NOTICE: This report is required by 49 CFR Part 195. Failure to report can result in a civil penalty not to exceed $100,000 for each violation for each day that such violation persists except that the maximum civil penalty shall not exceed $1,000,000 as provided in 49 USC 60122.	OMB NO: 2137-0047 EXPIRATION DATE: 01/31/2014

U.S Department of Transportation Pipeline and Hazardous Materials Safety Administration	**Original Report Date:**	04/28/2011
	No.	20110129 - 17793 --- (DOT Use Only)

ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS

INSTRUCTIONS

Important: *Please read the separate instructions for completing this form before you begin. They clarify the information requested and provide specific examples. If you do not have a copy of the instructions, you can obtain one from the PHMSA Pipeline Safety Community Web Page at http://www.phmsa.dot.gov/pipeline.*

PART A - KEY REPORT INFORMATION

Report Type: *(select all that apply)*	**Original:**	**Supplemental:**	**Final:**
		Yes	**Yes**

Last Revision Date:	04/03/2013
1. Operator's OPS-issued Operator Identification Number (OPID):	32334
2. Name of Operator	TC OIL PIPELINE OPERATIONS INC
3. Address of Operator:	
3a. Street Address	717 TEXAS AVE
3b. City	HOUSTON
3c. State	Texas
3d. Zip Code	77002
4. Local time *(24-hr clock)* and date of the Accident:	03/16/2011 09:45
5. Location of Accident:	
Latitude:	39.86822
Longitude:	-96.0534
6. National Response Center Report Number (if applicable):	970232
7. Local time *(24-hr clock)* and date of initial telephonic report to the National Response Center (if applicable):	03/16/2011 11:11
8. Commodity released: *(select only one, based on predominant volume released)*	Crude Oil
- Specify Commodity Subtype:	
- If "Other" Subtype, Describe:	
- If Biofuel/Alternative Fuel and Commodity Subtype is Ethanol Blend, then % Ethanol Blend: %:	
- If Biofuel/Alternative Fuel and Commodity Subtype is Biodiesel, then Biodiesel Blend (e.g. B2, B20, B100): B	
9. Estimated volume of commodity released unintentionally (Barrels):	15.00
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):	
11. Estimated volume of commodity recovered (Barrels):	15.00
12. Were there fatalities?	No
- If Yes, specify the number in each category:	
12a. Operator employees	
12b. Contractor employees working for the Operator	
12c. Non-Operator emergency responders	
12d. Workers working on the right-of-way, but NOT associated with this Operator	
12e. General public	
12f. Total fatalities (sum of above)	
13. Were there injuries requiring inpatient hospitalization?	No
- If Yes, specify the number in each category:	
13a. Operator employees	
13b. Contractor employees working for the Operator	
13c. Non-Operator emergency responders	

13d. Workers working on the right-of-way, but NOT associated with this Operator	
13e. General public	
13f. Total injuries (sum of above)	
14. Was the pipeline/facility shut down due to the Accident?	
- If No, Explain:	
- If Yes, complete Questions 14a and 14b: *(use local time, 24-hr clock)*	
14a. Local time and date of shutdown:	
14b. Local time pipeline/facility restarted:	
- Still shut down? (* Supplemental Report Required)	
15. Did the commodity ignite?	No
16. Did the commodity explode?	No
17. Number of general public evacuated:	0
18. Time sequence *(use local time, 24-hour clock)*:	
18a. Local time Operator identified Accident:	03/16/2011 09:45
18b. Local time Operator resources arrived on site:	03/16/2011 09:45

PART B - ADDITIONAL LOCATION INFORMATION

1. Was the origin of Accident onshore?	Yes
If Yes, Complete Questions (2-12)	
If No, Complete Questions (13-15)	
- If Onshore:	
2. State:	Kansas
3. Zip Code:	66538
4. City	Seneca
5. County or Parish	Nemaha
6. Operator-designated location:	Milepost/Valve Station
Specify:	691.9
7. Pipeline/Facility name:	Seneca Pump Station
8. Segment name/ID:	
9. Was Accident on Federal land, other than the Outer Continental Shelf (OCS)?	No
10. Location of Accident:	Totally contained on Operator-controlled property
11. Area of Accident (as found):	Aboveground
Specify:	Typical aboveground facility piping or appurtenance
- If Other, Describe:	
Depth-of-Cover (in):	
12. Did Accident occur in a crossing?	No
- If Yes, specify below:	
- If Bridge crossing –	
Cased/ Uncased:	
- If Railroad crossing –	
Cased/ Uncased/ Bored/drilled	
- If Road crossing –	
Cased/ Uncased/ Bored/drilled	
- If Water crossing –	
Cased/ Uncased	
- Name of body of water, if commonly known:	
- Approx. water depth (ft) at the point of the Accident:	
- Select:	
- If Offshore:	
13. Approximate water depth (ft) at the point of the Accident:	
14. Origin of Accident:	
- In State waters - Specify:	
- State:	
- Area:	
- Block/Tract #:	
- Nearest County/Parish:	
- On the Outer Continental Shelf (OCS) - Specify:	
- Area:	
- Block #:	
15. Area of Accident:	

PART C - ADDITIONAL FACILITY INFORMATION

1. Is the pipeline or facility:	Interstate
2. Part of system involved in Accident:	Onshore Pump/Meter Station Equipment and Piping
- If Onshore Breakout Tank or Storage Vessel, Including Attached Appurtenances, specify:	
3. Item involved in Accident:	Pump

- If Pipe, specify:	
3a. Nominal diameter of pipe (in):	
3b. Wall thickness (in):	
3c. SMYS (Specified Minimum Yield Strength) of pipe (psi):	
3d. Pipe specification:	
3e. Pipe Seam , specify:	
- If Other, Describe:	
3f. Pipe manufacturer:	
3g. Year of manufacture:	
3h. Pipeline coating type at point of Accident, specify:	
- If Other, Describe:	
- If Weld, including heat-affected zone, specify:	
- If Other, Describe:	
- If Valve, specify:	
- If Mainline, specify:	
- If Other, Describe:	
3i. Manufactured by:	
3j. Year of manufacture:	
- If Tank/Vessel, specify:	
- If Other - Describe:	
- If Other, describe:	
4. Year item involved in Accident was installed:	2009
5. Material involved in Accident:	Carbon Steel
- If Material other than Carbon Steel, specify:	
6. Type of Accident Involved:	Leak
- If Mechanical Puncture – Specify Approx. size:	
in. (axial) by	
in. (circumferential)	
- If Leak - Select Type:	Seal or Packing
- If Other, Describe:	
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: in. (widest opening) by	
in. (length circumferentially or axially)	
- If Other – Describe:	

PART D - ADDITIONAL CONSEQUENCE INFORMATION

1. Wildlife impact:	No
1a. If Yes, specify all that apply:	
- Fish/aquatic	
- Birds	
- Terrestrial	
2. Soil contamination:	Yes
3. Long term impact assessment performed or planned:	No
4. Anticipated remediation:	No
4a. If Yes, specify all that apply:	
- Surface water	
- Groundwater	
- Soil	
- Vegetation	
- Wildlife	
5. Water contamination:	No
5a. If Yes, specify all that apply:	
- Ocean/Seawater	
- Surface	
- Groundwater	
- Drinking water: *(Select one or both)*	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	
5c. Name of body of water, if commonly known:	
6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program?	No
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	No
7a. If Yes, specify HCA type(s): *(Select all that apply)*	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect"	

determination for this Accident site in the Operator's Integrity Management Program?	
- High Population Area:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Other Populated Area	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Drinking Water	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Ecological	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
8. Estimated Property Damage:	
8a. Estimated cost of public and non-Operator private property damage	$ 0
8b. Estimated cost of commodity lost	$ 1,800
8c. Estimated cost of Operator's property damage & repairs	$ 2,500
8d. Estimated cost of Operator's emergency response	$ 85,000
8e. Estimated cost of Operator's environmental remediation	$ 250,000
8f. Estimated other costs	$ 0
Describe:	
8g. Total estimated property damage (sum of above)	$ 339,300

PART E - ADDITIONAL OPERATING INFORMATION

1. Estimated pressure at the point and time of the Accident (psig):	800.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	1,440.00
3. Describe the pressure on the system or facility relating to the Accident (psig):	Pressure did not exceed MOP
4. Not including pressure reductions required by PHMSA regulations (such as for repairs and pipe movement), was the system or facility relating to the Accident operating under an established pressure restriction with pressure limits below those normally allowed by the MOP?	No
- If Yes, Complete 4.a and 4.b below:	
4a. Did the pressure exceed this established pressure restriction?	
4b. Was this pressure restriction mandated by PHMSA or the State?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	No
- If Yes - (*Complete 5a. – 5e. below)*	
5a. Type of upstream valve used to initially isolate release source:	
5b. Type of downstream valve used to initially isolate release source:	
5c. Length of segment isolated between valves (ft):	
5d. Is the pipeline configured to accommodate internal inspection tools?	
- If No, Which physical features limit tool accommodation? (*select all that apply)*	
- Changes in line pipe diameter	
- Presence of unsuitable mainline valves	
- Tight or mitered pipe bends	
- Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)	
- Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)	
- Other -	
- If Other, Describe:	
5e. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?	
- If Yes, Which operational factors complicate execution? (*select all that apply*)	
- Excessive debris or scale, wax, or other wall buildup	

- Low operating pressure(s)	
- Low flow or absence of flow	
- Incompatible commodity	
- Other -	
- If Other, Describe:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	Yes
If Yes -	
6a. Was it operating at the time of the Accident?	Yes
6b. Was it fully functional at the time of the Accident?	Yes
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	Yes
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	Yes
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	Yes
- If Yes:	
7a. Was it operating at the time of the Accident?	Yes
7b. Was it fully functional at the time of the Accident?	Yes
7c. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	No
7d. Did CPM leak detection system information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	No
8. How was the Accident initially identified for the Operator?	CPM leak detection system or SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations)
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Guard Patrol by Operator or its contractor" is selected in Question 8, specify the following:	
9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident?	Yes, specify investigation result(s): (select all that apply)
- If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: *(provide an explanation for why the operator did not investigate)*	
- If Yes, specify investigation result(s): *(select all that apply)*	
- Investigation reviewed work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
- Investigation did NOT review work schedule rotations, continuous hours of service (while working for the Operator), and other factors associated with fatigue	
Provide an explanation for why not:	
- Investigation identified no control room issues	Yes
- Investigation identified no controller issues	Yes
- Investigation identified incorrect controller action or controller error	
- Investigation identified that fatigue may have affected the controller(s) involved or impacted the involved controller(s) response	
- Investigation identified incorrect procedures	
- Investigation identified incorrect control room equipment operation	
- Investigation identified maintenance activities that affected control room operations, procedures, and/or controller response	
- Investigation identified areas other than those above:	
Describe:	

PART F - DRUG & ALCOHOL TESTING INFORMATION

1. As a result of this Accident, were any Operator employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
1a. Specify how many were tested:	

1b. Specify how many failed:	
2. As a result of this Accident, were any Operator contractor employees tested under the post-accident drug and alcohol testing requirements of DOT's Drug & Alcohol Testing regulations?	No
- If Yes:	
2a. Specify how many were tested:	
2b. Specify how many failed:	

PART G – APPARENT CAUSE

Select only one box from PART G in shaded column on left representing the APPARENT Cause of the Accident, and answer the questions on the right. Describe secondary, contributing or root causes of the Accident in the narrative (PART H).

Apparent Cause:	G6 - Equipment Failure
G1 - Corrosion Failure - only one **sub-cause** can be picked from shaded left-hand column	
External Corrosion:	
Internal Corrosion:	
- If External Corrosion:	
1. Results of visual examination:	
- If Other, Describe:	
2. Type of corrosion: *(select all that apply)*	
- Galvanic	
- Atmospheric	
- Stray Current	
- Microbiological	
- Selective Seam	
- Other:	
- If Other, Describe:	
3. The type(s) of corrosion selected in Question 2 is based on the following: *(select all that apply)*	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
4. Was the failed item buried under the ground?	
- If Yes :	
4a. Was failed item considered to be under cathodic protection at the time of the Accident?	
If Yes - Year protection started:	
4b. Was shielding, tenting, or disbonding of coating evident at the point of the Accident?	
4c. Has one or more Cathodic Protection Survey been conducted at the point of the Accident?	
If "Yes, CP Annual Survey" – Most recent year conducted:	
If "Yes, Close Interval Survey" – Most recent year conducted:	
If "Yes, Other CP Survey" – Most recent year conducted:	
- If No:	
4d. Was the failed item externally coated or painted?	
5. Was there observable damage to the coating or paint in the vicinity of the corrosion?	
- If Internal Corrosion:	
6. Results of visual examination:	
- Other:	
7. Type of corrosion *(select all that apply)*: -	
- Corrosive Commodity	
- Water drop-out/Acid	
- Microbiological	
- Erosion	
- Other:	
- If Other, Describe:	
8. The cause(s) of corrosion selected in Question 7 is based on the following *(select all that apply)*: -	
- Field examination	
- Determined by metallurgical analysis	
- Other:	
- If Other, Describe:	
9. Location of corrosion *(select all that apply)*: -	
- Low point in pipe	
- Elbow	

- Other:	
- If Other, Describe:	
10. Was the commodity treated with corrosion inhibitors or biocides?	
11. Was the interior coated or lined with protective coating?	
12. Were cleaning/dewatering pigs (or other operations) routinely utilized?	
13. Were corrosion coupons routinely utilized?	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Tank/Vessel.	
14. List the year of the most recent inspections:	
14a. API Std 653 Out-of-Service Inspection	
- No Out-of-Service Inspection completed	
14b. API Std 653 In-Service Inspection	
- No In-Service Inspection completed	
Complete the following if any Corrosion Failure sub-cause is selected AND the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
15. Has one or more internal inspection tool collected data at the point of the Accident?	
15a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage Tool	
Most recent year:	
- Ultrasonic	
Most recent year:	
- Geometry	
Most recent year:	
- Caliper	
Most recent year:	
- Crack	
Most recent year:	
- Hard Spot	
Most recent year:	
- Combination Tool	
Most recent year:	
- Transverse Field/Triaxial	
Most recent year:	
- Other	
Most recent year:	
Describe:	
16. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
If Yes -	
Most recent year tested:	
Test pressure:	
17. Has one or more Direct Assessment been conducted on this segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident::	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
18. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
18a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G2 - Natural Force Damage - only one **sub-cause** can be picked from shaded left-handed column	
Natural Force Damage – Sub-Cause:	
- If Earth Movement, NOT due to Heavy Rains/Floods:	

1. Specify:	
- If Other, Describe:	
- If Heavy Rains/Floods:	
2. Specify:	
- If Other, Describe:	
- If Lightning:	
3. Specify:	
- If Temperature:	
4. Specify:	
- If Other, Describe:	
- If High Winds:	
- If Other Natural Force Damage:	
5. Describe:	
Complete the following if any Natural Force Damage sub-cause is selected.	
6. Were the natural forces causing the Accident generated in conjunction with an extreme weather event?	
6a. If Yes, specify: *(select all that apply)*	
- Hurricane	
- Tropical Storm	
- Tornado	
- Other	
- If Other, Describe:	
G3 - Excavation Damage - only one **sub-cause** can be picked from shaded left-hand column	
Excavation Damage – Sub-Cause:	
- If Excavation Damage by Operator (First Party):	
- If Excavation Damage by Operator's Contractor (Second Party):	
- If Excavation Damage by Third Party:	
- If Previous Damage due to Excavation Activity:	
Complete Questions 1-5 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
1. Has one or more internal inspection tool collected data at the point of the Accident?	
1a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run: -	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
2. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
3. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
4. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	

Most recent year conducted:	
5. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
5a. If Yes, for each examination, conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
Complete the following if Excavation Damage by Third Party is selected as the sub-cause.	
6. Did the operator get prior notification of the excavation activity?	
6a. If Yes, Notification received from: *(select all that apply)* -	
- One-Call System	
- Excavator	
- Contractor	
- Landowner	
Complete the following mandatory CGA-DIRT Program questions if any Excavation Damage sub-cause is selected.	
7. Do you want PHMSA to upload the following information to CGA-DIRT (www.cga-dirt.com)?	
8. Right-of-Way where event occurred: *(select all that apply)* -	
- Public	
- If "Public", Specify:	
- Private	
- If "Private", Specify:	
- Pipeline Property/Easement	
- Power/Transmission Line	
- Railroad	
- Dedicated Public Utility Easement	
- Federal Land	
- Data not collected	
- Unknown/Other	
9. Type of excavator:	
10. Type of excavation equipment:	
11. Type of work performed:	
12. Was the One-Call Center notified?	
12a. If Yes, specify ticket number:	
12b. If this is a State where more than a single One-Call Center exists, list the name of the One-Call Center notified:	
13. Type of Locator:	
14. Were facility locate marks visible in the area of excavation?	
15. Were facilities marked correctly?	
16. Did the damage cause an interruption in service?	
16a. If Yes, specify duration of the interruption (hours)	
17. Description of the CGA-DIRT Root Cause *(select only the one predominant first level CGA-DIRT Root Cause and then, where available as a choice, the one predominant second level CGA-DIRT Root Cause as well):*	
Root Cause:	
- If One-Call Notification Practices Not Sufficient, specify:	
- If Locating Practices Not Sufficient, specify:	
- If Excavation Practices Not Sufficient, specify:	
- If Other/None of the Above, explain:	
G4 - Other Outside Force Damage - *only one **sub-cause** can be selected from the shaded left-hand column*	
Other Outside Force Damage – Sub-Cause:	
- If Nearby Industrial, Man-made, or Other Fire/Explosion as Primary Cause of Incident:	
- If Damage by Car, Truck, or Other Motorized Vehicle/Equipment NOT Engaged in Excavation:	
1. Vehicle/Equipment operated by:	
- If Damage by Boats, Barges, Drilling Rigs, or Other Maritime Equipment or Vessels Set Adrift or Which Have Otherwise Lost	

Their Mooring:	
2. Select one or more of the following IF an extreme weather event was a factor:	
- Hurricane	
- Tropical Storm	
- Tornado	
- Heavy Rains/Flood	
- Other	
- If Other, Describe:	
- If Routine or Normal Fishing or Other Maritime Activity NOT Engaged in Excavation:	
- If Electrical Arcing from Other Equipment or Facility:	
- If Previous Mechanical Damage NOT Related to Excavation:	
Complete Questions 3-7 ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is Pipe or Weld.	
3. Has one or more internal inspection tool collected data at the point of the Accident?	
3a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	
Most recent year conducted:	
- Ultrasonic	
Most recent year conducted:	
- Geometry	
Most recent year conducted:	
- Caliper	
Most recent year conducted:	
- Crack	
Most recent year conducted:	
- Hard Spot	
Most recent year conducted:	
- Combination Tool	
Most recent year conducted:	
- Transverse Field/Triaxial	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
4. Do you have reason to believe that the internal inspection was completed BEFORE the damage was sustained?	
5. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
6. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident:	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site:	
Most recent year conducted:	
7. Has one or more non-destructive examination been conducted at the point of the Accident since January 1, 2002?	
7a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted:	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
- If Intentional Damage:	
8. Specify:	
- If Other, Describe:	
- If Other Outside Force Damage:	

9. Describe:	
G5 - Material Failure of Pipe or Weld - only one **sub-cause** can be selected from the shaded left-hand column	
Use this section to report material failures ONLY IF the "Item Involved in Accident" (from PART C, Question 3) is "Pipe" or "Weld."	
Material Failure of Pipe or Weld – Sub-Cause:	
1. The sub-cause selected below is based on the following: *(select all that apply)*	
- Field Examination	
- Determined by Metallurgical Analysis	
- Other Analysis	
- If "Other Analysis", Describe:	
- Sub-cause is Tentative or Suspected; Still Under Investigation (Supplemental Report required)	
- If Construction, Installation, or Fabrication-related:	
2. List contributing factors: *(select all that apply)*	
- Fatigue or Vibration-related	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Original Manufacturing-related (NOT girth weld or other welds formed in the field):	
2. List contributing factors: *(select all that apply)*	
- Fatigue or Vibration-related:	
Specify:	
- If Other, Describe:	
- Mechanical Stress:	
- Other	
- If Other, Describe:	
- If Environmental Cracking-related:	
3. Specify:	
- Other - Describe:	
Complete the following if any Material Failure of Pipe or Weld sub-cause is selected.	
4. Additional factors: (*select all that apply*):	
- Dent	
- Gouge	
- Pipe Bend	
- Arc Burn	
- Crack	
- Lack of Fusion	
- Lamination	
- Buckle	
- Wrinkle	
- Misalignment	
- Burnt Steel	
- Other:	
- If Other, Describe:	
5. Has one or more internal inspection tool collected data at the point of the Accident?	
5a. If Yes, for each tool used, select type of internal inspection tool and indicate most recent year run:	
- Magnetic Flux Leakage	
Most recent year run:	
- Ultrasonic	
Most recent year run:	
- Geometry	
Most recent year run:	
- Caliper	
Most recent year run:	
- Crack	
Most recent year run:	
- Hard Spot	
Most recent year run:	
- Combination Tool	
Most recent year run:	
- Transverse Field/Triaxial	
Most recent year run:	
- Other	

Most recent year run:	
Describe:	
6. Has one or more hydrotest or other pressure test been conducted since original construction at the point of the Accident?	
- If Yes:	
Most recent year tested:	
Test pressure (psig):	
7. Has one or more Direct Assessment been conducted on the pipeline segment?	
- If Yes, and an investigative dig was conducted at the point of the Accident -	
Most recent year conducted:	
- If Yes, but the point of the Accident was not identified as a dig site -	
Most recent year conducted:	
8. Has one or more non-destructive examination(s) been conducted at the point of the Accident since January 1, 2002?	
8a. If Yes, for each examination conducted since January 1, 2002, select type of non-destructive examination and indicate most recent year the examination was conducted: -	
- Radiography	
Most recent year conducted:	
- Guided Wave Ultrasonic	
Most recent year conducted:	
- Handheld Ultrasonic Tool	
Most recent year conducted:	
- Wet Magnetic Particle Test	
Most recent year conducted:	
- Dry Magnetic Particle Test	
Most recent year conducted:	
- Other	
Most recent year conducted:	
Describe:	
G6 – Equipment Failure - only one **sub-cause** can be selected from the shaded left-hand column	
Equipment Failure – Sub-Cause:	Pump or Pump-related Equipment
- If Malfunction of Control/Relief Equipment:	
1. Specify: *(select all that apply)* -	
- Control Valve	
- Instrumentation	
- SCADA	
- Communications	
- Block Valve	
- Check Valve	
- Relief Valve	
- Power Failure	
- Stopple/Control Fitting	
- ESD System Failure	
- Other	
- If Other – Describe:	
- If Pump or Pump-related Equipment:	
2. Specify:	Seal/Packing Failure
- If Other – Describe:	
- If Threaded Connection/Coupling Failure:	
3. Specify:	
- If Other – Describe:	
- If Non-threaded Connection Failure:	
4. Specify:	
- If Other – Describe:	
- If Defective or Loose Tubing or Fitting:	
- If Failure of Equipment Body (except Pump), Tank Plate, or other Material:	
- If Other Equipment Failure:	
5. Describe:	
Complete the following if any Equipment Failure sub-cause is selected.	
6. Additional factors that contributed to the equipment failure: *(select all that apply)*	
- Excessive vibration	
- Overpressurization	
- No support or loss of support	

- Manufacturing defect	Yes
- Loss of electricity	
- Improper installation	
- Mismatched items (different manufacturer for tubing and tubing fittings)	
- Dissimilar metals	
- Breakdown of soft goods due to compatibility issues with transported commodity	
- Valve vault or valve can contributed to the release	
- Alarm/status failure	
- Misalignment	
- Thermal stress	
- Other	
- If Other, Describe:	

G7 - Incorrect Operation - only one **sub-cause** can be selected from the shaded left-hand column

Incorrect Operation – Sub-Cause:	
Damage by Operator or Operator's Contractor NOT Related to Excavation and NOT due to Motorized Vehicle/Equipment Damage	
Tank, Vessel, or Sump/Separator Allowed or Caused to Overfill or Overflow	
1. Specify:	
- If Other, Describe:	
Valve Left or Placed in Wrong Position, but NOT Resulting in a Tank, Vessel, or Sump/Separator Overflow or Facility Overpressure	
Pipeline or Equipment Overpressured	
Equipment Not Installed Properly	
Wrong Equipment Specified or Installed	
Other Incorrect Operation	
2. Describe:	

Complete the following if any Incorrect Operation sub-cause is selected.	
3. Was this Accident related to *(select all that apply)*: -	
- Inadequate procedure	
- No procedure established	
- Failure to follow procedure	
- Other:	
- If Other, Describe:	
4. What category type was the activity that caused the Accident?	
5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?	
5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?	

G8 - Other Accident Cause - only one **sub-cause** can be selected from the shaded left-hand column

Other Accident Cause – Sub-Cause:	
- If Miscellaneous:	
1. Describe:	
- If Unknown:	
2. Specify:	

PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT

The Keystone Seneca Pump station, Unit 4 experienced a failure of the pump seal resulting in a release of crude oil. The Oil control center received a high pump case alarm on unit 4. Personel were dispatched to the facility by the Oil Control center to investigate the high pump case alarm. The techncian discovered that a release of crude oil had occurred from the pump seal of unit 4 at the facility. The release was contained on site and cleaned up

commenced. Cleanup has been completed.

File Full Name

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Daniel Cerkoney
Preparer's Title	Compliance Engineer
Preparer's Telephone Number	701-483-1434
Preparer's E-mail Address	dan_cerkoney@transcanda.com
Preparer's Facsimile Number	701-483-1431
Authorized Signature's Name	Daniel Cerkoney
Authorized Signature Title	Compliance Engineer
Authorized Signature Telephone Number	701-483-1434
Authorized Signature Email	dan_cerkoney@transcanada.com
Date	04/03/2013

URS

June 7, 2011

Mr. Tom Winn
Northeast District Office
Kansas Department of Health and Environment
800 West 24th Street
Lawrence, KS 66046-4417

Re: Crude Oil Spill at TransCanada Seneca Pump Station
2189 State Highway 63
Seneca, Kansas

The purpose of this letter report is to provide you with the details of the cleanup activities that took place in response to a crude oil release at the above referenced property. The spill was reported by Robert Baumgartner of TransCanada to The Kansas Department of Health and Environment (KDHE) Northeast District Office in Lawrence, Kansas on March 16, 2011. Spill response activities began immediately by TransCanada personnel and the spill response contractors. Seneca Waste Solutions provided soil excavation, waste collection and site restoration services. URS Corporation (URS) personnel provided technical oversight for sampling and health and safety monitoring during the length of the cleanup process.

As previously noted the location of the release is a pump station owned and operated by TransCanada Keystone Pipeline, LP (TransCanada). The pump station is in a rural area located at 2189 State Highway 63, Seneca, Kansas (Figure 1). The site is located approximately 2 miles north of Seneca, Kansas on state highway 63. The release of petroleum was entirely contained on TransCanada property.

The release occurred from the failure of the outboard bearing on pump number 4. The malfunctioning pump was detected by TransCanada's control center and shutdown remotely. An estimated 12 barrels of oil was released over an area of approximately 150 feet by 20 feet within the pump station location.

Upon arrival at the Site by TransCanada personnel, containment and recovery activities initiated. A maintenance team mobilized to the site upon notification of the release on March 16, 2011 at 12 noon CDT. A vac truck, skid-steer loader, hydrovac, and other equipment were mobilized to the site along with qualified response team personnel.

Beginning on March 16, 2011, a vacuum truck was used to collect free oil from the gravel surface of the station and to prevent oil from migrating off TransCanada property. Manual excavation around pump 4 commenced the next day. Free product was continually recovered from the excavation throughout the cleanup. On March 18, 2011,

URS Corporation
8300 College Boulevard, Suite 200
Overland Park, KS 66210-2603
Tel: 913.344.1000
Fax: 913.344.1011
www.urscorp.com

mechanical excavation commenced with the use of a mini excavator and Toro™ Dingo™ front loader. Approximately 2 barrels of oil were recovered during initial response operations. A total of 10 barrels of oil was recovered through the life of the cleanup. Twelve drums of oily water from cleaning the vac truck and recovered from the excavation were transported for off-site disposal by Safety-Kleen.

Residual oil had accumulated around pipelines, cable racks, pump foundations and other structures, and over a portion of the gravel covered pump station yard (Figure 2). Visually stained gravels were excavated around the structures using manual excavation and the stained gravel yard area was scraped using the mini excavator and Dingo™. Impacted soil and gravel was placed in roll-off containers for later transfer to an approved landfill facility. Depths of the excavation varied across the site, ranging from several inches to approximately 3 feet. Groundwater was not encountered during excavation activities.

Soils were screened using a photoionization detector (PID) with 10.6 eV lamp and visually after excavation activities to determine the required limits of excavation. In addition, the scraped area of the surface yard was screened using the PID. The soil samples were collected from native soil. A small hole was dug approximately 4 inches into the native soil to collect post-excavation confirmation samples. Confirmation soil samples were collected at six locations after excavation was completed. Sampling and PID screening locations and excavation areas are shown in Figures 2.

The field PID screening and laboratory analytical results for benzene, toluene, ethylbenzene, xylenes (BTEX) and diesel range organics (DRO) are summarized on Table 1. Waste soil samples were collected from the roll off containers and analyzed. Laboratory analysis results are shown in Table 2.

Based on field observations, measurements, and analytical data, the response excavation efforts have mitigated impacts to the surface and subsurface soils to below Kansas Tier 2 Risk Based Screening Levels (RBSL's) for BTEX and DRO for non-residential scenarios, soil pathway. The excavated areas have been backfilled with clean material and no additional work is planned.

A total of 12 drums of oily water were transported by Safety-Kleen Systems for disposal. Recovered free oil was placed into TransCanada sump tank for injection into the pipeline. A total of approximately 315 cubic yards of impacted soil was stockpiled in 21 roll-off containers and was disposed of at Waste Management's Rolling Meadows landfill. Waste manifests and landfill tickets will be sent to KDHE when available from Waste Management.

URS

Please feel free to contact Robert Baumgartner at 832-320-5538 or myself at 913-344-1023 if you have any questions.

Sincerely,

Rick O. Horner RG
Senior Project Manager

cc: Robert Baumgartner, TransCanada
Steve McManamon, URS

Tables

Table 1 – Laboratory Analysis Soil Verification
Table 2 – Laboratory Analysis Soil Data for Disposal

Figures

Figure 1 – Site Location Map
Figure 2 – Site Plan

Attachment

Laboratory Data

Table 1 – Laboratory Analysis Soil Verification
TransCanada Keystone Pipeline
Seneca Pump Station; Seneca, Kansas

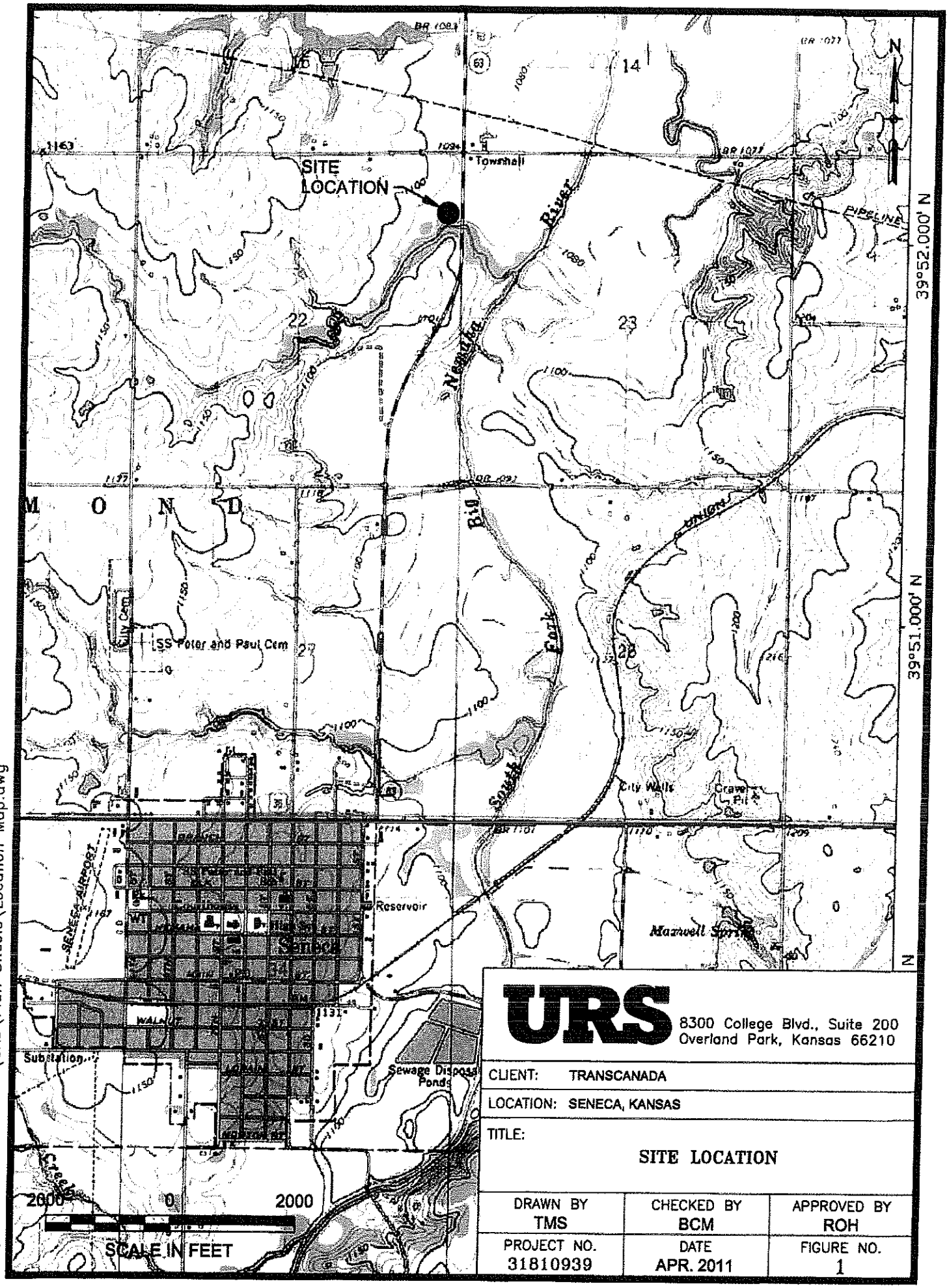
Location	Units	F-MS	F-MN	F-E1	F-E2	F-SE	F-W	Tier 2 Action Level
Sample Date		3/23/11	3/23/11	3/23/11	3/23/11	3/23/11	3/11/11	
Lithology		Clay	Clay	Clay	Clay	Clay	Clay	
Depth	(feet)	1	2	1	1	1	2	
PID	(ppm)*	0.0	0.0	0.0	0.0	0.0	0.0	
Chemical of Concern								
Benzene	mg/kg	<0.055	<0.0575	<0.0541	<0.0593	<0.0591	<0.0543	28.2
Toluene	mg/kg	<0.11	<0.115	<0.108	<0.119	<0.118	<0.109	29,800
Ethylbenzene	mg/kg	<0.11	<0.115	<0.0108	<0.119	<0.118	<0.109	145
Total Xylenes	mg/kg	<0.275	<0.289	<0.271	<0.296	<0.295	<0.272	1,410
Diesel Range Organics (DRO)	mg/kg	<19.9	<22.9	158 (TPH)	<23.2	<22.7	144 (TPH)	20,000

NOTES: mg/kg = Milligrams per kilogram, equivalent to parts per million (ppm) dry weight
µg/kg = Micrograms per kilogram dry weight
<x = Not detected to reporting limits of x
*=Total organic vapors (ppm as isobutylene)
** = Tier 2 Non Residential Action Level
TPH = total petroleum hydrocarbons.
158 (TPH) = Detection was in the total petroleum hydrocarbons fraction

Table 2 – Laboratory Analysis Soil Data for Disposal
TransCanada Keystone Pipeline
Seneca Pump Station; Seneca, Kansas

Location	Units	RO-746218	RO-563249	RO-013503	RO-478136	RO-023333	RO-749577	RO-892134	RO-914697	RO-8959
Sample Date		3/22/11	3/22/11	3/22/11	3/22/11	3/24/11	3/22/11	3/22/11	3/23/11	3/22/11
Lithology		Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand	Gravel/sand
PID	(ppm)*	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chemical of Concern										
Benzene	mg/kg	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Arsenic - TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Barium- TCLP	mg/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Cadmium- TCLP	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium-TCLP	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead-TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Selenium-TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver-TCLP	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury-TCLP	µg/L	<2	<2	<2	<2	<2	<2	<2	<2	<2

NOTES: mg/kg = Milligrams per kilogram, equivalent to parts per million (ppm) dry weight
µg/kg = Micrograms per kilogram dry weight
<x = Not detected to reporting limits of x
*= Total organic vapors (ppm as isobutylene)



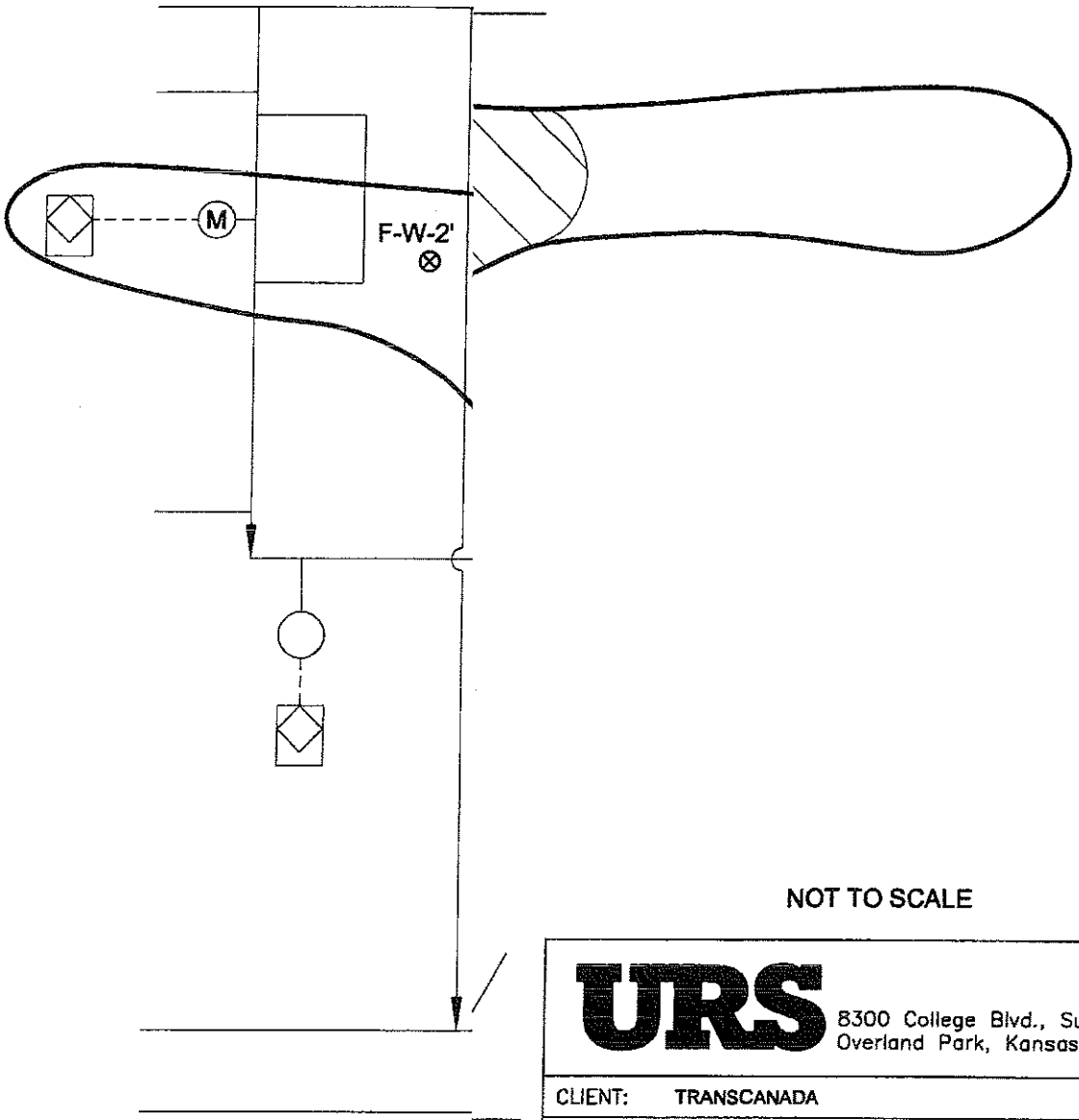
URS 8300 College Blvd., Suite 200 Overland Park, Kansas 66210

CLIENT: TRANSCANADA		
LOCATION: SENECA, KANSAS		
TITLE: **SITE LOCATION**		
DRAWN BY: TMS	CHECKED BY: BCM	APPROVED BY: ROH
PROJECT NO.: 31810939	DATE: APR. 2011	FIGURE NO.: 1

April 15, 2011 10:30.30 am (mik)
J:\TransCanada Seneca\CAD\Plan Sheets\Location Map.dwg

LEGEND

⊗ SAMPLE LOCATION



NOT TO SCALE

URS 8300 College Blvd., Suite 200 Overland Park, Kansas 66210

CLIENT:	TRANSCANADA
LOCATION:	SENECA, KANSAS
TITLE:	TRANSCANADA SENECA PUMP STATION SITE PLAN

DRAWN BY	CHECKED BY	APPROVED BY
TMS	BCM	ROH
PROJECT NO.	DATE	FIGURE NO.
31810939	APR. 2011	2

April 15, 2011 9:43.34 am (mik)
J:\TransCanada Seneca\CAD\Plan Sheets\Spill Plan.dwg

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

April 04, 2011

Rick Horner
URS Corporation
8300 College Blvd.
Overland Park, KS 66210

RE: Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Dear Rick Horner:
Enclosed are the analytical results for sample(s) received by the laboratory on March 24, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sherri Guess

sherri.guess@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6095945001	F-MS-1'	Solid	03/23/11 10:55	03/24/11 08:30
6095945002	F-MN-2'	Solid	03/23/11 11:10	03/24/11 08:30
6095945003	F-E1-1'	Solid	03/23/11 11:20	03/24/11 08:30
6095945004	F-E2-1'	Solid	03/23/11 11:30	03/24/11 08:30
6095945005	F-SE-1'	Solid	03/23/11 12:00	03/24/11 08:30
6095945006	F-W-2'	Solid	03/23/11 13:20	03/24/11 08:30
6095945007	TRIP BLANK	Solid	03/23/11 00:00	03/24/11 08:30

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SAMPLE ANALYTE COUNT

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6095945001	F-MS-1'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945002	F-MN-2'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945003	F-E1-1'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945004	F-E2-1'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945005	F-SE-1'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945006	F-W-2'	OA2	SDR	9
		EPA 8260/OA1	ZNF	8
		ASTM D2974-87	DWC	1
6095945007	TRIP BLANK	EPA 8260/OA1	ZNF	8

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-MS-1' **Lab ID: 6095945001** Collected: 03/23/11 10:55 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	68334-30-5	
Fuel Oil	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	68553-00-4	
Jet Fuel	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	94114-58-6	
Kerosene	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	8008-20-6	
Mineral Spirits	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	8030-30-6	
Motor Oil	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	19.9	1	03/28/11 00:00	03/28/11 21:39		
n-Tetracosane (S)	75	%	50-137	1	03/28/11 00:00	03/28/11 21:39	646-31-1	
p-Terphenyl (S)	64	%	41-129	1	03/28/11 00:00	03/28/11 21:39	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	55.0	1	03/25/11 15:45	03/29/11 01:25	71-43-2	
Toluene	ND	ug/kg	110	1	03/25/11 15:45	03/29/11 01:25	108-88-3	
Ethylbenzene	ND	ug/kg	110	1	03/25/11 15:45	03/29/11 01:25	100-41-4	
Xylene (Total)	ND	ug/kg	275	1	03/25/11 15:45	03/29/11 01:25	1330-20-7	
Dibromofluoromethane (S)	99	%	85-113	1	03/25/11 15:45	03/29/11 01:25	1868-53-7	
Toluene-d8 (S)	98	%	86-119	1	03/25/11 15:45	03/29/11 01:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-121	1	03/25/11 15:45	03/29/11 01:25	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-119	1	03/25/11 15:45	03/29/11 01:25	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**9.6**	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-MN-2' **Lab ID: 6095945002** Collected: 03/23/11 11:10 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	68334-30-5	
Fuel Oil	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	68553-00-4	
Jet Fuel	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	94114-58-6	
Kerosene	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	8008-20-6	
Mineral Spirits	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	8030-30-6	
Motor Oil	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.9	1	03/28/11 00:00	03/28/11 21:49		
n-Tetracosane (S)	79	%	50-137	1	03/28/11 00:00	03/28/11 21:49	646-31-1	
p-Terphenyl (S)	69	%	41-129	1	03/28/11 00:00	03/28/11 21:49	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	57.7	1	03/25/11 15:45	03/29/11 01:40	71-43-2	
Toluene	ND	ug/kg	115	1	03/25/11 15:45	03/29/11 01:40	108-88-3	
Ethylbenzene	ND	ug/kg	115	1	03/25/11 15:45	03/29/11 01:40	100-41-4	
Xylene (Total)	ND	ug/kg	289	1	03/25/11 15:45	03/29/11 01:40	1330-20-7	
Dibromofluoromethane (S)	101	%	85-113	1	03/25/11 15:45	03/29/11 01:40	1868-53-7	
Toluene-d8 (S)	95	%	86-119	1	03/25/11 15:45	03/29/11 01:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-121	1	03/25/11 15:45	03/29/11 01:40	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-119	1	03/25/11 15:45	03/29/11 01:40	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	13.4	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-E1-1' **Lab ID: 6095945003** Collected: 03/23/11 11:20 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	68334-30-5	
Fuel Oil	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	68553-00-4	
Jet Fuel	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	94114-58-6	
Kerosene	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	8008-20-6	
Mineral Spirits	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	8030-30-6	
Motor Oil	ND	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58	64742-65-0	
Total Petroleum Hydrocarbons	158	mg/kg	20.9	1	03/28/11 00:00	03/28/11 21:58		2e
n-Tetracosane (S)	99	%	50-137	1	03/28/11 00:00	03/28/11 21:58	646-31-1	
p-Terphenyl (S)	84	%	41-129	1	03/28/11 00:00	03/28/11 21:58	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	54.1	1	03/25/11 15:45	03/29/11 01:54	71-43-2	
Toluene	ND	ug/kg	108	1	03/25/11 15:45	03/29/11 01:54	108-88-3	
Ethylbenzene	ND	ug/kg	108	1	03/25/11 15:45	03/29/11 01:54	100-41-4	
Xylene (Total)	ND	ug/kg	271	1	03/25/11 15:45	03/29/11 01:54	1330-20-7	
Dibromofluoromethane (S)	100	%	85-113	1	03/25/11 15:45	03/29/11 01:54	1868-53-7	
Toluene-d8 (S)	97	%	86-119	1	03/25/11 15:45	03/29/11 01:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	75-121	1	03/25/11 15:45	03/29/11 01:54	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-119	1	03/25/11 15:45	03/29/11 01:54	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	8.4	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-E2-1' **Lab ID: 6095945004** Collected: 03/23/11 11:30 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	68334-30-5	
Fuel Oil	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	68553-00-4	
Jet Fuel	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	94114-58-6	
Kerosene	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	8008-20-6	
Mineral Spirits	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	8030-30-6	
Motor Oil	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.2	1	03/28/11 00:00	03/28/11 22:07		
n-Tetracosane (S)	82	%	50-137	1	03/28/11 00:00	03/28/11 22:07	646-31-1	
p-Terphenyl (S)	72	%	41-129	1	03/28/11 00:00	03/28/11 22:07	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	59.3	1	03/25/11 15:45	03/29/11 02:09	71-43-2	
Toluene	ND	ug/kg	119	1	03/25/11 15:45	03/29/11 02:09	108-88-3	
Ethylbenzene	ND	ug/kg	119	1	03/25/11 15:45	03/29/11 02:09	100-41-4	
Xylene (Total)	ND	ug/kg	296	1	03/25/11 15:45	03/29/11 02:09	1330-20-7	
Dibromofluoromethane (S)	99	%	85-113	1	03/25/11 15:45	03/29/11 02:09	1868-53-7	
Toluene-d8 (S)	102	%	86-119	1	03/25/11 15:45	03/29/11 02:09	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-121	1	03/25/11 15:45	03/29/11 02:09	17060-07-0	
4-Bromofluorobenzene (S)	104	%	79-119	1	03/25/11 15:45	03/29/11 02:09	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.8**	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-SE-1' **Lab ID: 6095945005** Collected: 03/23/11 12:00 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	68334-30-5	
Fuel Oil	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	68553-00-4	
Jet Fuel	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	94114-58-6	
Kerosene	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	8008-20-6	
Mineral Spirits	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	8030-30-6	
Motor Oil	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.7	1	03/28/11 00:00	03/28/11 22:17		
n-Tetracosane (S)	80	%	50-137	1	03/28/11 00:00	03/28/11 22:17	646-31-1	
p-Terphenyl (S)	69	%	41-129	1	03/28/11 00:00	03/28/11 22:17	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	59.1	1	03/25/11 15:45	03/29/11 02:23	71-43-2	
Toluene	ND	ug/kg	118	1	03/25/11 15:45	03/29/11 02:23	108-88-3	
Ethylbenzene	ND	ug/kg	118	1	03/25/11 15:45	03/29/11 02:23	100-41-4	
Xylene (Total)	ND	ug/kg	295	1	03/25/11 15:45	03/29/11 02:23	1330-20-7	
Dibromofluoromethane (S)	100	%	85-113	1	03/25/11 15:45	03/29/11 02:23	1868-53-7	
Toluene-d8 (S)	97	%	86-119	1	03/25/11 15:45	03/29/11 02:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-121	1	03/25/11 15:45	03/29/11 02:23	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-119	1	03/25/11 15:45	03/29/11 02:23	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	**15.5**	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: F-W-2' **Lab ID: 6095945006** Collected: 03/23/11 13:20 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS	Analytical Method: OA2 Preparation Method: OA2							
Diesel Fuel	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	68334-30-5	
Fuel Oil	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	68553-00-4	
Jet Fuel	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	94114-58-6	
Kerosene	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	8008-20-6	
Mineral Spirits	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	8030-30-6	
Motor Oil	ND	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26	64742-65-0	
Total Petroleum Hydrocarbons	144	mg/kg	21.2	1	03/28/11 00:00	03/28/11 22:26		1e
n-Tetracosane (S)	93	%	50-137	1	03/28/11 00:00	03/28/11 22:26	646-31-1	
p-Terphenyl (S)	83	%	41-129	1	03/28/11 00:00	03/28/11 22:26	92-94-4	
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	54.3	1	03/25/11 15:45	03/29/11 02:38	71-43-2	
Toluene	ND	ug/kg	109	1	03/25/11 15:45	03/29/11 02:38	108-88-3	
Ethylbenzene	ND	ug/kg	109	1	03/25/11 15:45	03/29/11 02:38	100-41-4	
Xylene (Total)	ND	ug/kg	272	1	03/25/11 15:45	03/29/11 02:38	1330-20-7	
Dibromofluoromethane (S)	98	%	85-113	1	03/25/11 15:45	03/29/11 02:38	1868-53-7	
Toluene-d8 (S)	99	%	86-119	1	03/25/11 15:45	03/29/11 02:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	75-121	1	03/25/11 15:45	03/29/11 02:38	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-119	1	03/25/11 15:45	03/29/11 02:38	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974-87							
Percent Moisture	8.9	%	0.50	1		03/28/11 00:00		

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Sample: TRIP BLANK **Lab ID: 6095945007** Collected: 03/23/11 00:00 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260/OA1 UST	Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1							
Benzene	ND	ug/kg	50.0	1	03/25/11 15:45	03/29/11 02:52	71-43-2	
Toluene	ND	ug/kg	100	1	03/25/11 15:45	03/29/11 02:52	108-88-3	
Ethylbenzene	ND	ug/kg	100	1	03/25/11 15:45	03/29/11 02:52	100-41-4	
Xylene (Total)	ND	ug/kg	250	1	03/25/11 15:45	03/29/11 02:52	1330-20-7	
Dibromofluoromethane (S)	102	%	85-113	1	03/25/11 15:45	03/29/11 02:52	1868-53-7	
Toluene-d8 (S)	100	%	86-119	1	03/25/11 15:45	03/29/11 02:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	75-121	1	03/25/11 15:45	03/29/11 02:52	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-119	1	03/25/11 15:45	03/29/11 02:52	460-00-4	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

QC Batch: OEXT/27920 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006

METHOD BLANK: 790813 Matrix: Solid
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	18.7	03/28/11 19:28	
Fuel Oil	mg/kg	ND	18.7	03/28/11 19:28	
Jet Fuel	mg/kg	ND	18.7	03/28/11 19:28	
Kerosene	mg/kg	ND	18.7	03/28/11 19:28	
Mineral Spirits	mg/kg	ND	18.7	03/28/11 19:28	
Motor Oil	mg/kg	ND	18.7	03/28/11 19:28	
Total Petroleum Hydrocarbons	mg/kg	ND	18.7	03/28/11 19:28	
n-Tetracosane (S)	%	77	50-137	03/28/11 19:28	
p-Terphenyl (S)	%	66	41-129	03/28/11 19:28	

LABORATORY CONTROL SAMPLE: 790814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	473	519	110	66-138	
n-Tetracosane (S)	%			80	50-137	
p-Terphenyl (S)	%			82	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 790815 790816

Parameter	Units	6095945002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Diesel Fuel	mg/kg	ND	554	559	596	600	108	107	56-154	1	27	
n-Tetracosane (S)	%						80	77	50-137			
p-Terphenyl (S)	%						82	78	41-129			

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

QC Batch: MSV/35965 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006, 6095945007

METHOD BLANK: 790182 Matrix: Solid
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006, 6095945007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	50.0	03/28/11 23:30	
Ethylbenzene	ug/kg	ND	100	03/28/11 23:30	
Toluene	ug/kg	ND	100	03/28/11 23:30	
Xylene (Total)	ug/kg	ND	250	03/28/11 23:30	
1,2-Dichloroethane-d4 (S)	%	100	75-121	03/28/11 23:30	
4-Bromofluorobenzene (S)	%	103	79-119	03/28/11 23:30	
Dibromofluoromethane (S)	%	100	85-113	03/28/11 23:30	
Toluene-d8 (S)	%	100	86-119	03/28/11 23:30	

LABORATORY CONTROL SAMPLE: 790183

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2000	2120	106	70-128	
Ethylbenzene	ug/kg	2000	2170	109	78-121	
Toluene	ug/kg	2000	2140	107	68-128	
Xylene (Total)	ug/kg	6000	6220	104	76-124	
1,2-Dichloroethane-d4 (S)	%			100	75-121	
4-Bromofluorobenzene (S)	%			99	79-119	
Dibromofluoromethane (S)	%			97	85-113	
Toluene-d8 (S)	%			98	86-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 790184 790185

Parameter	Units	6095873001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/kg	ND	2560	2560	2510	2400	98	94	60-132	4	25	
Ethylbenzene	ug/kg	ND	2560	2560	2600	2520	102	98	66-128	3	24	
Toluene	ug/kg	ND	2560	2560	2620	2400	101	93	51-136	9	27	
Xylene (Total)	ug/kg	ND	7680	7680	7420	7160	96	93	62-130	4	26	
1,2-Dichloroethane-d4 (S)	%						94	100	75-121			
4-Bromofluorobenzene (S)	%						104	103	79-119			
Dibromofluoromethane (S)	%						94	99	85-113			
Toluene-d8 (S)	%						100	100	86-119			

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

QC Batch: PMST/5997 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006

METHOD BLANK: 790881 Matrix: Solid
Associated Lab Samples: 6095945001, 6095945002, 6095945003, 6095945004, 6095945005, 6095945006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/28/11 00:00	

SAMPLE DUPLICATE: 790882

Parameter	Units	6095907001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.3	17.6	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

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ANALYTE QUALIFIERS

1e	The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the early diesel fuel to late motor oil range. Quantitation achieved using diesel fuel as a reference standard.
2e	The sample does not match a profile of laboratory standards. Hydrocarbon fractions are present from the mid diesel fuel to late motor oil range. Quantitation achieved using diesel fuel as a reference standard.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095945

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6095945001	F-MS-1'	OA2	OEXT/27920	OA2	GCSV/10301
6095945002	F-MN-2'	OA2	OEXT/27920	OA2	GCSV/10301
6095945003	F-E1-1'	OA2	OEXT/27920	OA2	GCSV/10301
6095945004	F-E2-1'	OA2	OEXT/27920	OA2	GCSV/10301
6095945005	F-SE-1'	OA2	OEXT/27920	OA2	GCSV/10301
6095945006	F-W-2'	OA2	OEXT/27920	OA2	GCSV/10301
6095945001	F-MS-1'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945002	F-MN-2'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945003	F-E1-1'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945004	F-E2-1'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945005	F-SE-1'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945006	F-W-2'	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945007	TRIP BLANK	EPA 8260/OA1	MSV/35965	EPA 8260/OA1	MSV/36008
6095945001	F-MS-1'	ASTM D2974-87	PMST/5997		
6095945002	F-MN-2'	ASTM D2974-87	PMST/5997		
6095945003	F-E1-1'	ASTM D2974-87	PMST/5997		
6095945004	F-E2-1'	ASTM D2974-87	PMST/5997		
6095945005	F-SE-1'	ASTM D2974-87	PMST/5997		
6095945006	F-W-2'	ASTM D2974-87	PMST/5997		

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Lenexa, KS 66219
(913)599-5665

April 05, 2011

Rick Horner
URS Corporation
8300 College Blvd.
Overland Park, KS 66210

RE: Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Dear Rick Horner:
Enclosed are the analytical results for sample(s) received by the laboratory on March 24, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Sherri Guess

sherri.guess@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
A2LA Certification #: 2456.01
Arkansas Certification #: 05-008-0
Illinois Certification #: 001191
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-08-TX
Utah Certification #: 9135995665

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SAMPLE SUMMARY

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6095946001	RO-746218	Solid	03/22/11 13:15	03/24/11 08:30
6095946002	RO-563249	Solid	03/22/11 13:35	03/24/11 08:30
6095946003	RO-013503	Solid	03/22/11 13:45	03/24/11 08:30
6095946004	RO-478136	Solid	03/22/11 13:55	03/24/11 08:30
6095946005	RO-023333	Solid	03/22/11 14:00	03/24/11 08:30
6095946006	RO-749577	Solid	03/22/11 14:10	03/24/11 08:30
6095946007	RO-892134	Solid	03/22/11 14:20	03/24/11 08:30
6095946008	RO-914697	Solid	03/23/11 13:45	03/24/11 08:30
6095946009	RO-8959	Solid	03/22/11 14:00	03/24/11 08:30

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SAMPLE ANALYTE COUNT

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6095946001	RO-746218	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946002	RO-563249	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946003	RO-013503	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946004	RO-478136	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946005	RO-023333	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946006	RO-749577	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946007	RO-892134	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946008	RO-914697	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5
6095946009	RO-8959	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260	RAB	5

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-746218 **Lab ID: 6095946001** Collected: 03/22/11 13:15 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 12:46	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/29/11 10:28	03/30/11 12:46	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/29/11 10:28	03/30/11 12:46	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 12:46	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 12:46	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/29/11 10:28	03/30/11 12:46	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 12:46	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Mercury	ND	ug/L	2.0	200	1	03/30/11 10:46	03/30/11 15:52	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Benzene	ND	ug/L	50.0	500	1		03/29/11 17:54	71-43-2	
1,2-Dichloroethane-d4 (S)	104	%	83-120		1		03/29/11 17:54	17060-07-0	
Toluene-d8 (S)	97	%	81-117		1		03/29/11 17:54	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-121		1		03/29/11 17:54	460-00-4	
Dibromofluoromethane (S)	104	%	85-113		1		03/29/11 17:54	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-563249 **Lab ID: 6095946002** Collected: 03/22/11 13:35 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 12:56	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/29/11 10:28	03/30/11 12:56	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/29/11 10:28	03/30/11 12:56	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 12:56	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 12:56	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/29/11 10:28	03/30/11 12:56	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 12:56	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Mercury	ND	ug/L	2.0	200	1	03/30/11 10:46	03/30/11 16:02	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Benzene	ND	ug/L	50.0	500	1		03/29/11 18:11	71-43-2	
1,2-Dichloroethane-d4 (S)	106	%	83-120		1		03/29/11 18:11	17060-07-0	
Toluene-d8 (S)	96	%	81-117		1		03/29/11 18:11	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-121		1		03/29/11 18:11	460-00-4	
Dibromofluoromethane (S)	101	%	85-113		1		03/29/11 18:11	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-013503 **Lab ID: 6095946003** Collected: 03/22/11 13:45 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 10:24	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/29/11 10:28	03/30/11 10:24	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/29/11 10:28	03/30/11 10:24	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 10:24	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/29/11 10:28	03/30/11 10:24	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/29/11 10:28	03/30/11 10:24	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/29/11 10:28	03/30/11 10:24	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Mercury	ND	ug/L	2.0	200	1	03/30/11 10:46	03/30/11 15:48	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/28/11 00:00								
Benzene	ND	ug/L	50.0	500	1		03/29/11 18:27	71-43-2	
1,2-Dichloroethane-d4 (S)	101	%	83-120		1		03/29/11 18:27	17060-07-0	
Toluene-d8 (S)	97	%	81-117		1		03/29/11 18:27	2037-26-5	
4-Bromofluorobenzene (S)	98	%	82-121		1		03/29/11 18:27	460-00-4	
Dibromofluoromethane (S)	101	%	85-113		1		03/29/11 18:27	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-478136 **Lab ID: 6095946004** Collected: 03/22/11 13:55 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:36	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:36	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:36	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:36	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:36	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:36	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:36	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 14:22	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/01/11 15:23	71-43-2	
1,2-Dichloroethane-d4 (S)	106	%	83-120		1		04/01/11 15:23	17060-07-0	
Toluene-d8 (S)	97	%	81-117		1		04/01/11 15:23	2037-26-5	
4-Bromofluorobenzene (S)	102	%	82-121		1		04/01/11 15:23	460-00-4	
Dibromofluoromethane (S)	105	%	85-113		1		04/01/11 15:23	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-023333 **Lab ID: 6095946005** Collected: 03/22/11 14:00 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:40	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:40	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:40	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:40	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:40	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:40	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:40	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 14:24	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 04/01/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/04/11 11:11	71-43-2	
1,2-Dichloroethane-d4 (S)	104	%	83-120		1		04/04/11 11:11	17060-07-0	
Toluene-d8 (S)	95	%	81-117		1		04/04/11 11:11	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-121		1		04/04/11 11:11	460-00-4	
Dibromofluoromethane (S)	101	%	85-113		1		04/04/11 11:11	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-749577 **Lab ID: 6095946006** Collected: 03/22/11 14:10 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:08	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:08	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:08	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:08	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:08	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:08	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:08	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 15:31	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/01/11 15:39	71-43-2	
1,2-Dichloroethane-d4 (S)	103	%	83-120		1		04/01/11 15:39	17060-07-0	
Toluene-d8 (S)	95	%	81-117		1		04/01/11 15:39	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-121		1		04/01/11 15:39	460-00-4	
Dibromofluoromethane (S)	102	%	85-113		1		04/01/11 15:39	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-892134 **Lab ID: 6095946007** Collected: 03/22/11 14:20 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:11	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:11	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:11	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:11	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:11	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:11	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:11	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 15:33	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 04/01/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/04/11 11:28	71-43-2	
1,2-Dichloroethane-d4 (S)	103	%	83-120		1		04/04/11 11:28	17060-07-0	
Toluene-d8 (S)	94	%	81-117		1		04/04/11 11:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	82-121		1		04/04/11 11:28	460-00-4	
Dibromofluoromethane (S)	103	%	85-113		1		04/04/11 11:28	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-914697 **Lab ID: 6095946008** Collected: 03/23/11 13:45 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:43	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:43	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:43	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:43	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:43	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:43	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:43	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 14:26	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 04/01/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/04/11 11:44	71-43-2	
1,2-Dichloroethane-d4 (S)	104	%	83-120		1		04/04/11 11:44	17060-07-0	
Toluene-d8 (S)	95	%	81-117		1		04/04/11 11:44	2037-26-5	
4-Bromofluorobenzene (S)	101	%	82-121		1		04/04/11 11:44	460-00-4	
Dibromofluoromethane (S)	97	%	85-113		1		04/04/11 11:44	1868-53-7	

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ANALYTICAL RESULTS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Sample: RO-8959 **Lab ID: 6095946009** Collected: 03/22/11 14:00 Received: 03/24/11 08:30 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Arsenic	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:46	7440-38-2	
Barium	ND	mg/L	2.5	100	1	03/31/11 12:00	03/31/11 18:46	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	03/31/11 12:00	03/31/11 18:46	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:46	7440-47-3	
Lead	ND	mg/L	0.50	5	1	03/31/11 12:00	03/31/11 18:46	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	03/31/11 12:00	03/31/11 18:46	7782-49-2	
Silver	ND	mg/L	0.10	5	1	03/31/11 12:00	03/31/11 18:46	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Mercury	ND	ug/L	2.0	200	1	04/01/11 11:02	04/01/11 14:28	7439-97-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/30/11 00:00								
Benzene	ND	ug/L	50.0	500	1		04/01/11 15:55	71-43-2	
1,2-Dichloroethane-d4 (S)	103	%	83-120		1		04/01/11 15:55	17060-07-0	
Toluene-d8 (S)	96	%	81-117		1		04/01/11 15:55	2037-26-5	
4-Bromofluorobenzene (S)	102	%	82-121		1		04/01/11 15:55	460-00-4	
Dibromofluoromethane (S)	101	%	85-113		1		04/01/11 15:55	1868-53-7	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MPRP/13805
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6095946001, 6095946002

METHOD BLANK: 791244 Matrix: Water
Associated Lab Samples: 6095946001, 6095946002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/30/11 12:40	
Barium	mg/L	ND	2.5	03/30/11 12:40	
Cadmium	mg/L	ND	0.050	03/30/11 12:40	
Chromium	mg/L	ND	0.10	03/30/11 12:40	
Lead	mg/L	ND	0.50	03/30/11 12:40	
Selenium	mg/L	ND	0.50	03/30/11 12:40	
Silver	mg/L	ND	0.10	03/30/11 12:40	

LABORATORY CONTROL SAMPLE: 791245

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	1.0	102	80-120	
Barium	mg/L	1	0.81	81	80-120	
Cadmium	mg/L	1	1.0	103	80-120	
Chromium	mg/L	1	1.0	105	80-120	
Lead	mg/L	1	1.1	110	80-120	
Selenium	mg/L	1	1.0	103	80-120	
Silver	mg/L	.5	0.51	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 791246 791247

Parameter	Units	6095946001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	9.9	9.7	99	97	75-125	2	20	
Barium	mg/L	ND	10	10	11.1	11.0	108	106	75-125	2	20	
Cadmium	mg/L	ND	10	10	9.8	9.7	98	97	75-125	1	20	
Chromium	mg/L	ND	10	10	9.5	9.4	95	94	75-125	1	20	
Lead	mg/L	ND	10	10	9.7	9.6	97	96	75-125	1	20	
Selenium	mg/L	ND	10	10	10.0	10	100	100	75-125	1	20	
Silver	mg/L	ND	5	5	5.0	5.0	100	99	75-125	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MPRP/13806
QC Batch Method: EPA 3010
Associated Lab Samples: 6095946003

Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP

METHOD BLANK: 791248
Matrix: Water
Associated Lab Samples: 6095946003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/30/11 10:01	
Barium	mg/L	ND	2.5	03/30/11 10:01	
Cadmium	mg/L	ND	0.050	03/30/11 10:01	
Chromium	mg/L	ND	0.10	03/30/11 10:01	
Lead	mg/L	ND	0.50	03/30/11 10:01	
Selenium	mg/L	ND	0.50	03/30/11 10:01	
Silver	mg/L	ND	0.10	03/30/11 10:01	

LABORATORY CONTROL SAMPLE: 791249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.95	95	80-120	
Barium	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	1	0.96	96	80-120	
Chromium	mg/L	1	0.98	98	80-120	
Lead	mg/L	1	1.0	101	80-120	
Selenium	mg/L	1	0.94	94	80-120	
Silver	mg/L	.5	0.48	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 791250 791251

Parameter	Units	6095451001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	10.0	10.0	100	100	75-125	0	20	
Barium	mg/L	ND	10	10	11.5	11.6	98	99	75-125	1	20	
Cadmium	mg/L	0.11	10	10	9.9	9.9	98	98	75-125	0	20	
Chromium	mg/L	ND	10	10	9.7	9.7	97	97	75-125	0	20	
Lead	mg/L	ND	10	10	9.7	9.6	95	95	75-125	0	20	
Selenium	mg/L	ND	10	10	10.0	10.1	100	101	75-125	0	20	
Silver	mg/L	ND	5	5	5.0	5.0	99	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MPRP/13833
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6095946006, 6095946007

METHOD BLANK: 792558 Matrix: Water
Associated Lab Samples: 6095946006, 6095946007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/31/11 17:58	
Barium	mg/L	ND	2.5	03/31/11 17:58	
Cadmium	mg/L	ND	0.050	03/31/11 17:58	
Chromium	mg/L	ND	0.10	03/31/11 17:58	
Lead	mg/L	ND	0.50	03/31/11 17:58	
Selenium	mg/L	ND	0.50	03/31/11 17:58	
Silver	mg/L	ND	0.10	03/31/11 17:58	

LABORATORY CONTROL SAMPLE: 792559

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.91	91	80-120	
Barium	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	1	0.92	92	80-120	
Chromium	mg/L	1	0.99	99	80-120	
Lead	mg/L	1	0.99	99	80-120	
Selenium	mg/L	1	0.92	92	80-120	
Silver	mg/L	.5	0.48	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 792560 792561

Parameter	Units	6095946007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	9.6	9.7	96	97	75-125	1	20	
Barium	mg/L	ND	10	10	10	10.0	98	98	75-125	0	20	
Cadmium	mg/L	ND	10	10	9.4	9.3	94	93	75-125	0	20	
Chromium	mg/L	ND	10	10	9.7	9.7	97	97	75-125	0	20	
Lead	mg/L	ND	10	10	9.4	9.4	94	94	75-125	0	20	
Selenium	mg/L	ND	10	10	9.7	9.8	97	98	75-125	1	20	
Silver	mg/L	ND	5	5	4.9	4.8	97	97	75-125	0	20	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MPRP/13834 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6095946004, 6095946005, 6095946008, 6095946009

METHOD BLANK: 792564 Matrix: Water
Associated Lab Samples: 6095946004, 6095946005, 6095946008, 6095946009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/31/11 18:27	
Barium	mg/L	ND	2.5	03/31/11 18:27	
Cadmium	mg/L	ND	0.050	03/31/11 18:27	
Chromium	mg/L	ND	0.10	03/31/11 18:27	
Lead	mg/L	ND	0.50	03/31/11 18:27	
Selenium	mg/L	ND	0.50	03/31/11 18:27	
Silver	mg/L	ND	0.10	03/31/11 18:27	

LABORATORY CONTROL SAMPLE: 792565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.90	90	80-120	
Barium	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	1	0.91	91	80-120	
Chromium	mg/L	1	0.98	98	80-120	
Lead	mg/L	1	0.98	98	80-120	
Selenium	mg/L	1	0.92	92	80-120	
Silver	mg/L	.5	0.47	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 792566 792567

Parameter	Units	6096070001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	9.3	9.3	93	93	75-125	0	20	
Barium	mg/L	ND	10	10	10.4	10.4	99	99	75-125	0	20	
Cadmium	mg/L	3.4	10	10	12.5	12.4	90	90	75-125	0	20	
Chromium	mg/L	0.74	10	10	10.5	10.6	97	98	75-125	1	20	
Lead	mg/L	ND	10	10	10.0	10.0	97	97	75-125	0	20	
Selenium	mg/L	ND	10	10	9.4	9.4	94	93	75-125	1	20	
Silver	mg/L	ND	5	5	4.7	4.7	94	95	75-125	0	20	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MERP/5062
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095946003

METHOD BLANK: 791672 Matrix: Water
Associated Lab Samples: 6095946003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	03/30/11 15:40	

LABORATORY CONTROL SAMPLE: 791673

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 791674 791675

Parameter	Units	6095451001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	15.0	15.3	100	102	75-125	2	19	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MERP/5063
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095946001, 6095946002

METHOD BLANK: 791676
Matrix: Water
Associated Lab Samples: 6095946001, 6095946002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.67	03/30/11 15:50	

LABORATORY CONTROL SAMPLE: 791677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	15	15.2	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 791678 791679

Parameter	Units	6095946001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	14.9	15.2	99	101	75-125	2	19	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MERP/5069
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095946004, 6095946005, 6095946008, 6095946009

METHOD BLANK: 792925
Matrix: Water
Associated Lab Samples: 6095946004, 6095946005, 6095946008, 6095946009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	04/01/11 14:16	

LABORATORY CONTROL SAMPLE: 792926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 792927 792928

Parameter	Units	6096070001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	14.2	14.5	95	96	75-125	2	19	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MERP/5070
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095946006, 6095946007

METHOD BLANK: 792932
Matrix: Water
Associated Lab Samples: 6095946006, 6095946007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	04/01/11 15:27	

LABORATORY CONTROL SAMPLE: 792933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 792934 792935

Parameter	Units	6095946007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	15	15	14.8	14.4	99	96	75-125	3	19	

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MSV/36018 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 6095946001, 6095946002, 6095946003

METHOD BLANK: 791217 Matrix: Water
Associated Lab Samples: 6095946001, 6095946002, 6095946003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	50.0	03/29/11 17:22	
1,2-Dichloroethane-d4 (S)	%	104	83-120	03/29/11 17:22	
4-Bromofluorobenzene (S)	%	102	82-121	03/29/11 17:22	
Dibromofluoromethane (S)	%	101	85-113	03/29/11 17:22	
Toluene-d8 (S)	%	95	81-117	03/29/11 17:22	

LABORATORY CONTROL SAMPLE: 791218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	1000	938	94	81-120	
1,2-Dichloroethane-d4 (S)	%			104	83-120	
4-Bromofluorobenzene (S)	%			100	82-121	
Dibromofluoromethane (S)	%			105	85-113	
Toluene-d8 (S)	%			100	81-117	

MATRIX SPIKE SAMPLE: 791219

Parameter	Units	6095946003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	1000	1070	103	53-130	
1,2-Dichloroethane-d4 (S)	%				102	83-120	
4-Bromofluorobenzene (S)	%				99	82-121	
Dibromofluoromethane (S)	%				105	85-113	
Toluene-d8 (S)	%				98	81-117	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MSV/36112
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 6095946004, 6095946006, 6095946009

METHOD BLANK: 793055
Matrix: Water
Associated Lab Samples: 6095946004, 6095946006, 6095946009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	50.0	04/01/11 15:07	
1,2-Dichloroethane-d4 (S)	%	102	83-120	04/01/11 15:07	
4-Bromofluorobenzene (S)	%	99	82-121	04/01/11 15:07	
Dibromofluoromethane (S)	%	103	85-113	04/01/11 15:07	
Toluene-d8 (S)	%	95	81-117	04/01/11 15:07	

LABORATORY CONTROL SAMPLE: 793056

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	1000	924	92	81-120	
1,2-Dichloroethane-d4 (S)	%			104	83-120	
4-Bromofluorobenzene (S)	%			101	82-121	
Dibromofluoromethane (S)	%			106	85-113	
Toluene-d8 (S)	%			98	81-117	

MATRIX SPIKE SAMPLE: 793057

Parameter	Units	6095946009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	1000	930	91	53-130	
1,2-Dichloroethane-d4 (S)	%				102	83-120	
4-Bromofluorobenzene (S)	%				102	82-121	
Dibromofluoromethane (S)	%				106	85-113	
Toluene-d8 (S)	%				95	81-117	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

QC Batch: MSV/36156 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 6095946005, 6095946007, 6095946008

METHOD BLANK: 793957 Matrix: Water
Associated Lab Samples: 6095946005, 6095946007, 6095946008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	50.0	04/04/11 10:55	
1,2-Dichloroethane-d4 (S)	%	108	83-120	04/04/11 10:55	
4-Bromofluorobenzene (S)	%	100	82-121	04/04/11 10:55	
Dibromofluoromethane (S)	%	102	85-113	04/04/11 10:55	
Toluene-d8 (S)	%	96	81-117	04/04/11 10:55	

LABORATORY CONTROL SAMPLE: 793958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	1000	977	98	81-120	
1,2-Dichloroethane-d4 (S)	%			109	83-120	
4-Bromofluorobenzene (S)	%			101	82-121	
Dibromofluoromethane (S)	%			109	85-113	
Toluene-d8 (S)	%			98	81-117	

MATRIX SPIKE SAMPLE: 793959

Parameter	Units	6095946008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	1000	961	96	53-130	
1,2-Dichloroethane-d4 (S)	%				104	83-120	
4-Bromofluorobenzene (S)	%				101	82-121	
Dibromofluoromethane (S)	%				106	85-113	
Toluene-d8 (S)	%				97	81-117	

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QUALIFIERS

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TRANS CANADA SENECA, KS
Pace Project No.: 6095946

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6095946001	RO-746218	EPA 3010	MPRP/13805	EPA 6010	ICP/11999
6095946002	RO-563249	EPA 3010	MPRP/13805	EPA 6010	ICP/11999
6095946003	RO-013503	EPA 3010	MPRP/13806	EPA 6010	ICP/12000
6095946004	RO-478136	EPA 3010	MPRP/13834	EPA 6010	ICP/12019
6095946005	RO-023333	EPA 3010	MPRP/13834	EPA 6010	ICP/12019
6095946006	RO-749577	EPA 3010	MPRP/13833	EPA 6010	ICP/12018
6095946007	RO-892134	EPA 3010	MPRP/13833	EPA 6010	ICP/12018
6095946008	RO-914697	EPA 3010	MPRP/13834	EPA 6010	ICP/12019
6095946009	RO-8959	EPA 3010	MPRP/13834	EPA 6010	ICP/12019
6095946001	RO-746218	EPA 7470	MERP/5063	EPA 7470	MERC/5034
6095946002	RO-563249	EPA 7470	MERP/5063	EPA 7470	MERC/5034
6095946003	RO-013503	EPA 7470	MERP/5062	EPA 7470	MERC/5033
6095946004	RO-478136	EPA 7470	MERP/5069	EPA 7470	MERC/5040
6095946005	RO-023333	EPA 7470	MERP/5069	EPA 7470	MERC/5040
6095946006	RO-749577	EPA 7470	MERP/5070	EPA 7470	MERC/5041
6095946007	RO-892134	EPA 7470	MERP/5070	EPA 7470	MERC/5041
6095946008	RO-914697	EPA 7470	MERP/5069	EPA 7470	MERC/5040
6095946009	RO-8959	EPA 7470	MERP/5069	EPA 7470	MERC/5040
6095946001	RO-746218	EPA 8260	MSV/36018		
6095946002	RO-563249	EPA 8260	MSV/36018		
6095946003	RO-013503	EPA 8260	MSV/36018		
6095946004	RO-478136	EPA 8260	MSV/36112		
6095946005	RO-023333	EPA 8260	MSV/36156		
6095946006	RO-749577	EPA 8260	MSV/36112		
6095946007	RO-892134	EPA 8260	MSV/36156		
6095946008	RO-914697	EPA 8260	MSV/36156		
6095946009	RO-8959	EPA 8260	MSV/36112		