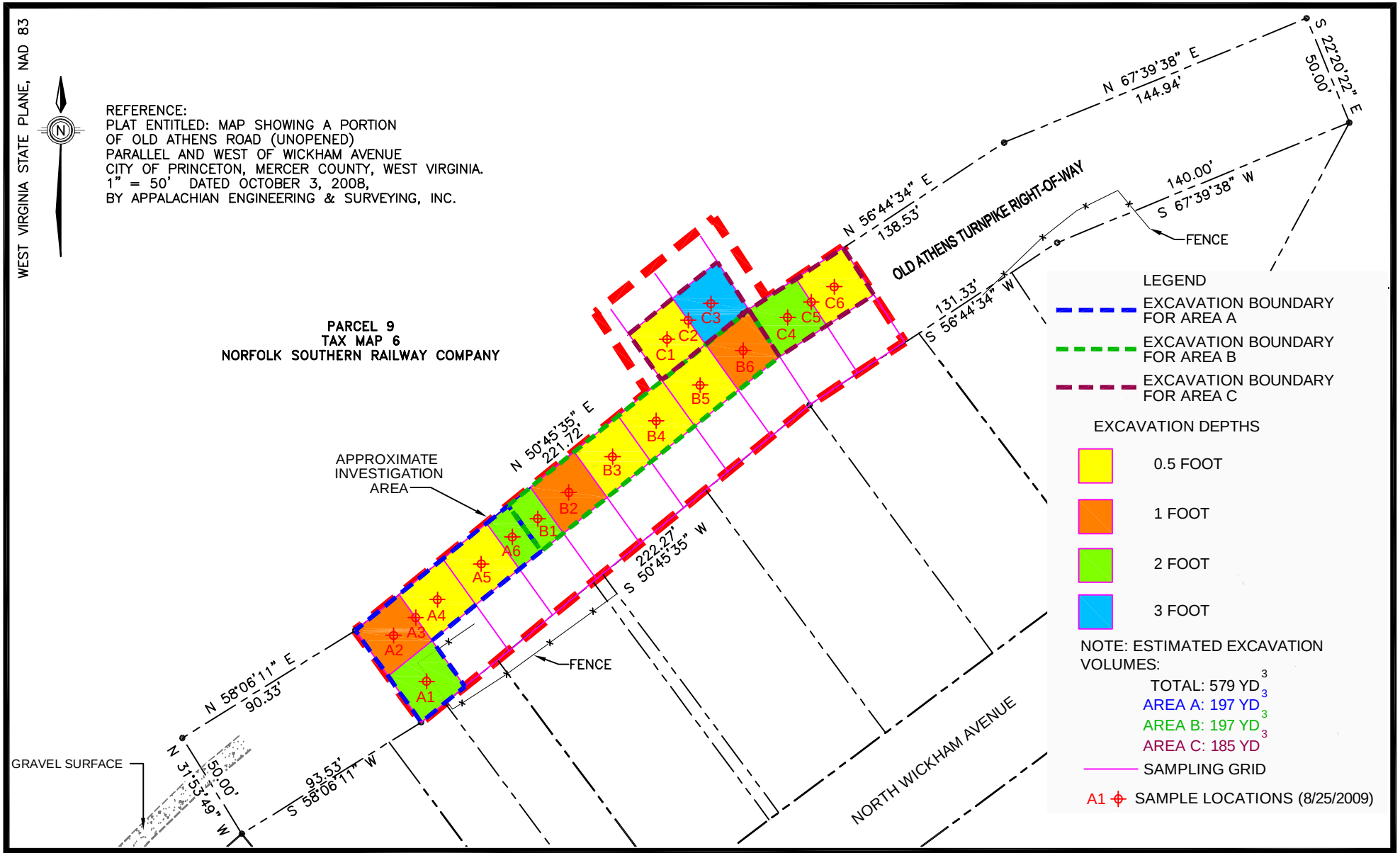
MAP 1 – SAMPLE LOCATIONS
OLD ATHENS TURNPIKE
PRINCETON, WEST VIRGINIA

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

Prepared By:
MARSHALL MILLER & ASSOCIATES

60' 0 60'

1" = 60'



MAP 2 – 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 ANALYSIS LOG
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Prepared 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	none
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	none
G-1D	8/6/2009	1145	2-3	JK/GR	<11.6	NA	<12.8	NA	NA	none
G-2A	8/6/2009	1153	0-0.5	JK/GR	61	12	56	10	NA	none
G-2B	8/6/2009	1153	0.5-1	JK/GR	171	13	271	21	NA	none
G-2C	8/6/2009	1153	1-2	JK/GR	336	24	**463**	29	NA	none
G-2D	8/6/2009	1153	2-3	JK/GR	<10.2	NA	19	10	NA	none
G-3A	8/6/2009	1202	0-0.5	JK/GR	**3506**	77	**9727**	146	NA	none
G-3B	8/6/2009	1202	0.5-1	JK/GR	280	22	381	26	NA	none
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	none
G-4C	8/6/2009	1210	1-2	JK/GR	<11.7	NA	16	10	NA	none
G-4D	8/6/2009	1210	2-3	JK/GR	<9.2	NA	<13.4	NA	NA	none
G-5A	8/6/2009	1218	0-0.5	JK/GR	**5448**	92	**11500**	200	NA	none
G-5B	8/6/2009	1218	0.5-1	JK/GR	82	13	112	16	NA	none
G-5C	8/6/2009	1218	1-2	JK/GR	37	11	23	10	NA	none
G-5D	8/6/2009	1218	2-3	JK/GR	<11.0	NA	22	10	NA	none
G-6A	8/6/2009	1350	0-0.5	JK/GR	53	13	96	14	NA	none
G-6B	8/6/2009	1350	0.5-1	JK/GR	42	12	55	12	NA	none
G-6C	8/6/2009	1350	1-2	JK/GR	22	10	32	11	NA	none
G-7A	8/6/2009	1225	0-0.5	JK/GR	**24600**	300	**107400**	900	NA	none
G-7B	8/6/2009	1225	0.5-1	JK/GR	**2144**	64	**4759**	114	NA	none
G-7C	8/6/2009	1225	1-2	JK/GR	**6816**	111	**15600**	200	**9290**	XRF to Lab Split for G-7C

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

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Prepared Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
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	none
G-8A	8/6/2009	1358	0-0.5	JK/GR	112	14	215	20	NA	none
G-8B	8/6/2009	1358	0.5-1	JK/GR	86	13	93	14	NA	none
G-8C	8/6/2009	1358	1-2	JK/GR	<9.8	NA	<11.5	NA	NA	none
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	none
G-9B	8/6/2009	1233	0.5-1	JK/GR	**47600**	400	**78300**	800	NA	none
G-9C	8/6/2009	1233	1-2	JK/GR	135	17	146	18	NA	none
G-9D	8/6/2009	1233	2-3	JK/GR	93	14	217	23	NA	none
G-10A	8/6/2009	1405	0-0.5	JK/GR	58	11	139	17	NA	none
G-10B	8/6/2009	1405	0.5-1	JK/GR	34	10	202	19	NA	none
G-10C	8/6/2009	1405	1-2	JK/GR	<13.0	NA	21	10	NA	none
G-10D	8/6/2009	1405	2-3	JK/GR	<12.1	NA	18	10	NA	none
G-11A	8/6/2009	1415	0-0.5	JK/GR	281	25	979	40	NA	none
G-11B	8/6/2009	1415	0.5-1	JK/GR	<11.3	NA	25	11	NA	none
G-11C	8/6/2009	1415	1-2	JK/GR	<8.1	NA	<12.8	NA	NA	none
G-12A	8/6/2009	1425	0-0.5	JK/GR	51	10	82	14	NA	none
G-12B	8/6/2009	1425	0.5-1	JK/GR	29	9	31	11	NA	none
G-12C	8/6/2009	1425	1-2	JK/GR	<9.9	NA	20	9	NA	none
G-12D	8/6/2009	1425	2-2.75	JK/GR	<7.4	NA	<10.6	NA	NA	none
G-13A	8/6/2009	1432	0-0.5	JK/GR	**716**	33	**771**	37	NA	none
G-13B	8/6/2009	1432	0.5-1	JK/GR	18	9	39	11	NA	none
G-13C	8/6/2009	1432	1-2	JK/GR	12	8	45	12	NA	Direct-puch refusal on bedrock
G-14A	8/6/2009	1440	0-0.5	JK/GR	66	11	124	15	NA	none
G-14B	8/6/2009	1440	0.5-1	JK/GR	67	13	106	15	NA	none
G-14C	8/6/2009	1440	1-2	JK/GR	<9.9	NA	<11.4	NA	NA	none
G-14D	8/6/2009	1440	2-2.2	JK/GR	<8.4	NA	14	9	NA	Direct-push refusal on bedrock

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

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Prepared Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
G-15A	8/6/2009	1446	0-0.5	JK/GR	**624**	29	370	25	NA	none
G-15B	8/6/2009	1446	0.5-1	JK/GR	67	14	78	13	NA	none
G-15C	8/6/2009	1446	1-2	JK/GR	26	11	70	13	NA	none
G-15D	8/6/2009	1446	2-3	JK/GR	16	10	76	14	NA	none
G-16A	8/6/2009	1453	0-0.5	JK/GR	**718**	32	**971**	39	NA	none
G-16B	8/6/2009	1453	0.5-1	JK/GR	<10.7	NA	17	9	NA	none
G-16C	8/6/2009	1453	1-2	JK/GR	<10.6	NA	15	9	NA	none
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
G-17A	8/6/2009	1500	0.25	JK/GR	**24700**	200	**30900**	300	NA	none
G-18A	8/6/2009	1505	0-0.5	JK/GR	54	10	162	17	NA	none
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	none
G-19B	8/6/2009	1510	0.5-1	JK/GR	<11.3	NA	<11.7	NA	NA	none
G-19C	8/6/2009	1510	1-2	JK/GR	<10.5	NA	<12.8	NA	NA	none
G-19D	8/6/2009	1510	2-3	JK/GR	<9.9	NA	<12.8	NA	NA	none
G-20A	8/6/2009	1518	0-0.5	JK/GR	**16900**	200	**101100**	900	NA	none
G-20B	8/6/2009	1518	0.5-1	JK/GR	208	19	90	17	NA	none
G-20C	8/6/2009	1518	1-2	JK/GR	13	8	21	9	NA	none
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	none
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	none
G-22C	8/6/2009	1532	1-2	JK/GR	<10.2	NA	<12.1	NA	NA	none
G-22D	8/6/2009	1532	2-3	JK/GR	<11.2	NA	<11.5	NA	NA	none
G-23A	8/6/2009	1538	0-0.5	JK/GR	**768**	33	**1582**	53	NA	none

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

Sample Identification	Sample Date	Sample Time	Depth Interval (Feet)	Samplers	In Situ Results		Prepared Results		Laboratory Results ppm	Notes
					XRF ppm	Error ppm	XRF ppm	Error +/- ppm		
G-23B	8/6/2009	1538	0.5-1	JK/GR	**475**	28	**799**	40	NA	none
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	none
G-24B	8/6/2009	1545	0.5-1	JK/GR	38	10	62	14	NA	none
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	none
G-26B	8/6/2009	1556	0.5-1	JK/GR	<12.3	NA	15	9	NA	none
G-26C	8/6/2009	1556	1-2	JK/GR	<12.3	NA	<13.6	NA	NA	none
G-26D	8/6/2009	1556	2-3	JK/GR	<10.8	NA	7	9	NA	none

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	<0.0069	NA	Rinse Blank for XRF G-1
RB-2	8/6/2009	1350	0-2	JK/GR	NA	0.0118 J	NA	Rinse Blank for XRF G-6
RB-3	8/6/2009	1425	0-2.75	JK/GR	NA	<0.0069	NA	Rinse Blank for XRF G-12
RB-4	8/6/2009	1505	0-1	JK/GR	NA	<0.0069	NA	Rinse Blank for XRF G-18
RB-5	8/6/2009	1545	0-2	JK/GR	NA	<0.0069	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

TABLE 3
WASTE CHARACTERIZATION ANALYTICAL RESULTS ABOVE METHOD DETECTION LIMITS
OLD ATHENS TURNPIKE SITE, PRINCETON, WEST VIRGINIA

Sample Identification	Sample Date	Sample Time	Depth* Interval (Feet)	Samplers	Total PCB (mg/kg)	TN EPH (mg/kg)	TCLP			Notes
							Barium (mg/L)	Cadmium (mg/L)	Lead (mg/L)	
MCL	**NA**	**NA**	**NA**	**NA**	**50**	**NA**	**100**	**1**	**5**	**none**
WC-A	8/25/2009	1200	0-2	JH/TW	0.460	200	0.508	0.0090 J	**20.0**	fails for TCLP lead
WC-B	8/25/2009	1400	0-2	JH/TW	3.800	350	0.444	0.0083 J	**219**	fails for TCLP lead
WC-C	8/25/2009	1530	0-2	JH/TW	0.470	59	0.322	0.0032 J	**37.8**	fails for TCLP lead

MDL - method detection levels.
* - depths vary per aliquot to include the exact depth intervals in which total lead concentrations were detected above 400 parts per million.
TCLP - toxicity characteristic leaching procedure.
MCL - maximum contaminant level.
mg/kg - milligrams per kilogram.
mg/L - milligrams per liter.
J - A J qualifier indicates a concentration below the laboratory practical quantification level, but above the MDL.

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

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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

September 01, 2009

SAMPLE GROUP

The sample group for this submittal is 1159364. Samples arrived at the laboratory on Wednesday, August 26, 2009. The PO# for this group is 1-9-WV-PRTN-SA08 and the release number is SC8675#8453760.

Client Description	Lancaster Labs Number
WC-A Composite Soil Sample	5761183
WC-A Composite Soil Sample	5761184
WC-A Composite Soil Sample	5761185
WC-B Composite Soil Sample	5761186
WC-B Composite Soil Sample	5761187
WC-B Composite Soil Sample	5761188
WC-C Composite Soil Sample	5761189
WC-C Composite Soil Sample	5761190
WC-C Composite Soil Sample	5761191

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

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Analysis Report

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

Respectfully Submitted,

Valerie L. Tomayko
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. SW 5761183

Group No. 1159364
WV

WC-A Composite Soil Sample
Old Athens Turnpike

Collected: 08/25/2009 12:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCAAR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082**		**ug/kg**	**ug/kg**	
01216	PCB-1016	12674-11-2	N.D.	21	5
01216	PCB-1221	11104-28-2	N.D.	25	5
01216	PCB-1232	11141-16-5	N.D.	33	5
01216	PCB-1242	53469-21-9	N.D.	21	5
01216	PCB-1248	12672-29-6	N.D.	21	5
01216	PCB-1254	11097-69-1	460	21	5
01216	PCB-1260	11096-82-5	N.D.	21	5
GC Extractable TPH	**TN EPH 012/98**		**mg/kg**	**mg/kg**	
02785	TN EPH soil C12-C40	n.a.	200	25	5
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
01216	PCBs in Solids	SW-846 8082	1	092380025A	08/27/2009 12:23	Jamie L Brillhart	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	092380025A	08/27/2009 01:30	Roman Kuropatkin	1
02785	TN EPH soil C12-C40	TN EPH 012/98	2	092380024A	08/31/2009 15:06	Heather E Williams	5
07004	Extraction - DRO (Soils)	SW-846 3550B	1	092380024A	08/27/2009 01:30	Roman Kuropatkin	1
00111	Moisture	SM20 2540 G	1	09239820001B	08/27/2009 15:27	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. TL 5761184 **Group No. 1159364**
WV

WC-A Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 12:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCANV

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**mg/l**	**mg/l**	
00949	1,4-Dichlorobenzene	106-46-7	N.D.	0.005	1
00949	2,4-Dinitrotoluene	121-14-2	N.D.	0.005	1
00949	Hexachlorobenzene	118-74-1	N.D.	0.005	1
00949	Hexachlorobutadiene	87-68-3	N.D.	0.005	1
00949	Hexachloroethane	67-72-1	N.D.	0.005	1
00949	2-Methylphenol	95-48-7	N.D.	0.005	1
00949	4-Methylphenol	106-44-5	N.D.	0.010	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
00949	Nitrobenzene	98-95-3	N.D.	0.005	1
00949	Pentachlorophenol	87-86-5	N.D.	0.015	1
00949	Pyridine	110-86-1	N.D.	0.010	1
00949	2,4,5-Trichlorophenol	95-95-4	N.D.	0.005	1
00949	2,4,6-Trichlorophenol	88-06-2	N.D.	0.005	1
Herbicides	**SW-846 8151A**		**mg/l**	**mg/l**	
00952	2,4-D	94-75-7	N.D.	0.0020	1
00952	2,4,5-TP	93-72-1	N.D.	0.00020	1
Pesticides/PCBs	**SW-846 8081A**		**mg/l**	**mg/l**	
00950	Gamma BHC - Lindane	58-89-9	N.D.	0.000023	1
00950	Chlordane	57-74-9	N.D.	0.00035	1
00950	Endrin	72-20-8	N.D.	0.000020	1
00950	Heptachlor	76-44-8	N.D.	0.000020	1
00950	Heptachlor Epoxide	1024-57-3	N.D.	0.000018	1
00950	Methoxychlor	72-43-5	N.D.	0.00015	1
00950	Toxaphene	8001-35-2	N.D.	0.0050	1
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07046	Barium	7440-39-3	0.508	0.00060	1
07049	Cadmium	7440-43-9	0.0090 J	0.0020	1
07051	Chromium	7440-47-3	N.D.	0.0034	1
07055	Lead	7439-92-1	20.0	0.0345	5
07036	Selenium	7782-49-2	N.D.	0.0089	1
07066	Silver	7440-22-4	N.D.	0.0023	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000056	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. TL 5761184

Group No. 1159364
WV

WC-A Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 12:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCANV

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
00949	TCLP Acid Base/Neutrals	SW-846 8270C	1	09240WAE026	08/31/2009 11:49	Joseph M Gambler	1
04731	TCLP Leachate Extraction	SW-846 3510C	1	09240WAE026	08/31/2009 03:30	Sherry L Morrow	1
00952	TCLP Herbicides	SW-846 8151A	1	092400016A	08/31/2009 12:57	John W Perkins	1
00950	TCLP Pesticides	SW-846 8081A	1	092400005A	08/31/2009 15:18	Lindsey K Lafferty	1
00817	Water Sample Pest. Extraction	SW-846 3510C	1	092400005A	08/28/2009 16:00	JoElla L Rice	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	092400016A	08/29/2009 07:05	Karen L Beyer	1
07035	Arsenic	SW-846 6010C	1	092400636001	08/31/2009 22:29	John P Hook	1
07046	Barium	SW-846 6010C	1	092400636001	08/31/2009 22:29	John P Hook	1
07049	Cadmium	SW-846 6010C	1	092400636001	08/31/2009 15:06	Eric L Eby	1
07051	Chromium	SW-846 6010C	1	092400636001	08/31/2009 15:06	Eric L Eby	1
07055	Lead	SW-846 6010C	1	092400636001	09/01/2009 09:54	Joanne M Gates	5
07036	Selenium	SW-846 6010C	1	092400636001	08/31/2009 15:06	Eric L Eby	1
07066	Silver	SW-846 6010C	1	092400636001	08/31/2009 15:06	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	092405713002	08/31/2009 10:28	Damary Valentin	1
10636	WW/TL SW846 (IV) ICP Dig (tot)	SW-846 3010A	1	092400636001	08/30/2009 21:00	Mirit S Shenouda	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	092405713002	08/30/2009 21:30	Mirit S Shenouda	1
00947	TCLP Non-volatile Extraction	SW-846 1311	1	09239-482-0947B	08/27/2009 13:20	Darin P Wagner	n.a.

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Analysis Report

Lancaster Laboratories Sample No. TL 5761185

Group No. 1159364
WV

WC-A Composite Soil Sample
TCLP ZERO HEADSPACE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 12:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCAZH

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
03636	Benzene	71-43-2	N.D.	10	20
03636	2-Butanone	78-93-3	N.D.	60	20
03636	Carbon Tetrachloride	56-23-5	N.D.	20	20
03636	Chlorobenzene	108-90-7	N.D.	16	20
03636	Chloroform	67-66-3	N.D.	16	20
03636	1,2-Dichloroethane	107-06-2	N.D.	20	20
03636	1,1-Dichloroethene	75-35-4	N.D.	16	20
03636	Tetrachloroethene	127-18-4	N.D.	16	20
03636	Trichloroethene	79-01-6	N.D.	20	20
03636	Vinyl Chloride	75-01-4	N.D.	20	20

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
03636	TCLP by 8260	SW-846 8260B	1	T092441AA	09/01/2009 12:51	Matthew S Woods	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T092441AA	09/01/2009 12:51	Matthew S Woods	20
00946	TCLP Zero Headspace Extraction	SW-846 1311	1	09239-482-0946	08/27/2009 13:10	Darin P Wagner	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5761186

Group No. 1159364
WV

WC-B Composite Soil Sample
Old Athens Turnpike

Collected: 08/25/2009 14:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCBAR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082**		**ug/kg**	**ug/kg**	
01216	PCB-1016	12674-11-2	N.D.	75	20
01216	PCB-1221	11104-28-2	N.D.	91	20
01216	PCB-1232	11141-16-5	N.D.	120	20
01216	PCB-1242	53469-21-9	N.D.	75	20
01216	PCB-1248	12672-29-6	N.D.	75	20
01216	PCB-1254	11097-69-1	3,800	75	20
01216	PCB-1260	11096-82-5	N.D.	75	20
GC Extractable TPH	**TN EPH 012/98**		**mg/kg**	**mg/kg**	
02785	TN EPH soil C12-C40	n.a.	350	45	10
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	11.7	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
01216	PCBs in Solids	SW-846 8082	1	092380025A	08/28/2009 22:05	Jamie L Brillhart	20
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	092380025A	08/27/2009 01:30	Roman Kuropatkin	1
02785	TN EPH soil C12-C40	TN EPH 012/98	2	092380024A	08/31/2009 15:54	Heather E Williams	10
07004	Extraction - DRO (Soils)	SW-846 3550B	1	092380024A	08/27/2009 01:30	Roman Kuropatkin	1
00111	Moisture	SM20 2540 G	1	09239820001B	08/27/2009 15:27	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. TL 5761187 **Group No. 1159364**
WV

WC-B Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 14:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCBNV

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**mg/l**	**mg/l**	
00949	1,4-Dichlorobenzene	106-46-7	N.D.	0.005	1
00949	2,4-Dinitrotoluene	121-14-2	N.D.	0.005	1
00949	Hexachlorobenzene	118-74-1	N.D.	0.005	1
00949	Hexachlorobutadiene	87-68-3	N.D.	0.005	1
00949	Hexachloroethane	67-72-1	N.D.	0.005	1
00949	2-Methylphenol	95-48-7	N.D.	0.005	1
00949	4-Methylphenol	106-44-5	N.D.	0.010	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
00949	Nitrobenzene	98-95-3	N.D.	0.005	1
00949	Pentachlorophenol	87-86-5	N.D.	0.015	1
00949	Pyridine	110-86-1	N.D.	0.010	1
00949	2,4,5-Trichlorophenol	95-95-4	N.D.	0.005	1
00949	2,4,6-Trichlorophenol	88-06-2	N.D.	0.005	1
Herbicides	**SW-846 8151A**		**mg/l**	**mg/l**	
00952	2,4-D	94-75-7	N.D.	0.0020	1
00952	2,4,5-TP	93-72-1	N.D.	0.00020	1
Pesticides/PCBs	**SW-846 8081A**		**mg/l**	**mg/l**	
00950	Gamma BHC - Lindane	58-89-9	N.D.	0.000023	1
00950	Chlordane	57-74-9	N.D.	0.00035	1
00950	Endrin	72-20-8	N.D.	0.000020	1
00950	Heptachlor	76-44-8	N.D.	0.000020	1
00950	Heptachlor Epoxide	1024-57-3	N.D.	0.000018	1
00950	Methoxychlor	72-43-5	N.D.	0.00015	1
00950	Toxaphene	8001-35-2	N.D.	0.0050	1
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07046	Barium	7440-39-3	0.444	0.00060	1
07049	Cadmium	7440-43-9	0.0083 J	0.0020	1
07051	Chromium	7440-47-3	N.D.	0.0034	1
07055	Lead	7439-92-1	219	0.345	50
07036	Selenium	7782-49-2	N.D.	0.0089	1
07066	Silver	7440-22-4	N.D.	0.0023	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000056	1

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Analysis Report

Lancaster Laboratories Sample No. TL 5761187

Group No. 1159364
WV

WC-B Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 14:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCBNV

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
00949	TCLP Acid Base/Neutrals	SW-846 8270C	1	09240WAE026	08/31/2009 12:38	Joseph M Gambler	1
04731	TCLP Leachate Extraction	SW-846 3510C	1	09240WAE026	08/31/2009 03:30	Sherry L Morrow	1
00952	TCLP Herbicides	SW-846 8151A	1	092400016A	08/31/2009 13:24	John W Perkins	1
00950	TCLP Pesticides	SW-846 8081A	1	092400005A	08/31/2009 15:51	Lindsey K Lafferty	1
00817	Water Sample Pest. Extraction	SW-846 3510C	1	092400005A	08/28/2009 16:00	JoElla L Rice	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	092400016A	08/29/2009 07:05	Karen L Beyer	1
07035	Arsenic	SW-846 6010C	1	092400636001	08/31/2009 23:39	John P Hook	1
07046	Barium	SW-846 6010C	1	092400636001	08/31/2009 23:39	John P Hook	1
07049	Cadmium	SW-846 6010C	1	092400636001	08/31/2009 15:38	Eric L Eby	1
07051	Chromium	SW-846 6010C	1	092400636001	08/31/2009 15:38	Eric L Eby	1
07055	Lead	SW-846 6010C	1	092400636001	09/01/2009 10:20	Joanne M Gates	50
07036	Selenium	SW-846 6010C	1	092400636001	08/31/2009 15:38	Eric L Eby	1
07066	Silver	SW-846 6010C	1	092400636001	08/31/2009 15:38	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	092405713002	08/31/2009 10:38	Damary Valentin	1
10636	WW/TL SW846 (IV) ICP Dig (tot)	SW-846 3010A	1	092400636001	08/30/2009 21:00	Mirit S Shenouda	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	092405713002	08/30/2009 21:30	Mirit S Shenouda	1
00947	TCLP Non-volatile Extraction	SW-846 1311	1	09239-482-0947B	08/27/2009 13:20	Darin P Wagner	n.a.

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. TL 5761188

Group No. 1159364
WV

WC-B Composite Soil Sample
TCLP ZERO HEADSPACE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 14:00 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCBZH

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
03636	Benzene	71-43-2	N.D.	10	20
03636	2-Butanone	78-93-3	N.D.	60	20
03636	Carbon Tetrachloride	56-23-5	N.D.	20	20
03636	Chlorobenzene	108-90-7	N.D.	16	20
03636	Chloroform	67-66-3	N.D.	16	20
03636	1,2-Dichloroethane	107-06-2	N.D.	20	20
03636	1,1-Dichloroethene	75-35-4	N.D.	16	20
03636	Tetrachloroethene	127-18-4	N.D.	16	20
03636	Trichloroethene	79-01-6	N.D.	20	20
03636	Vinyl Chloride	75-01-4	N.D.	20	20

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
03636	TCLP by 8260	SW-846 8260B	1	T092441AA	09/01/2009 14:00	Matthew S Woods	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T092441AA	09/01/2009 14:00	Matthew S Woods	20
00946	TCLP Zero Headspace Extraction	SW-846 1311	1	09239-482-0946	08/27/2009 13:10	Darin P Wagner	n.a.

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Analysis Report

Lancaster Laboratories Sample No. SW 5761189

Group No. 1159364
WV

WC-C Composite Soil Sample
Old Athens Turnpike

Collected: 08/25/2009 15:30 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCCAR

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8082**		**ug/kg**	**ug/kg**	
01216	PCB-1016	12674-11-2	N.D.	19	5
01216	PCB-1221	11104-28-2	N.D.	22	5
01216	PCB-1232	11141-16-5	N.D.	30	5
01216	PCB-1242	53469-21-9	N.D.	19	5
01216	PCB-1248	12672-29-6	N.D.	19	5
01216	PCB-1254	11097-69-1	470	19	5
01216	PCB-1260	11096-82-5	N.D.	19	5
GC Extractable TPH	**TN EPH 012/98**		**mg/kg**	**mg/kg**	
02785	TN EPH soil C12-C40	n.a.	59	4.5	1
	The LCSD is outside the QC limits. Since the recovery is within our statistical limit the results are reported.				
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	10.9	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
01216	PCBs in Solids	SW-846 8082	1	092380025A	08/27/2009 13:23	Jamie L Brillhart	5
00819	Solid Sample Pesticide Extract	SW-846 3550B	1	092380025A	08/27/2009 01:30	Roman Kuropatkin	1
02785	TN EPH soil C12-C40	TN EPH 012/98	2	092380024A	08/31/2009 14:41	Heather E Williams	1
07004	Extraction - DRO (Soils)	SW-846 3550B	1	092380024A	08/27/2009 01:30	Roman Kuropatkin	1
00111	Moisture	SM20 2540 G	1	09239820001B	08/27/2009 15:27	Scott W Freisher	1

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Analysis Report

Lancaster Laboratories Sample No. TL 5761190 **Group No. 1159364**
WV

WC-C Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 15:30 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCCNV

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C**		**mg/l**	**mg/l**	
00949	1,4-Dichlorobenzene	106-46-7	N.D.	0.005	1
00949	2,4-Dinitrotoluene	121-14-2	N.D.	0.005	1
00949	Hexachlorobenzene	118-74-1	N.D.	0.005	1
00949	Hexachlorobutadiene	87-68-3	N.D.	0.005	1
00949	Hexachloroethane	67-72-1	N.D.	0.005	1
00949	2-Methylphenol	95-48-7	N.D.	0.005	1
00949	4-Methylphenol	106-44-5	N.D.	0.010	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
00949	Nitrobenzene	98-95-3	N.D.	0.005	1
00949	Pentachlorophenol	87-86-5	N.D.	0.015	1
00949	Pyridine	110-86-1	N.D.	0.010	1
00949	2,4,5-Trichlorophenol	95-95-4	N.D.	0.005	1
00949	2,4,6-Trichlorophenol	88-06-2	N.D.	0.005	1
Herbicides	**SW-846 8151A**		**mg/l**	**mg/l**	
00952	2,4-D	94-75-7	N.D.	0.0020	1
00952	2,4,5-TP	93-72-1	N.D.	0.00020	1
Pesticides/PCBs	**SW-846 8081A**		**mg/l**	**mg/l**	
00950	Gamma BHC - Lindane	58-89-9	N.D.	0.000023	1
00950	Chlordane	57-74-9	N.D.	0.00035	1
00950	Endrin	72-20-8	N.D.	0.000020	1
00950	Heptachlor	76-44-8	N.D.	0.000020	1
00950	Heptachlor Epoxide	1024-57-3	N.D.	0.000018	1
00950	Methoxychlor	72-43-5	N.D.	0.00015	1
00950	Toxaphene	8001-35-2	N.D.	0.0050	1
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07046	Barium	7440-39-3	0.322	0.00060	1
07049	Cadmium	7440-43-9	0.0032 J	0.0020	1
07051	Chromium	7440-47-3	N.D.	0.0034	1
07055	Lead	7439-92-1	37.8	0.0690	10
07036	Selenium	7782-49-2	N.D.	0.0089	1
07066	Silver	7440-22-4	N.D.	0.0023	1
	SW-846 7470A		**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000056	1

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Analysis Report

Lancaster Laboratories Sample No. TL 5761190

Group No. 1159364
WV

WC-C Composite Soil Sample
TCLP NON-VOLATILE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 15:30 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCCNV

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
00949	TCLP Acid Base/Neutrals	SW-846 8270C	1	09240WAE026	08/31/2009 13:26	Joseph M Gambler	1
04731	TCLP Leachate Extraction	SW-846 3510C	1	09240WAE026	08/31/2009 03:30	Sherry L Morrow	1
00952	TCLP Herbicides	SW-846 8151A	1	092400016A	08/31/2009 11:35	John W Perkins	1
00950	TCLP Pesticides	SW-846 8081A	1	092400005A	08/31/2009 16:02	Lindsey K Lafferty	1
00817	Water Sample Pest. Extraction	SW-846 3510C	1	092400005A	08/28/2009 16:00	JoElla L Rice	1
00816	Water Sample Herbicide Extract	SW-846 8151A	1	092400016A	08/29/2009 07:05	Karen L Beyer	1
07035	Arsenic	SW-846 6010C	1	092400636001	08/31/2009 23:47	John P Hook	1
07046	Barium	SW-846 6010C	1	092400636001	08/31/2009 23:47	John P Hook	1
07049	Cadmium	SW-846 6010C	1	092400636001	08/31/2009 15:41	Eric L Eby	1
07051	Chromium	SW-846 6010C	1	092400636001	08/31/2009 15:41	Eric L Eby	1
07055	Lead	SW-846 6010C	1	092400636001	09/01/2009 10:24	Joanne M Gates	10
07036	Selenium	SW-846 6010C	1	092400636001	08/31/2009 15:41	Eric L Eby	1
07066	Silver	SW-846 6010C	1	092400636001	08/31/2009 15:41	Eric L Eby	1
00259	Mercury	SW-846 7470A	1	092405713002	08/31/2009 10:40	Damary Valentin	1
10636	WW/TL SW846 (IV) ICP Dig (tot)	SW-846 3010A	1	092400636001	08/30/2009 21:00	Mirit S Shenouda	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	092405713002	08/30/2009 21:30	Mirit S Shenouda	1
00947	TCLP Non-volatile Extraction	SW-846 1311	1	09239-482-0947B	08/27/2009 13:20	Darin P Wagner	n.a.

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. TL 5761191

Group No. 1159364
WV

WC-C Composite Soil Sample
TCLP ZERO HEADSPACE EXTRACTION
Old Athens Turnpike

Collected: 08/25/2009 15:30 by JH

Account Number: 11716

Submitted: 08/26/2009 08:55
Reported: 09/01/2009 at 16:32
Discard: 10/02/2009

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

WCCZH

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
03636	Benzene	71-43-2	N.D.	10	20
03636	2-Butanone	78-93-3	N.D.	60	20
03636	Carbon Tetrachloride	56-23-5	N.D.	20	20
03636	Chlorobenzene	108-90-7	N.D.	16	20
03636	Chloroform	67-66-3	N.D.	16	20
03636	1,2-Dichloroethane	107-06-2	N.D.	20	20
03636	1,1-Dichloroethene	75-35-4	N.D.	16	20
03636	Tetrachloroethene	127-18-4	N.D.	16	20
03636	Trichloroethene	79-01-6	N.D.	20	20
03636	Vinyl Chloride	75-01-4	N.D.	20	20

General Sample Comments

If the analysis is for determination of Hazardous Waste Characteristics, see Table 1 in EPA Code of Federal Regulations 40 CFR 261.24.

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
03636	TCLP by 8260	SW-846 8260B	1	T092441AA	09/01/2009 14:23	Matthew S Woods	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	T092441AA	09/01/2009 14:23	Matthew S Woods	20
00946	TCLP Zero Headspace Extraction	SW-846 1311	1	09239-482-0946	08/27/2009 13:10	Darin P Wagner	n.a.

Quality Control Summary

Client Name: Norfolk Southern Railway Co Group Number: 1159364
Reported: 09/01/09 at 04:32 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: T092441AA	Sample number(s): 5761185,5761188,5761191							
Benzene	N.D.	0.5	ug/l	92		79-120		
2-Butanone	N.D.	3.	ug/l	99		64-166		
Carbon Tetrachloride	N.D.	1.	ug/l	93		75-123		
Chlorobenzene	N.D.	0.8	ug/l	99		80-120		
Chloroform	N.D.	0.8	ug/l	93		77-122		
1,2-Dichloroethane	N.D.	1.	ug/l	100		70-130		
1,1-Dichloroethene	N.D.	0.8	ug/l	91		74-123		
Tetrachloroethene	N.D.	0.8	ug/l	96		80-121		
Trichloroethene	N.D.	1.	ug/l	95		80-120		
Vinyl Chloride	N.D.	1.	ug/l	82		59-120		
Batch number: 09240WAE026	Sample number(s): 5761184,5761187,5761190							
1,4-Dichlorobenzene	N.D.	0.005	mg/l	98		65-113		
2,4-Dinitrotoluene	N.D.	0.005	mg/l	117*		81-115		
Hexachlorobenzene	N.D.	0.005	mg/l	110		81-118		
Hexachlorobutadiene	N.D.	0.005	mg/l	98		57-124		
Hexachloroethane	N.D.	0.005	mg/l	94		52-113		
2-Methylphenol	N.D.	0.005	mg/l	93		64-101		
4-Methylphenol	N.D.	0.010	mg/l	88		61-103		
Nitrobenzene	N.D.	0.005	mg/l	109		75-109		
Pentachlorophenol	N.D.	0.015	mg/l	123*		53-110		
Pyridine	N.D.	0.010	mg/l	53		27-79		
2,4,5-Trichlorophenol	N.D.	0.005	mg/l	111*		79-107		
2,4,6-Trichlorophenol	N.D.	0.005	mg/l	114*		81-113		
Batch number: 092400016A	Sample number(s): 5761184,5761187,5761190							
2,4-D	N.D.	0.0020	mg/l	110		45-128		
2,4,5-TP	N.D.	0.00020	mg/l	84		56-135		
Batch number: 092380025A	Sample number(s): 5761183,5761186,5761189							
PCB-1016	N.D.	3.3	ug/kg	91		68-116		
PCB-1221	N.D.	4.0	ug/kg					
PCB-1232	N.D.	5.3	ug/kg					
PCB-1242	N.D.	3.3	ug/kg					
PCB-1248	N.D.	3.3	ug/kg					
PCB-1254	N.D.	3.3	ug/kg					
PCB-1260	N.D.	3.3	ug/kg	99		48-149		
Batch number: 092400005A	Sample number(s): 5761184,5761187,5761190							
Gamma BHC - Lindane	N.D.	0.00002 3	mg/l	98		68-128		
Chlordane	N.D.	0.00035	mg/l					
Endrin	N.D.	0.00002 0	mg/l	100		43-133		
Heptachlor	N.D.	0.00002 0	mg/l	92		57-126		

*- 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.

Quality Control Summary

Client Name: Norfolk Southern Railway Co Group Number: 1159364
Reported: 09/01/09 at 04:32 PM

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Heptachlor Epoxide	N.D.	0.00001 8	mg/l	99		65-133		
Methoxychlor	N.D.	0.00015	mg/l	100		52-133		
Toxaphene	N.D.	0.0050	mg/l					
Batch number: 092380024A	Sample number(s): 5761183,5761186,5761189							
TN EPH soil C12-C40	N.D.	4.0	mg/kg	98	104*	50-100	6	20
Batch number: 092400636001	Sample number(s): 5761184,5761187,5761190							
Arsenic	N.D.	0.0072	mg/l	109		80-120		
Barium	0.00080 J	0.00060	mg/l	95		90-110		
Cadmium	N.D.	0.0020	mg/l	107		90-112		
Chromium	N.D.	0.0034	mg/l	95		90-110		
Lead	N.D.	0.0069	mg/l	93		80-120		
Selenium	N.D.	0.0089	mg/l	114		80-120		
Silver	N.D.	0.0023	mg/l	117		83-120		
Batch number: 092405713002	Sample number(s): 5761184,5761187,5761190							
Mercury	N.D.	0.00005 6	mg/l	96		80-120		
Batch number: 09239820001B	Sample number(s): 5761183,5761186,5761189							
Moisture				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: T092441AA	Sample number(s): 5761185,5761188,5761191 UNSPK: 5761185								
Benzene	95	92	80-126	3	30				
2-Butanone	89	87	57-138	3	30				
Carbon Tetrachloride	100	97	81-138	3	30				
Chlorobenzene	99	98	87-124	1	30				
Chloroform	98	93	81-134	5	30				
1,2-Dichloroethane	98	94	66-141	4	30				
1,1-Dichloroethene	100	97	85-142	4	30				
Tetrachloroethene	100	97	80-128	3	30				
Trichloroethene	98	95	88-133	4	30				
Vinyl Chloride	85	86	66-133	1	30				
Batch number: 09240WAE026	Sample number(s): 5761184,5761187,5761190 UNSPK: P760879								
1,4-Dichlorobenzene	99	96	54-126	3	30				
2,4-Dinitrotoluene	102	91	70-124	12	30				
Hexachlorobenzene	112	111	77-122	1	30				
Hexachlorobutadiene	103	106	53-131	2	30				
Hexachloroethane	100	98	41-125	2	30				
2-Methylphenol	48	41	10-146	15	30				
4-Methylphenol	43	37	10-147	15	30				
Nitrobenzene	99	88	61-124	11	30				

*- 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.

Quality Control Summary

Client Name: Norfolk Southern Railway Co Group Number: 1159364
Reported: 09/01/09 at 04:32 PM

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
Pentachlorophenol	129	127	23-133	2	30				
Pyridine	52	54	31-79	4	30				
2,4,5-Trichlorophenol	99	101	26-142	2	30				
2,4,6-Trichlorophenol	104	107	21-151	3	30				
Batch number: 092400016A	Sample number(s): 5761184,5761187,5761190 UNSPK: 5761190								
2,4-D	97	100	13-170	3	30				
2,4,5-TP	87	91	29-171	4	30				
Batch number: 092380025A	Sample number(s): 5761183,5761186,5761189 UNSPK: 5761186								
PCB-1016	120	118	45-130	2	50				
PCB-1260	483*	567*	39-149	16	50				
Batch number: 092400005A	Sample number(s): 5761184,5761187,5761190 UNSPK: 5761184								
Gamma BHC - Lindane	100	98	42-137	2	30				
Endrin	104	104	48-134	0	30				
Heptachlor	92	92	19-145	0	30				
Heptachlor Epoxide	101	101	43-143	0	30				
Methoxychlor	100	95	44-147	5	30				
Batch number: 092380024A	Sample number(s): 5761183,5761186,5761189 BKG: 5761183								
TN EPH soil C12-C40						160	190	16 (1)	20
Batch number: 092400636001	Sample number(s): 5761184,5761187,5761190 UNSPK: 5761184 BKG: 5761184								
Arsenic	103	101	75-125	2	20	N.D.	N.D.	0 (1)	20
Barium	92	90	75-125	3	20	0.508	0.518	2	20
Cadmium	95	92	75-125	3	20	0.0090 J	0.0088 J	2 (1)	20
Chromium	88	87	75-125	2	20	N.D.	N.D.	0 (1)	20
Lead	80 (2)	64 (2)	75-125	3	20	20.0	20.1	1	20
Selenium	103	101	75-125	3	20	N.D.	N.D.	0 (1)	20
Silver	24*	23*	75-125	1	20	N.D.	N.D.	0 (1)	20
Batch number: 092405713002	Sample number(s): 5761184,5761187,5761190 UNSPK: 5761184 BKG: 5761184								
Mercury	90	88	80-120	2	20	N.D.	N.D.	0 (1)	20
Batch number: 09239820001B	Sample number(s): 5761183,5761186,5761189 BKG: P759191								
Moisture						17.5	18.1	3	15

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCLP by 8260
Batch number: T092441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5761185	89	87	90	90
5761188	89	86	91	89
5761191	89	88	93	92

*- 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.

Quality Control Summary

Client Name: Norfolk Southern Railway Co Group Number: 1159364
Reported: 09/01/09 at 04:32 PM

Surrogate Quality Control

Blank	89	85	93	93
LCS	89	89	92	93
MS	89	85	90	92
MSD	88	85	90	91
Limits:	80-116	77-113	80-113	78-113

Analysis Name: TCLP Acid Base/Neutrals
Batch number: 09240WAE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14	Phenol-d6
5761184	95	87	82	29
5761187	104	93	81	36
5761190	92	84	79	30
Blank	96	85	83	32
LCS	110	96	90	43
MS	100	99	90	15
MSD	89	101	92	14
Limits:	64-121	63-114	47-114	10-74

	2-Fluorophenol	2,4,6-Tribromophenol
5761184	46	111
5761187	56	122
5761190	48	110
Blank	51	111
LCS	65	126
MS	21	124
MSD	20	122
Limits:	10-98	34-145

Analysis Name: PCBs in Solids
Batch number: 092380025A

	Tetrachloro-m-xylene	Decachlorobiphenyl
5761183	97	137
5761186	130	158*
5761189	106	138
Blank	91	99
LCS	94	105
MS	131	154*
MSD	125	155*
Limits:	53-139	53-142

Analysis Name: TCLP Pesticides
Batch number: 092400005A

	Tetrachloro-m-xylene	Decachlorobiphenyl
5761184	93	86
5761187	85	83
5761190	96	90
Blank	88	86
LCS	92	88
MS	92	92
MSD	90	86

*- 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.

Quality Control Summary

Client Name: Norfolk Southern Railway Co Group Number: 1159364
Reported: 09/01/09 at 04:32 PM

Surrogate Quality Control

Limits:	55-130	44-146
Analysis Name: TCLP Herbicides		
Batch number: 092400016A		
	2,4-Dichlorophenylacetic acid	
5761184	74	
5761187	86	
5761190	90	
Blank	75	
LCS	82	
MS	80	
MSD	86	
Limits:	35-144	
Analysis Name: TN EPH soil C12-C40		
Batch number: 092380024A		
	Orthoterphenyl	
5761183	124	
5761186	107	
5761189	105	
Blank	87	
DUP	110	
LCS	101	
LCSD	102	
Limits:	50-150	

*- 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
Where quality is a science.

For Lancaster Laboratories use only
Acct. # 11716 Group# 1159364 Sample # 5761183-91

COC # 0093962

Please print. Instructions on reverse side correspond with circled numbers. 1-9-WV-PRTN-SAOS per GR mm

(1)
Client: NSRC/MM&A Acct. #:
Project Name/#: NS1691 PWSID #:
Project Manager: Chuck Cline P.O.#:
Sampler: Jody Hawks/Trent Williams Quote #:
Name of state where samples were collected: WV

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	(3) Composite	(4) Matrix: Soil	Water (Potable / NPDES)	Other	Total # of Containers	(5) PCB 8082	Full TCLP*	TN EPH 12-98	*131/6010/7470A/8260/8270C/8081	Remarks	Temperature of samples upon receipt (if requested)
WC-A	8-25-09	1200		X	X			4	X	X	X		temp 4.8°C	
WC-B	8-25-09	1400		X	X			4	X	X	X			
WC-C	8-25-09	1530		X	X			4	X	X	X			

For Lab Use Only
FSC:
SCR #:

(7) **Turnaround Time Requested** (TAT) (please circle): Normal (Rush)
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax (E-mail)
Phone #: 276-322-5467 Fax #: 276-322-1510
E-mail address: chuck.cline@mmal.com

(8) **Data Package Options** (please circle if required)
QC Summary Type VI (Raw Data) SDG Complete? Yes No
Type I (Tier I) GLP
Type II (Tier II) Other
Type III (NJ Red. Del.)
Type IV (CLP)
Site-specific QC required? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal Chain of Custody required? Yes No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8/25/09	1700	FedEx 7968 9000 5670	8/25/09	1700
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Deborah A Neslund	8/26/09	0855

Deborah A Neslund

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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Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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

September 03, 2009

SAMPLE GROUP

The sample group for this submittal is 1158836. 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
RB-1 Grab Water Sample	5757344
RB-2 Grab Water Sample	5757345
RB-3 Grab Water Sample	5757346
RB-4 Grab Water Sample	5757347
RB-5 Grab Water Sample	5757348

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	

Lancaster Laboratories

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Analysis Report

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

Respectfully Submitted,

Robert Strocko Jr.
Manager

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5757344

Group No. 1158836
WV

RB-1 Grab Water Sample
Old Athens Turnpike

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

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 09/03/2009 at 20:03
Discard: 10/04/2009

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

RB1-- SDG#: ATH02-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07055	Lead	7439-92-1	N.D.	0.0069	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
07055	Lead	SW-846 6010C	2	092450635001	09/03/2009 17:01	John P Hook	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	092450635001	09/03/2009 10:00	Denise K Conners	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5757345

Group No. 1158836
WV

RB-2 Grab Water Sample
Old Athens Turnpike

Collected: 08/06/2009 13:50 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 09/03/2009 at 20:03
Discard: 10/04/2009

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

RB2-- SDG#: ATH02-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07055	Lead	7439-92-1	0.0118 J	0.0069	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
07055	Lead	SW-846 6010C	2	092450635001	09/03/2009 17:10	John P Hook	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	092450635001	09/03/2009 10:00	Denise K Conners	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5757346

Group No. 1158836
WV

RB-3 Grab Water Sample
Old Athens Turnpike

Collected: 08/06/2009 14:25 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 09/03/2009 at 20:03
Discard: 10/04/2009

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

RB3-- SDG#: ATH02-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07055	Lead	7439-92-1	N.D.	0.0069	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
07055	Lead	SW-846 6010C	2	092450635001	09/03/2009 17:13	John P Hook	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	092450635001	09/03/2009 10:00	Denise K Conners	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5757347

Group No. 1158836
WV

RB-4 Grab Water Sample
Old Athens Turnpike

Collected: 08/06/2009 15:05 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 09/03/2009 at 20:03
Discard: 10/04/2009

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

RB4-- SDG#: ATH02-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07055	Lead	7439-92-1	N.D.	0.0069	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
07055	Lead	SW-846 6010C	2	092450635001	09/03/2009 17:17	John P Hook	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	092450635001	09/03/2009 10:00	Denise K Conners	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5757348

Group No. 1158836
WV

RB-5 Grab Water Sample
Old Athens Turnpike

Collected: 08/06/2009 15:45 by JK

Account Number: 11716

Submitted: 08/22/2009 10:10
Reported: 09/03/2009 at 20:03
Discard: 10/04/2009

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

RB5-- SDG#: ATH02-05*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	
07055	Lead	7439-92-1	N.D.	0.0069	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
07055	Lead	SW-846 6010C	2	092450635001	09/03/2009 17:20	John P Hook	1
10635	WW SW846(IV) ICP Dig (tot rec)	SW-846 3005A	1	092450635001	09/03/2009 10:00	Denise K Conners	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Norfolk Southern Railway Co
Group Number: 1158836
Reported: 09/03/09 at 08:03 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: 092450635001	Sample number(s): 5757344-5757348							
Lead	N.D.	0.0069	mg/l	96	95	80-120	1	20

*- 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# 1158836 Sample # 5757344-48 COC # 215698

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

For Lab Use Only
FSC:
SCR#:

(1) Norfolk Southern direct
Client: NSRC Acct. #:
Project Name/#: MMA # NS1691 PWSID #:
Project Manager: Chuck Cline P.O.#:
Sampler: John Keczan Quote #:
Name of state where samples were collected: WV

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Soil	Water (☒ Potable ☐ NPDES)	Other	(4) Total # of Containers	(5) Analyses Requested: TOTAL LEAD 6010C	Remarks
RB-1	8/6-09	1145	X			X		1	X	unpreserved + unfiltered
RB-2	8/6-09	1350	X			X		1	X	↓
RB-3	8/6-09	1425	X			X		1	X	↓
RB-4	8/6-09	1505	X			X		1	X	↓
RB-5	8/6-09	1545	X			X		1	X	↓

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
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
[signature] / John Keczan	8/20/09	1445	7968 7929 1799	8/20/09	
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: Katie Hartlove	8/22/09	10:10

KatieHartlove

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102.03

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

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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.

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