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Public Safety & Environment Department
500 Water Street, J-275
Jacksonville, FL 32202

File: 0200358

March 21, 2007

Mr. David Pratt, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9519

CSXT River Street Derailment Site #V00524-8, Rochester, Monroe County, New York

Dear Mr. Pratt:

This details and summarizes the findings provided by AMEC Earth & Environmental, Inc. (AMEC) to CSX Transportation, Inc. (CSXT) from our recent Geoprobe investigations conducted to evaluate the extent to which the chemicals of concern (COCs), acetone and methylene chloride, remain in the soils at the River Street Derailment Site in Rochester, NY (Site).

Following the Interim Remedial Measures (IRM) conducted in 2002 to remove impacted soils, end-point sampling activities identified residual COCs at the Site in several locations. While COCs were still being detected at several locations throughout the Site, several of the sample locations exhibited anomalous results and others were found to have concentrations of COCs close to or below the recommended soil cleanup objectives (RSCOs) of the New York State Department of Environmental Conservation (NYSDEC) set forth in Technical and Administrative Guidance Memorandum #4046 (TAGM 4046).

As part of the 2005 Remedial Action Work Plan (RAWP) which was submitted to address COC residuals at the Site, CSXT conducted a benchscale study in 2006. The study evaluated two forms of a bio-amendment to see if an in-situ approach was technically feasible and cost-effective method for addressing Site residuals. One finding from the benchscale testing was that the COCs appeared to attenuate almost as rapidly in the control jars as they did in the amended jars.

As such, prior to the identification and implementation of any further remedial action for the soil, AMEC felt that further evaluation of the amendments was warranted by conducting a field pilot study. To evaluate the effectiveness of the amendment under field conditions, it was necessary to document baseline Site conditions. Therefore, sampling was conducted to determine the current concentrations of COCs in the soils at the Site. The remaining sections of this letter report document those sampling events, detail their results, and provide AMEC's findings and conclusion.

Sampling Summary

Three separate phases of sampling were conducted to evaluate the current subsurface conditions at the Site. The first event was conducted in October 2006, the second in November 2006, and the third in January 2007.

October 2006 Sampling

The initial sampling event was conducted on October 3 and 4, 2006. The intent of the initial sampling was to assess what the existing concentrations of COCs were in a particular area of the Site prior to the proposed implementation of a pilot study. For the pilot study to be successful, it was essential to determine current soil concentrations so that there was an accurate representation of site conditions against which to assess the effectiveness of the pilot study.

The proposed pilot study was to be conducted at the north end of the area referred to in the IRM report as the "Track Excavation," in the vicinity of samples Track 5 Bottom and Northend SW. The area referred to in the IRM report as the "North Tapecon Excavation" was also sampled as a backup in the event that the proposed pilot study location did not yield sufficient residual concentrations.

In addition, samples were collected from the entire Track Excavation area to address any potential data gaps.

Sample locations GP -4, GP-5, and GP-8 thru GP-24, as depicted on the attached **Figure 1**, were sampled during this event. Sample locations GP-1 thru GP-3, GP-6, and GP-7 were inaccessible because of the CSXT crossing and excluded during the event. Analytical results are detailed on the attached **Table 1**.

The analytical results from the October sampling event indicated that residual COC concentrations were now substantially less than previously documented, and in several cases, were already below the RSCOs established in the TAGM 4046.

November 2006 Sampling

Based on analytical results from the first sampling event, a second sampling event was scheduled in November to further evaluate the concentration of COCs remaining at the other locations where residual COCs had been detected by AMEC or the City of Rochester during the IRM end point sampling. Sample locations for this event were selected in accordance with those residual locations identified by CSXT in the November 18, 2005 proposed Remedial Action Work Plan (RAWP) and July 7, 2006 NYSDEC response letter (addressing NYSDEC RAWP comments). This sampling event was designed to capture the remaining residual sampling locations, including those excluded during the first event because of obstructions.

The second phase of sampling was conducted on November 6 and 7, 2006. As a result of logistical complications, samples were not collected from all of the proposed locations prompting the need for a third event. Samples were obtained from locations GP -7, GP-25 thru GP-28, GP-32 thru GP-34, and GP-36 thru GP-39.

January 2007 Sampling

The third event was conducted on January 11 and 12, 2007. The sample locations identified for this event were those that were not collected during either the October or the November events. Samples were collected at locations GP-1, GP-2, GP-6, GP-29 and GP-30. Each location sampled, was shifted slightly from its original coordinates to accommodate for the presence of either utilities or the CSXT crossing.

However, location GP-31, which is within close proximity to a gas line, was permanently omitted from the scope. Furthermore, locations GP-3 and GP-35 were wholly within the rail crossing and due to logistical issues, were not able to be sampled. Attempts were made to shift their locations too, however, relocation would have put them either directly over utilities or within close proximity to other sampling locations. Hence, they were eliminated from the scope. **Figure 1** illustrates the sampling locations for each of the three sampling events.

AMEC is confident that there is adequate surrounding data to complete the evaluation of COC concentrations remaining at the locations where residuals were identified during the IRM. The methodology employed, our findings, and conclusions are detailed below including how the collected information has aided in redefining the area of concern (AOC).

Methodology

Samples were collected utilizing direct push technology and continuously collected from each location's specified sampling zone detailed on the sampling matrix which is attached as **Table 3**. The sampling unit was advanced in four-foot increments to a depth of twenty-feet or refusal. Soils were evaluated in one-foot increments with the soil type and field screening results for volatile organic compounds (VOCs) utilizing two photo-ionization detectors (PIDs) being documented in the a log. AMEC utilized two PIDs to capture and differentiate between the two COCs, as acetone has an ionization potential of 9.69eV while methylene chloride's is 11.32eV, which are respectively detectable by PIDs with 10.6 and 11.8 lamps.

One sample was selected for analysis from each four-foot interval based upon it exhibiting the greatest number of the following criteria:

- Highest PID reading;
- Soil/groundwater interface;
- Change in soil type;
- Visual signs of impacts; or
- Depth of historical impacts.

If the soil in the four-foot interval exhibited none of the criteria detailed above, then a sample was collected at the discretion of the sampler.

All samples were sent under chain of custody to Severn Trent Laboratories (STL) in Amherst, New York for analysis by USEPA method 8260b. Only acetone and methylene chloride concentrations were reported with the exception of the samples gathered at GP-37, where weathered petroleum odors were documented. At this location, an additional sample was collected for analysis by USEPA method 8270 for semi-volatile organics (SVOCs).

To prevent cross-contamination, the macro-core was decontaminated between each location with a water and alconox wash followed by a fresh water rinse. For the purpose of quality assurance and quality control, duplicate samples were collected at an interval of one for every ten samples. In addition, one matrix spike and one matrix spike duplicate sample was collected during each sampling event.

Analytical Summary

A total of 39 locations were initially identified for sampling. Location selection for these sampling events was based on the analytical results from the prior soil samples collected by the City of Rochester and CSXT following the 2002 IRM (or within close proximity to one of those locations).

As discussed previously, only 36 locations could be sampled. Three could not be sampled. Locations GP -3, GP-31 and GP-35 were eliminated in the field from the sampling scope due to their proximity to utilities or the CSXT crossing. Below is a table summarizing the omitted sample locations and the closest adjacent sample locations.

Omitted Sample ID	Adjacent Samples
GP-3	GP-2 GP-29
GP-31	GP-12, GP-32, GP-33
GP-35	GP-34, GP-36

Each of the adjacent samples listed in the table above is within 10 to 20 feet of the omitted sample location. Review of the analytical results for those adjacent samples shows either significantly reduced or non-detects for the COCs. This data and other historical data sufficiently address the environmental quality of the soil in the omitted locations.

Analytical results for the concentration of COCs in each of the samples taken at each of the locations sampled are summarized on the attached **Table 1**. Analytical results for the concentration of SVOCs in each of the samples taken at the GP-37 location are summarized on the attached **Table 2**.

Included with the **Table 1** are percent reductions for each COC between the current data and the historic data. Due to the approach taken in selecting some of the sampling locations, each location does not necessarily align precisely with a previously identified location which had residual COCs at the end of the IRM. In such instances, percent reductions are not available.

Review of the analytical data from the three events shows significant reductions in COCs across the Site with average percent reductions of 97.55% for acetone and 98.4% for methylene chloride. Across the Site, AMEC sampled 36 locations and collected 121 samples, not including duplicates.

The TAGM criteria for acetone are 200 ug/Kg for soils above the groundwater table and 44 ug/Kg for soils in close proximity to the groundwater table (based on partitioning coefficient of acetone). The TAGM criteria for methylene chloride are 100 ug/Kg for soils above the groundwater table and 40 ug/Kg for soils in close proximity to the groundwater table (again, based on partitioning coefficient of methylene chloride). Of the 121 samples collected, only 39 samples (approximately 33%) still contained concentrations above the applicable TAGM criteria for one or both COCs.

For the purpose of this document "substantial" is described as five times greater than the NYSDEC TAGM 4046 concentration. This decision is supported by the Department's soil cleanup objectives (SCOs) for the protection of human health for residential use and for the protection of ecological resources set forth in the relevant and appropriate Table 375-6.8. That Table establishes protection of public health for residential use SCOs of 100,000 ug/Kg for acetone and 51,000 ug/Kg for methylene chloride, and protection of ecological resources SCOs of 2,200 ug/Kg for acetone and 12,000 ug/Kg for methylene chloride. The protection of groundwater SCO is inapplicable because the source of the contaminants was removed by the IRM, the area is served by municipal water, and groundwater quality at the Site has never exceeded and continues to meet the applicable TOGS 1.1.1 standards and criteria for acetone and methylene chloride.

The sample locations that still exhibit substantial COC concentrations are GP-1, GP-4, GP-5, GP-13, GP-24, GP-30 and GP-32. All of these locations are generally around the Track Excavation area with the exception of GP-32 which is located adjacent to a utility pole that could not be removed during the IRM. However, all 121 samples taken have concentrations less than the protection of public health for residential use SCOs of 100,000 ug/Kg for acetone and 51,000 ug/Kg for methylene chloride. In addition, all of the samples have concentrations less than the protection of ecological resources SCO of 2,200 ug/Kg for acetone and 12,000 ug/Kg for methylene chloride with the exception of the 0'-4' below ground surface (BGS) sample from GP-5. Although, this sample does meet the protection of ecological resources SCO of for methylene chloride it is at the upper limit.

Both the Track Excavation area described by GP-1, GP-4, GP-5, GP-13, GP-24 and GP-30, and the utility pole area described by GP-32, are isolated and limited in size by depth of impacts, previous excavation work and/or adjacent clean/reduced COC samples. The table below details the limiting factors for each of the samples identified above.

Sample ID	Limiting Factor
GP-1	Impacts are not identified until 14' BGS
GP-4	Clean Tapecon south cell excavation, SB-14, GP-6 and GP-7
GP-5	Clean Tapecon south cell excavation, GP-4, 6 and 7
GP-13	GP-11, 12, 14, 15 and 16
GP-24	GP-11, 12, 14, 15 and 16
GP-30	Depth where impacts begin, proximity to the main IRM excavation, GP-6, 7 and 29
GP-32	Proximity to the main IRM excavation, SB-9, GP-12 and 33

Attached as **Figure 2** is a map of the Site detailing each sample location from these events that exhibits COC concentrations above TAGM.

Within the Track Excavation area described by GP-1, GP-4, GP-5, GP-13, GP-24 and GP-30, ~~a~~ soil samples taken 9' and 12' BGS at SB-11 during the 2004 Subsurface Investigation and then again at 9' BGS during the 2006 benchscale test (BT-2) had significant concentrations of methylene chloride exceeding the relevant Table 375-6.8 SCOs for methylene chloride of 51,000 ug/Kg for protection of public health for residential use and 12,000 ug/Kg for protection of ecological resources.

The soil sample taken from 9' BGS at SB-11 in 2004 had 92,000 ug/Kg of methylene chloride. The soil sample and the duplicate soil sample, taken for quality assurance, collected in early 2006

at BT-2 had concentrations of 89,000 ug/Kg and 75,000 ug/Kg, respectively. Since there are two numbers from the same location for 2006 and there is obvious variability, this report will refer to their average of 82,000 ug/Kg. Thus, within the Track Excavation area described by GP-1, GP-4, GP-5, GP-13, GP-24 and GP-30, there remains a limited area of potentially significant concentrations of methylene chloride between GP-5 and SB-11.

As noted above, during the second sampling event, weathered petroleum was identified through both olfactory and PID detections at location GP-37. Because GP-37 is in the southern portion of the Site adjacent to where the SVOC impacts were noted during the IRM and where SVOCs are monitored in the groundwater at MW-5, additional soil was collected for SVOC analysis at sample depths 4' BGS and 7.5' BGS.

Although the analytical results do indicate the presence of SVOCs at 4' BGS, they are below TAGM with the exception of the 0.11 mg/Kg of benzo(a)pyrene which exhibited minimum exceedance of the 0.061 RSCO. The concentration of benzo(a)pyrene detected, nevertheless, met both the Table 375-6.8 protection of public health for residential use SCO of 1.0 mg/Kg and the protection of ecological resources SCO of 2.6 mg/Kg. No SVOC analytes were detected at 7.5' BGS. The analytical results have been detailed on **Table 2** for review.

Conclusion

Based on review of the analytical results and how they overlay the Site, several of the locations at the Site that were initially identified after the IRM as having residual concentrations of the COCs can be eliminated from any further consideration for post -IRM remedial work. It is evident from the three recent sampling events and corroborating groundwater monitoring data to date that natural attenuation and/or accelerated biodegradation due to the disturbance of the Site during the IRM is occurring and that the remaining residuals are much less than previously reported.

All the soil samples analyzed meet the new Table 375-6.8 SCOs for protection of public health for residential use and the protection of ecological resources, except the 0'-4' BGS sample from GP-5 which meets the protection of ecological resources SCO of 12,000 ug/Kg for methylene chloride, and the prior sampling at SB-11/BT-2 which exceeds both the protection of public health for residential use SCO of 51,000 ug/Kg and the protection of ecological resources SCO of 12,000 ug/Kg for methylene chloride.

Where percent reductions were able to be calculated, they demonstrated average reductions of over 97% in less than five years. At this current rate, it is conceivable that soil concentrations could be at TAGM RSCOs across the Site within another five years without further remedial actions.

In the upcoming months, AMEC will prepare a revision to the RAWP to incorporate the recently collected data. The revised RAWP will detail the proposed path forward for addressing COCs at key areas of the Site which may include further excavation of the GP-5 to SB-11/BT-2 area, as well as an examination of monitored natural attenuation and/or a focused injection of a bio-amendment in the Track Excavation area described by GP-1, GP-4, GP-5, GP-13, GP-24 and GP-30, and the utility pole area described by GP-32, as possible remedial approaches.

Following your review of this letter and prior to AMEC revising the RAWP, CSXT would like to meet with you via conference call or in person to discuss the Site and the recent data. Please feel free to contact Tim Ahrens of AMEC at (518) 372-0905 or me at (904) 359-3101.

Very truly yours,

Paul, J. Kurzanski
Manager Environmental Remediation

Copy:

Thomas Anderson, Esq.	CSX Transportation, Inc.
Joseph Albert	Monroe County DOH
Matthew Forcucci	NYSDOH
Joe Biondolillo	City of Rochester
Timothy P. Ahrens, CHMM	AMEC
Michael P. Sykes, P.E.	AMEC
Thomas Walsh, Esq.	Hiscock & Barclay

Attachments:

Figure 1	Residual Sampling Locations
Figure 2	Residual Sampling Results
Table 1	COC Analytical Summary
Table 2	SVOC Analytical Summary
Table 3	Residual Soil Sampling Matrix

Analytical Reports

Public Safety & Environment

Residual Sampling Locations

River St. Derailment Site
Rochester, New York

Figure 1

Monroe County — New York

LOCATOR

LEGEND

- City Residual Locations
- CSXT Residual Locations
- Residual Investigation Locations

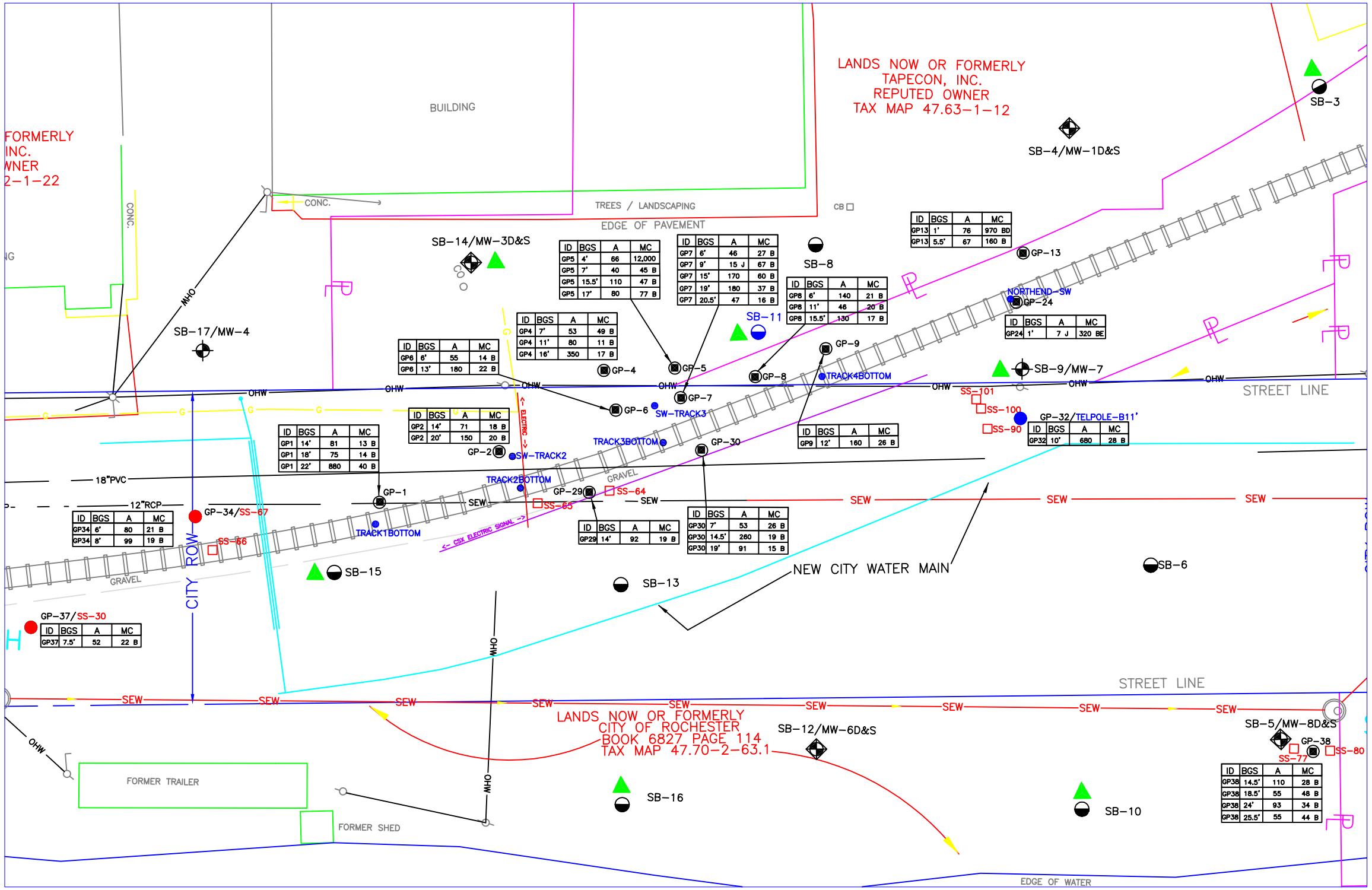
NOTES & SOURCES

Aerial Imagery Source: NYSGIS, April 2005
One Foot Digital Camera Color West Zone
Projection: NAD 83 UTM Zone 18N
Map Created: February 2, 2007

0 — 40 Feet

AMEC Earth & Environmental, Inc.
Schenectady, New York

H:\CSX\Rochester_NY\Task1\MXD\NY_Rochester_480RiverSt.mxd H:\CSX\Rochester_NY\Task1\Export\NY_Rochester_480RiverSt..pdf March 1, 2007 DWN: AP KMP CHKD: KMP



ID	BGS	A	MC
GP5	4'	66	12,000
GP5	7'	40	45 B
GP5	15.5'	110	47 B
GP5	17'	80	77 B

ID	BGS	A	MC
GP7	6'	46	27 B
GP7	9'	15 J	67 B
GP7	15'	170	60 B
GP7	19'	180	37 B
GP7	20.5'	47	16 B

ID	BGS	A	MC
GP8	6'	140	21 B
GP8	11'	46	20 B
GP8	15.5'	130	17 B

ID	BGS	A	MC
GP13	1'	76	970 BD
GP13	5.5'	67	160 B

ID	BGS	A	MC
GP24	1'	7 J	320 BE

ID	BGS	A	MC
GP4	7'	53	49 B
GP4	11'	80	11 B
GP4	16'	350	17 B

ID	BGS	A	MC
GP6	6'	55	14 B
GP6	13'	180	22 B

ID	BGS	A	MC
GP9	12'	160	26 B

ID	BGS	A	MC
GP32	10'	680	28 B

ID	BGS	A	MC
GP1	14'	81	13 B
GP1	18'	75	14 B
GP1	22'	880	40 B

ID	BGS	A	MC
GP2	14'	71	18 B
GP2	20'	150	20 B

ID	BGS	A	MC
GP34	6'	80	21 B
GP34	8'	99	19 B

ID	BGS	A	MC
GP29	14'	92	19 B

ID	BGS	A	MC
GP30	7'	53	26 B
GP30	14.5'	260	19 B
GP30	19'	91	15 B

ID	BGS	A	MC
GP37	7.5'	52	22 B

ID	BGS	A	MC
GP38	14.5'	110	28 B
GP38	18.5'	55	48 B
GP38	24'	93	34 B
GP38	25.5'	55	44 B

LEGEND

- CB □ ----- CATCH BASIN
- —SEW— ----- UNDERGROUND SEWER LINE
- —OHW— ----- OVERHEAD WIRES
- – T – ----- UNDERGROUND TELEPHONE
- TM 47.70-2-63.1 ----- TAX MAP # (MAP-BLOCK-PARCEL)
- ℄ ----- APPROXIMATE PROPERTY LINE
- BM ----- BENCHMARK
- ----- SOIL BORING
- ----- SOIL BORING/MONITORING WELL
- ----- SOIL BORING/SHALLOW & DEEP MONITORING WELL
- ----- DNAPL SAMPLING POINT
- ----- CSXT IRM RESIDUAL LOCATION
- RB-# ----- CITY OF ROCHESTER IRM RESIDUAL SAMPLE
- GP# ----- POST IRM RESIDUAL SAMPLING LOCATION
- GP# / # ----- POST IRM RESIDUAL SAMPLING / CSXT IRM RESIDUAL LOCATION
- GP# / # ----- POST IRM RESIDUAL SAMPLING / CITY IRM RESIDUAL LOCATION

MAP NOTES:

1) NORTH ORIENTATION IS BASED UPON THE NEW YORK STATE PLANE COORDINATE SYSTEM (NAD 83) ORIGINATING FROM RIGHT OF WAY MONUMENTS.

2) VERTICAL DATUM IS BASED ON THE CITY OF ROCHESTER DATUM. CONVERSION TO THE NORTH AMERICAN VERTICAL DATUM OF 1998 (NAVD 1998). CITY DATUM MINUS 1.71 FEET = NAVD 88.

3) UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM DATA OBTAINED BY FIELD SURVEY, PREVIOUS MAPS AND RECORDS, (AND PAROL TESTIMONY). THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER UNDERGROUND UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN TO THE UNDERSIGNED. SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION.

4) THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN ABSTRACT OR UP TO DATE TITLE REPORT AND IS THEREFORE SUBJECT TO ANY EASEMENTS, RESTRICTIONS, COVENANTS OR ANY STATEMENT OF FACTS THAT SUCH DOCUMENTS MAY DISCLOSE. PROPERTY LINES SHOWN HEREON ARE FOR REFERENCE ONLY AND MUST BE CONSIDERED APPROXIMATE.

5) PLANIMETRIC FEATURES SHOWN HEREON ARE FROM FIELD SURVEY LOCATIONS IN CONJUNCTION WITH DIGITAL MAPPING PROVIDED BY IT CORPORATION ENTITLED "EXCAVATION AND CONSTRUCTION LAYOUT" DRAWING 834540-D2 DATED 01/07/02.

MAP REFERENCES:

1) "RIVER STREET, LATTA ROAD, LIGHTHOUSE STREET IMPROVEMENTS" NYSDOT PIN 4753.02 DATED APRIL 2001, PREPARED BY LABELLA ASSOCIATES, P.C. DRAWING NO.s: ROW-01, G-02.

2) "RIGHT OF WAY AND TRACK MAP" NEW YORK CENTRAL RAILROAD VALUATION MAPS V77/7 AND V77/8.

3) "EXCAVATION AND CONSTRUCTION LAYOUT" DRAWING 834540-D2 DATED 01/07/02 PREPARED BY IT CORPORATION.

REV	D/M/Y	REVISION	DRN	CHK	APP	APP	APP	APP
1	03/01/07	DEC RESIDUAL UPDATE LETTER	TPA					
ISS	D/M/Y	ISSUED FOR	APP					

APPROVED FOR CONSTRUCTION

CPM DM PM

PROJECT PHASE

PROJECT NO.

SCALE 1=30

	BY	D/M/Y
DSN.		
DRN.		

AREA

SUBJECT

RESIDUAL SOIL LOCATION MAP
CSXT RIVER STREET DERAILMENT
SITE ROCHESTER, NY

amec

CLIENT DWG. NO.

DRAWING NO. FIGURE 2

REV. A

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride	Acetone % Reduction	MC % Reduction
GP1-6'	22	J	15	B		Track 1 Bottom (5')	14,000		3,200	99.84	99.53
GP1-10'	21	J	18	B							
GP1-14'	**81**		13	B							
GP1-18'	**75**		15	B							
GP1-22'	**880**		40	B							
GP2-6.5'	25	U	25	B		Track 2 SW 3.5'	1,259	U	920	98.01	97.28
GP2-10'	8	J	16	B							
GP2-14'	**71**		18	B							
GP2-20'	**150**		20	B							
GP-3	NOT SAMPLED					Track 2 Bottom (5')	1,900		400	NA	NA
GP4-2'	25	U	8	B							
GP4-7'	**53**		**49**	B							
GP4-11'	**80**		11	B							
GP4-16'	**350**		17	B							
GP4-28	**280**		19	B	Duplicate, collected from 16'						
GP5-4'	66		**12,000**								
GP5-7'	40		**45**	B							
GP5-11'	33		31	B							
GP5-15.5'	**110**		**47**	B							
GP5-17'	**80**		**77**	B							
GP5-28	**280**		**50**	B	Duplicate, collected from 15.5'						
GP6-3'	13	J	14	B							
GP6-6'	**55**		14	B							
GP6-10'	23	J	17	B							
GP6-13'	**180**		22	B							
GP6-18.5'	34		18	B							
GP6-22'	28		16	B							

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride		Acetone % Reduction	MC % Reduction
GP7-3.5'	25	U	21	B		Track 3 SW3'	639	U	**1,300**		NA	98.38
GP7-6'	**46**		27	B								
GP7-9'	15	J	**67**	B								
GP7-15'	**170**		**60**	B								
GP7-19'	**180**		37	B								
GP7-20.5'	**47**		16	B								
Dupe 1	32		**58**	B	Duplicate, collected from 15'							
GP8-6'	**140**		21	B								
GP8-11'	46		20	B								
GP8-15.5'	**130**		17	B								
GP8-17'	10	J	10	B								
GP8-28	**150**		26	B	Duplicate, collected from 6'							
GP9-1.5'	25	U	14	B								
GP9-7'	25	U	18	B		Track 4 Bottom (5')	54,528	U	**120,000**		NA	99.99
GP9-12'	**160**		26	B								
GP9-15'	10	J	16	B								
GP9-28	25	U	11	B	Duplicate, collected from 7'							
GP10-11'	32		19	B		Track 5 Bottom (5')	**7,700**		**12,000**		99.58	99.84
GP10-13'	11	J	18	B								
GP10-28	11	J	15	B	Duplicate, collected from 13'							
GP11-1'	25	U	6	B								
GP11-7'	25	U	12	B		Track 5 Bottom (5')	**7,700**		**12,000**		100.00	99.90
GP11-9'	25	U	14	B								
GP11-13'	25	U	12	B								
GP12-5'	25	U	12	B								
GP12-8'	10	J	2	BJ								
GP12-11'	17	J	22	B								
GP12-12.5'	7	J	18	B								

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride		Acetone % Reduction	MC % Reduction
GP13-1'	76		**970**	BD								
GP13-5.5'	**67**		**160**	B								
GP13-11'	14	J	16	B								
GP13-14'	25	U	10	B								
GP14-1.5'	25	U	21	B		N. Track Endpoint 3.5'	5,569	U	**20,000**		NA	99.90
GP14-7'	25	U	14	B								
GP14-11'	25	U	18	B								
GP14-16'	25	U	16	B								
GP15-1'	25	U	6	B								
GP15-5'	25	U	16	B								
GP15-11'	25	U	12	B								
GP15-16'	15	J	18	B								
GP16-3'	25	U	8	B								
GP16-5'	25	U	17	B								
GP16-10'	25	U	10	B								
GP16-16'	25	U	12	B								
GP17-3'	25	U	15	B								
GP17-6'	25	U	12	B								
GP17-11'	25	U	21	B								
GP17-16'	25	U	9	B								
GP18-1'	25	U	9	B								
GP18-7'	28		12	B		Tape Nexc SSW 5'	**1,000,000**		**5,000**		100.00	99.76
GP18-10'	25	U	11	B								
GP18-15'	6	J	10	B								

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride		Acetone % Reduction	MC % Reduction
GP19-2'	25	U	15	B								
GP19-7'	12	J	13	B								
GP19-10'	25	U	13	B								
GP19-13'	25	U	16	B								
GP20-1.5'	25	U	12	B								
GP20-7'	25	U	17	B								
GP20-11'	32		20	B								
GP20-15'	14	J	18	B								
GP20-17.5'	7	J	16	B								
GP21-7.5'	8	J	11	B		Tape Nexc Bot 6.5'	**260,000**		1,300	U	100.00	NA
GP21-10'	25	U	15	B								
GP21-13.5	25	U	16	B								
GP22-5'	25	U	10	B								
GP22-11.5'	25	U	16	B								
GP22-15.5'	11	J	14	B								
GP22-18'	25	U	9	B								
GP23-1.5'	25	U	4	BJ								
GP23-7.5'	25	U	13	B								
GP23-9'	7	J	15	B								
GP23-14.5'	25	U	16	B								
GP23-18'	7	J	23	B								
GP24-1'	7	J	**320**	BE		N. Track Endpoint 3.5'	5,569	U	**20,000**		NA	98.40
GP24-7'	34		12	B								
GP24-10'	10	J	15	B								
GP24-14.5'	6	J	14	B								
GP25-16'	14	J	18	B		E5 SB11'	**380**		101	U	96.32	NA
GP25-17.5'	11	J	16	B								

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride		Acetone % Reduction	MC % Reduction
GP26-15'	25	U	21	B		E5 B11'	**250**		94	U	100.00	NA
GP27-12.5'	25	U	17	B		E5 B12' Slough	1,230	U	**3,200**		NA	99.47
GP27-17'	6	J	17	B		E4.5 B15'	**420**		**4,500**		98.57	99.62
GP28-15'	7	J	17	B		E5.5 B12'	167	U	**120**		NA	85.83
GP29-10'	19	J	16	B								
GP29-14'	**92**		19	B								
GP29-19'	36		17	B								
GP30-7'	**53**		26	B								
GP30-11'	16	J	18	B								
GP30-14.5'	**260**		19	B								
GP30-19'	**91**		15	B								
GP31	NOT SAMPLED											
GP32-10'	**680**		28	B		Telpole B11'	4,800	U	**42,000**	D	71.67	99.93
GP32-15.5'	9	J	18	B								
Dupe-2	**340**		33	B	Duplicate, collected from 10'							
GP33-18'	21	J	15	B		F4 B17'	131	U	**1,100**		NA	98.64
GP33-20.5'	18	J	22	B								
GP34-6'	**80**		21	B		SS-77 (7')	**47,800**		4,620	U	99.83	NA
GP34-8'	**99**		19	B		SS-77 (7')	**47,800**		4,620	U	99.79	NA
GP35	NOT SAMPLED											
GP36-4'	25	U	19	B		SS-31 (3.5')	**1,690**		143	U	100.00	NA
GP37-4'	29		15	B		SS-30 (2.5')	**1,200**		28.8	U	97.58	NA
GP37-7.5'	52		22	B								

CSXT River St. Derailment Site
VOC Residual Sampling Event Summary Table
Table 1

Sample ID	Acetone ug/kg		Methylene Chloride ug/kg		Notes	Associated Residual Sample Location	Acetone		Methylene Chloride		Acetone % Reduction	MC % Reduction
GP38-7.5'	7	J	21	B		SS-77 (7')	**47,800**		4,620	U	99.99	NA
GP38-11.5'	**44**		25	B		SS-80 (7')	**64,400**		**4,060**		99.99	99.48
GP38-14.5'	**110**		28	B								
GP38-18.5'	**55**		**48**	B								
GP38-24'	**93**		34	B								
GP38-25.5'	**55**		**44**	B								
Dupe-3	**120**		33	B	Duplicate, collected from 14.5'							
GP39-15.5'	25	U	22	B		SS-96 (11')	**172**		**1,420**		100.00	98.45

Cleanup Criteria				Average	97.55	98.40
Above GW	200	100				
Below GW	44	40				

-All results are in micrograms per kilogram (ug/kg) or parts per billion (ppb)
U - Not detected at the laboratory method detection limits.
J - indicates an estimate value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectra data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
B - Indicates that the analyte was found in the associated blank as well as the sample.
-Bold font indicates an exccedance of NYSDEC TAGM 4046
-In events where the historical concentration was non-detect with an elevated laboratory detection limit (DL), one half of the DL was used for calculating the %red. Locations where new data had a detection and historical did not, if it was below TAGM, it was determined to be Not Applicable (NA).

CSXT River St. Derailment Site
SVOC Residual Sampling Event Summary
Table 2

Analyte	TAGM	GP37-4'		GP37-7.5'
Acenaphthene	50	1.8		ND
Acenaphthylene	41	ND		ND
Anthracene	50	1.2		ND
Benzo(a)anthracene	0.224	0.14	J	ND
Benzo(b)fluoranthene	1.1	0.23	J	ND
Benzo(k)fluoranthene	1.1	0.07	J	ND
Benzo(ghi)perylene	50	0.045	J	ND
Benzo(a)pyrene	0.061	**0.11**	J	ND
Chrysene	0.4	0.16	J	ND
Dibenzo(a,h)anthracene	0.014	ND		ND
Fluoranthene	50	0.96		ND
Fluorene	50	3		ND
Indeno(1,2,3-cd)pyrene	3.2	0.043	J	ND
Phenanthrene	50	3.5		ND
Pyrene	50	0.92		ND
Napthalene	13	ND		ND

-All results are in micrograms per kilogram (mg/kg) or parts per million (ppm)
ND - Not Detected
J - indicates an estimate value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectra data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

B - Indicates that the analyte was found in the associated blank as well as the sample.
-Bold font indicates an exccedance of NYSDEC TAGM 4046

CSXT River St. Derailment, Rochester, NY
Proposed Sampling Matrix
Table 3

Sample ID	Prop Sample Interval FBGS	Prop Sample Interval Comments
1	4 - R	Start 4' due to track IRM excavation.
2	0 - R	
3	4 - R	Start 4' due to track IRM excavation.
4	0 - R	
5	0 - R	
6	0 - R	
7	0 - R	
8	0 - R	
9	0 - R	
10	8 - R	Start 8' due to previous track excavation and tracks being elevated 3' above ground surface
11	0 - R	
12	4 - R	
13	0 - R	
14	0 - R	
15	0 - R	
16	0 - R	
17	0 - R	
18	0 - R	
19	0 - R	
20	0 - R	
21	7 - R	Srat 7' due to N. Tapecon IRM excavation.
22	0 - R	
23	0 - R	
24	0 - R	
25	10 - R	Start 10' due to main IRM excavation.
26	10 - R	Start 10' due to main IRM excavation.
27	10 - R	Start 10' due to main IRM excavation.
28	12 - R	Srart 12' due to main IRM excavation
29	4 - R	Start 4' due to track IRM excavation.
30	4 - R	Start 4' due to track IRM excavation.
31	4 - R	Start 4' due to track/main IRM excavation
32	10 - R	Start 10' due to main IRM excavation.
33	16 - R	Start 16' due to main IRM excavation
34	0 - R	
35	4 - R	Start 4' due to track IRM excavation.
36	0 - 4	Adjacent IRM bottom closure samples and delineation samples are clean below 4'.
37	0 - 4	Adjacent IRM bottom closure samples and delineation samples are clean below 4'.
38	6 - R	Start 6' due to main IRM excavation.
39	10 - R	Start 10' due to main IRM excavation.

Notes:
R - Refusal
FBGS - Feet Below Ground Surface