


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:	06/28/2011
	No.	20110208 - 16160 ----- (DOT Use Only)

ACCIDENT REPORT - HAZARDOUS LIQUID PIPELINE SYSTEMS

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2137-0047. Public reporting for this collection of information is estimated to be approximately 10 hours per response (5 hours for a small release), including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, PHMSA, Office of Pipeline Safety (PHP-30) 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

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	
Last Revision Date:	11/02/2011		
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:	05/29/2011 02:00		
5. Location of Accident:			
Latitude:	39.71864		
Longitude:	-95.135		
6. National Response Center Report Number (if applicable):	977695		
7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):	05/29/2011 03:12		
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):	8.50		
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):			
11. Estimated volume of commodity recovered (Barrels):	8.50		
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:	05/29/2011 02:00
18b. Local time Operator resources arrived on site:	05/29/2011 03:00
PART B - ADDITIONAL LOCATION INFORMATION	
1. Was the origin of Accident onshore?	Yes
<i>If Yes, Complete Questions (2-12)</i>	
<i>If No, Complete Questions (13-15)</i>	
- If Onshore:	
2. State:	Kansas
3. Zip Code:	66538
4. City:	Bendena
5. County or Parish:	Doniphan
6. Operator-designated location:	Milepost/Valve Station
Specify:	MP742.2
7. Pipeline/Facility name:	Severance Pump Station
8. Segment name/ID:	Glacial Lakes
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:	Instrumentation

- 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:	Crack
- 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?	Yes
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	\$ 8,500
8c. Estimated cost of Operator's property damage & repairs	\$ 25,000
8d. Estimated cost of Operator's emergency response	\$ 120,000
8e. Estimated cost of Operator's environmental remediation	\$ 180,000
8f. Estimated other costs	\$ 0
Describe:	
8g. Total estimated property damage (sum of above)	\$ 333,500
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	1,100.00
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	1,297.00
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:	
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?	Controller
- 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:	Operator employee
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?	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 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)	The Oil Control Center identified a pressure drop at the pump station.
- 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	
- Investigation identified no controller issues	
- 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? - If Yes:	No
2a. Specify how many were tested:	
2b. Specify how many failed:	
PART G – APPARENT CAUSE	
<i>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).</i>	
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: <i>(select all that apply)</i> - 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: <i>(select all that apply)</i> - Field examination - Determined by metallurgical analysis - Other: - If Other, Describe:	
4. Was the failed item buried under the ground? - If Yes :	
<input type="checkbox"/> 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 <i>(select all that apply):</i> - - 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 <i>(select all that apply):</i> - - Field examination - Determined by metallurgical analysis - Other: - If Other, Describe:	
9. Location of corrosion <i>(select all that apply):</i> - - 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: <i>(select all that apply)</i>	
- 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: <i>(select all that apply)</i> -	
- 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: <i>(select all that apply)</i> -	
- 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 <i>(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):</i>	
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: <i>(select all that apply)</i>	
- 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: <i>(select all that apply)</i>	
- 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: <i>(select all that apply)</i>	
- 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: <i>(select all that apply)</i> :	
- 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:		Threaded Connection/Coupling Failure
- If Malfunction of Control/Relief Equipment:		
1. Specify: <i>(select all that apply)</i> -		
- 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:		
	- If Other – Describe:	
- If Threaded Connection/Coupling Failure:		
3. Specify:		
	- If Other – Describe:	Pipe Nipple
- 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: <i>(select all that apply)</i>		
- Excessive vibration		Yes
- Overpressurization		
- No support or loss of support		
- Manufacturing defect		

- 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 (<i>select all that apply</i>): -	
- 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	
Pressure transmitter PT 201 at the Severance Pump Station experienced a failure of the threaded 3/4 inch fitting. The failure of the 3/4" fitting failure occurred as a result of excessive vibration. The pump station was shutdown by Oil Control and isolated when pressure transmitter PT 201 began reading 4000 KPa less than station discharge pressure transmitter PT 203. The failed fitting resulted in the release of oil.	

File Full Name

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Daniel C. Cerkoney
Preparer's Title	Compliance Engineer
Preparer's Telephone Number	7014831434
Preparer's E-mail Address	dan_cerkoney@transcanada.com
Preparer's Facsimile Number	7014831431
Authorized Signature's Name	Daniel C. Cerkoney
Authorized Signature Title	Compliance Engineer
Authorized Signature Telephone Number	7012901176
Authorized Signature Email	dan_cerkoney@transcanada.com
Date	11/02/2011

From: [Robert Baumgartner](mailto:Robert.Baumgartner@transcanada.com)
To: twinn@kdheks.gov
Cc: [Robert Baumgartner](mailto:Robert.Baumgartner@transcanada.com)
Subject: KDHE Spill Report #32936
Date: Wednesday, March 16, 2011 2:56:00 PM
Attachments: [TransCanada - Severance Waste Profile & KDHE Disposal Request - Spill Report #32936.pdf](#)
[TransCanada - Severance Manifest LF ticket - Spill Report #32936.pdf](#)

Tom,

Find attached the waste disposal profile and receipt for the cleanup activities conducted in response to the small crude oil leak that occurred at TransCanada's valve site located on Last Chance Rd. (south of 150th Rd.) near Severance, KS. I am providing this as follow up to the spill report (KDHE Spill Report #32936) submitted by TransCanada on January 8, 2011 in order to close out the incident.

Cleanup activities were conducted from January 7 – 11, 2011 by TransCanada and our subcontractor Seneca Waste Solutions. Oil impacted site gravel and some minor amount of soil underlying the site gravel were excavated and placed in a 20 yd³ roll-off. This material, totaling 10.06 tons, was disposed of on March 9, 2011 at Rolling Meadows RDF in Topeka, KS.

Please contact me if you have any questions.

Thank you,

Robert M. Baumgartner
Environmental Program Manager
TransCanada Keystone US Operations
717 Texas St.
Houston, Texas 77002
832.320.5538 office
402.960.0483 cell
robert_baumgartner@transcanada.com

Driver's signature



6467039

ROLLING MEADOWS RDF
7351 NW HWY 75
TOPEKA, KS, 66618
Ph: 785-246-0305

Original
Ticket# 886599

Customer Name	WPLFSTREAMJENNIFERBATES WM LP	Carrier	HAZAMATRESPONSEINC *
Ticket Date	03/09/2011	Vehicle#	T1A2 Volume
Payment Type	Credit Account	Container	
Manual Ticket#		Driver	
Hauling Ticket#		Check#	
Route		Billing #	0000749
State Waste Code		Gen EPA ID	
Manifest	1	Grid	
Destination			
PO			
Profile	110211KS (PETROLEUM CONT SOIL)		
Generator	140-TRANSCANADAANRPIPELINE TRANSCANADA ANR PIPELINE		

	Time	Scale	Operator	Inbound	Gross	64700 lbs
In	03/09/2011 15:04:41	Scale 1 (in)	LD		Tare	44500 lbs
Out	03/09/2011 15:04:51	Scale 2 (out)	LD		Net	20120 lbs
			* Manual Weight		Tons	10.06

Comments

WEIGHTS ARE IN TONS

Product	LD%	Qty	UCM	Rate	Tax	Amount	Origin
1 Cont Soil Sp. W.-T	100	10.06	Tons	37.64		\$378.66	KS
2 COL-COUNTY HOST FE	100	10.06	Tons	1.50		\$15.09	KS
3 STA-STATE SURCHARG	100	10.06	Tons	1.00		\$10.06	KS

Total Tax
Total Ticket \$403.81

Rm Copy



WASTE MANAGEMENT, INC.

Special Waste Manifest Disposal Ticket

Disposal Site: Rolling Meadows RDF

Bill To: WM UPSTREAM

Transporter: Hazmat T-182

Generator: TransCanada/Keystone Pipeline-Severance

Location: 1010 150th Road, Bendena, KS 66538

Generator's Signature or Designee: John White

Waste Description: Crude Oil Impacted Soil & Gravel

Profile Number: 100971KS 110211KS

Accepted By: John White Date: 3/7/11

Driver's Signature: Paul Mester Date: 3-7-11

Truck # T-182
TR # 104
R/O Box 74635

GROSS: 64,700
Tare 44,580

10.06 Tons



Generator's Non-hazardous Waste Profile Sheet

Requested Disposal Facility: Rolling Meadows LF Profile Number: _____
 Renewal for Profile Number: _____ Waste Approval Expiration Date: _____
 Check here if there are multiple generating locations for this waste. Attach additional locations.

A. Waste Generator Facility Information (must reflect location of waste generation/origin)

1. Generator Name: TransCanada / Keystone Pipeline (Severance)
 2. Site Address: 1010 150th Road 7. Email Address: rlindisch@wm.com
 3. City/ZIP: Bendena / 66538 8. Phone: 888-239-6205 9. FAX: 866-674-1202
 4. State: Kansas 10. NAICS Code: _____
 5. County: _____ 11. Generator USEPA ID #: _____
 6. Contact Name/Title: Rob Lindisch 12. State ID# (if applicable): _____

B. Customer Information same as above

P. O. Number: _____

1. Customer Name: WM-Upstream 6. Phone: 888-239-6205 FAX: 866-674-1202
 2. Billing Address: 16468 Sugar Maple Drive 7. Transporter Name: Various
 3. City, State and ZIP: Brownstown, MI 48173 8. Transporter ID # (if appl.): _____
 4. Contact Name: Rob Lindisch 9. Transporter Address: _____
 5. Contact Email: rlindisch@wm.com 10. City, State and ZIP: _____

C. Waste Stream Information

1. DESCRIPTION

a. Common Waste Name: Crude Oil Impacted Soil & Gravel
 State Waste Code(s): _____

b. Describe Process Generating Waste or Source of Contamination:

Crude Oil Spill Cleanup

c. Typical Color(s): any and all

d. Strong Odor? Yes No Describe: _____

e. Physical State at 70°F: Solid Liquid Powder Semi-Solid or Sludge Other: _____

f. Layers? Single layer Multi-layer NA

g. Water Reactive? Yes No If Yes, Describe: _____

h. Free Liquid Range (%): _____ to _____ NA(solid)

i. pH Range: _____ to _____ NA(solid)

j. Liquid Flash Point: < 140°F 140°- 199°F ≥ 200°F NA(solid)

k. Flammable Solid: Yes No

l. Physical Constituents: List all constituents of waste stream - (e.g. Soil 0-80%, Wood 0-20%): (See Attached)

Constituents (Total Composition Must be ≥ 100%)	Lower Range	Unit of Measure	Upper Range	Unit of Measure
1. <u>Soil contaminated with crude oil</u>	<u>0</u>	<u>%</u>	<u>100</u>	<u>%</u>
2. <u>Gravel contaminated with crude oil</u>	<u>0</u>	<u>%</u>	<u>100</u>	<u>%</u>
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____

2. ESTIMATED QUANTITY OF WASTE AND SHIPPING INFORMATION

a. One Time Event Base Repeat Event

b. Estimated Annual Quantity: 20 Tons Cubic Yards Drums Gallons Other (specify): _____

c. Shipping Frequency: 1 Units per Month Quarter Year One Time Other

d. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If yes, answer e.) Yes No

e. USDOT Shipping Description (if applicable): Non-Regulated Material

3. SAFETY REQUIREMENTS (Handling, PPE, etc.): Normal Landfill PPE



Generator's Non-hazardous Waste Profile Sheet

D. Regulatory Status (Please check appropriate responses)

1. Waste Identification:
 - a. Does the waste meet the definition of a USEPA listed or characteristic hazardous waste as defined by 40 CFR Part 261? Yes No
 1. If yes, please complete a hazardous waste profile.
 - b. Does the waste meet the definition of a state hazardous waste other than identified in D.1.a? Yes No
 1. If yes, please complete a hazardous waste profile.
2. Is this waste included in one or more of categories below (Check all that apply)? If yes, attach supporting documentation. Yes No

<input type="checkbox"/> Delisted Hazardous Waste	<input type="checkbox"/> Excluded Wastes Under 40CFR 261.4
<input type="checkbox"/> Treated Hazardous Waste Debris	<input type="checkbox"/> Treated Characteristic Hazardous Waste
3. Is the waste from a Federal (40 CFR 300, Appendix B) or state mandated clean-up? If yes, see instructions. Yes No
4. Does the waste represented by this waste profile sheet contain radioactive material? Yes No
 - a. If yes, is disposal regulated by the Nuclear Regulatory Commission? Yes No
 - b. If yes, is disposal regulated by a State Agency for radioactive waste/NORM? Yes No
5. Does the waste represented by this waste profile sheet contain Polychlorinated Biphenyls (PCBs)? Yes No
(If yes, list in Chemical Composition - C.I.I.)
 - a. If yes, are the PCBs regulated by 40 CFR 761? Yes No
 - b. If yes, is it remediation waste from a project being performed under the Self-Implementing option provided in 40 CFR 761.61(a)? Yes No
 - c. If yes, were the PCBs imported into the US? Yes No
6. Does the waste contain untreated, regulated medical or infectious waste? Yes No
7. Does the waste contain asbestos? Yes No
 - a. If Yes, Friable Non Friable
8. Is this profile for remediation waste from a facility that is a major source of Hazardous Air Pollutants (Site Remediation NESHAP, 40 CFR 63 subpart GGGGG)? Yes No
 - a. If yes, does the waste contain <500 ppmw VOHAPs at the point of determination? Yes No

E. Generator Certification (Please read and certify by signature below)

By signing this Generator's Waste Profile Sheet, I hereby certify that all:

1. Information submitted in this profile and all attached documents contain true and accurate descriptions of the waste material;
2. Relevant information within the possession of the Generator regarding known or suspected hazards pertaining to this waste has been disclosed to WM/the Contractor;
3. Analytical data attached pertaining to the profiled waste was derived from testing a representative sample in accordance with 40 CFR 261.20(c) or equivalent rules; and
4. Changes that occur in the character of the waste (i.e. changes in the process or new analytical) will be identified by the Generator and disclosed to WM (and the Contractor if applicable) prior to providing the waste to WM (and the contractor if applicable).
5. Check all that apply:
 - a. Attached analytical pertains to the waste. Identify laboratory & sample ID #'s and parameters tested:
Pace Analytical/ TC Severance/ TCLP metals & Benzene # Pages: 13
 - b. Only the analysis identified on the attachment pertain to the waste (identify by laboratory & sample ID #'s and parameters tested). Attachment #: _____
 - c. Additional information necessary to characterize the profiled waste has been attached (other than analytical, such as MSDS). Indicate the number of attached pages: _____
 - d. I am an agent signing on behalf of the Generator, and the delegation of authority to me from the Generator for this signature is available upon request.

Certification Signature: Robert Baumgartner Title: Environmental Manager

Company Name: TransCanada Name (Print): Robert Baumgartner

Date: 02/24/2011

Special Waste Disposal Request
Kansas Department of Health and Environment
Bureau of Waste Management
Waste Reduction, Compliance and Enforcement Section
1000 SW Jackson, Suite 320, Topeka, Kansas 66612-1366

Please type or clearly print - See page 2 for instructions

I. REQUESTER INFORMATION (This is where the Disposal Authorization letter will be sent.)

Name: TransCanada

Address: 717 Texas Street

City: Houston State: TX Zip Code: 77002

Contact Person: Robert Baumgartner Telephone Number: 832-320-5538

E-Mail Address, if applicable: Robert_baumgartner@transcanada.com Fax Number: _____

II. POINT OF GENERATION INFORMATION (only if different from the information in Section I above)

Name: TransCanada / Keystone (Severance)

Address: 1010 150th Road

City: Bendena State: KS Zip Code: 66538

Contact Person: Robert Baumgartner Telephone Number: 402-792-7464

III. WASTE INFORMATION - Use back of form if additional space is required

Waste Description: Non-Regulated Soil & Gravel Contaminated with Crude Oil

Process Producing Waste: Crude Oil Spill Cleanup

Physical Characteristics of Waste: Solid contaminated with Crude Oil

Quantity for Disposal: 20 (Please Select One) Lbs. Tons Cubic Yards Containers Bags

Frequency (Select One): One Time Week Month Year

Laboratory Analyses Attached: Yes No Material Safety Data Sheets (MSDS) Attached: Yes No

Renewal of Previous Authorization: Previous Authorization No: N/A Date Issued: _____

IV. DISPOSAL INFORMATION

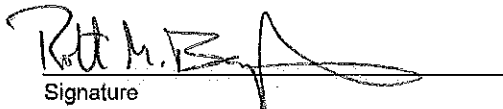
Landfill Proposed for Disposal: Rolling Meadows LF -7351 NW Hwy 75 Topeka, KS 66618

Solid Waste Transfer Station Proposed: _____

V. CERTIFICATION

I hereby certify that I am a duly authorized representative of the generator identified above. I further certify that, to the best of my knowledge, the following items are true:

1. The waste identified for disposal is not a hazardous waste as defined by K.A.R. 28-31-3.
2. All analytical analyses provided are from a Kansas Department of Health and Environment (KDHE) certified laboratory and are representative of the waste identified for disposal.
3. All information provided in any attached profile, re-certification, or other document completed by the authorized representative accurately characterizes the waste.
4. If this is a renewal, the materials and processes that generate the waste have not changed since the last disposal authorization indicated above, and the information previously provided to KDHE is still valid.


Signature

Robert Baumgartner
Printed Name

02/24/2011
Date

From: Robert Baumgartner
To: ["Tom Winn"](#)
Subject: RE: KDHE Spill Report #32936
Date: Wednesday, March 16, 2011 5:07:00 PM
Attachments: [IMG00675-20110111-0922.jpg](#)
[IMG00005-20110107-1709.jpg](#)
[IMG00674-20110111-0922.jpg](#)
[Severance Valve Site.jpg](#)

Tom,
Find attached before and after photos of the cleanup.

The site coordinates are: 39.71112, -95.096716. I've attached a Google Earth map for reference.

Thank you,

Robert M. Baumgartner
Environmental Program Manager
TransCanada Keystone US Operations
832.320.5538 office
402.960.0483 cell
robert_baumgartner@transcanada.com

From: Tom Winn [mailto:twinn@kdheks.gov]
Sent: Wednesday, March 16, 2011 3:57 PM
To: Robert Baumgartner
Subject: RE: KDHE Spill Report #32936

Robert: Thank you for the documentation. Do you have any photographs of the activities? Also: I failed to locate Last Chance Road - I'll need to locate the site on a map to determine coordinates before I can close the file.

Tom Winn
Bureau of Environmental Field Services
Northeast District
785-842-4600

From: Robert Baumgartner [mailto:robert_baumgartner@transcanada.com]
Sent: Wednesday, March 16, 2011 2:56 PM
To: Tom Winn
Cc: Robert Baumgartner
Subject: KDHE Spill Report #32936

Tom,
Find attached the waste disposal profile and receipt for the cleanup activities conducted in response to the small crude oil leak that occurred at TransCanada's valve site located on Last Chance Rd. (south of 150th Rd.) near Severance, KS. I am providing this as follow up to the spill report (KDHE Spill Report #32936) submitted by TransCanada on January 8, 2011 in order to close out the incident.

Cleanup activities were conducted from January 7 – 11, 2011 by TransCanada and our subcontractor Seneca Waste Solutions. Oil impacted site gravel and some minor amount of soil underlying the site gravel were excavated and placed in a 20 yd³ roll-off. This material, totaling 10.06 tons, was disposed of on March 9, 2011 at Rolling Meadows RDF in Topeka, KS.

Please contact me if you have any questions.

Thank you,

Robert M. Baumgartner
Environmental Program Manager
TransCanada Keystone US Operations
717 Texas St.
Houston, Texas 77002
832.320.5538 office
402.960.0483 cell
robert_baumgartner@transcanada.com

This electronic message and any attached documents are intended only for the named addressee(s). This communication from TransCanada may contain information that is privileged, confidential or otherwise protected from disclosure and it must not be disclosed, copied, forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message. Thank you.







Larkinbur

150th Rd

LastChanceRd

39.71112, -95.096716

© 2011 Google

©2009 Google

1841 ft

Imagery Date: Aug 28, 2010

39°43'01.51" N 95°05'51.23" W

elev 1053 ft

Eye alt 7342 ft



July 20, 2011

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

Re: Crude Oil Release at TransCanada Severence Pump Station
One Half Mile East of Kansas Highway 7
Doniphan County, Kansas
URS Project No. 31810971

Dear Mr. Winn,

The purpose of this letter report is to provide the details of 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 May 29, 2011. Spill response activities began immediately by TransCanada personnel and TransCanada spill response contractors. Seneca Waste Solutions provided soil excavation, waste collection, and site restoration services. URS Corporation (URS) personnel provided technical guidance for media sampling and air monitoring during the duration 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 south and east of the intersection of Kansas 7 Highway and 150th Road in Doniphan County, Kansas (Figure 1). The site is located approximately 10 miles north of Atchison, Kansas.

The release occurred from the failure of a pressure gauge seal. The malfunctioning sensor gauge was detected by TransCanada's control center and shutdown remotely. An estimated 10 barrels of crude oil was released.

Upon arrival at the site by TransCanada personnel, containment and recovery activities were initiated. A maintenance team mobilized to the site upon notification of the release on May 29, 2011. A vacuum truck, skid-steer loader, hydrovac, and other equipment were mobilized to the site along with qualified response team personnel.

Beginning on May 29, 2011, a vacuum truck was used to collect free oil from the gravel surface of the pump station and to prevent oil from migrating off site. Free product was recovered from the excavation throughout the cleanup. Approximately 2 barrels of oil were recovered during initial response operations. Also on May 29, 2011, mechanical excavation commenced with the

URS Corporation
8300 College Blvd.
Suite 200
Overland Park, KS 66210
Tel: 913.344.1000
Fax: 913.344.1011



Mr. Tom Winn,
KDHE
July 20, 2011
Page 2 of 3

use of a Super Sucker Vac. Truck, mini excavator and Toro™ Dingo™ front loader. An agricultural mower was used to remove oil-stained vegetation from off-site adjacent property. The grass clippings were bagged and placed in a roll off container for off-site disposal. Oil stained chain link fence was removed and placed in a roll off container for off-site disposal. The fence posts associated with the chain link fence were cleaned. Approximately 200 gallons of oily/water was recovered during the cleanup. The oily/water is being characterized and will be transported for off-site disposal by Safety-Kleen. Oily/water disposal paperwork will be provided separately.

Residual oil accumulated around pipelines, cable racks, pump foundations, other structures, and over a portion of the gravel covered pump station yard (Figure 2). Visually stained gravel was manually excavated around the structures and the stained gravel yard area was scraped using the mini excavator and Dingo™. Impacted soil and gravel were placed in stock piles on site for later transfer to an approved landfill facility. Depths of the excavation varied across the site, ranging from surficial to several inches. Groundwater was not encountered during excavation activities. A total of approximately 300 cubic yards of excavated soil was stockpiled on-site and covered with plastic. The excavated soil was transported on June 20 and June 21, 2011 and disposed of at Waste Management's Rolling Meadows landfill in Topeka, Kansas. Waste manifests and landfill tickets will be provided to KDHE when they become available from Waste Management.

Soils were visually inspected and then screened using a photoionization detector (PID) with 10.6 eV lamp after excavation activities to determine the limits of excavation. In addition, the scraped area of the surface yard was screened using the PID. The field PID screening results are summarized in Table 1. Native soil was not encountered during excavation activities in the gravel layer at the surface yard. Since PID readings in the excavated gravel layer were non-detect, no soil samples were collected. Confirmation soil samples were collected at five locations off-site and two locations on-site where crude oil mist had been observed. Soil confirmation samples were submitted to Pace Analytical (Pace) of Lenexa, Kansas for benzene, toluene, ethylbenzene, and xylenes (BTEX) and diesel range organics (DRO) analyses. Confirmation soil sampling locations are shown on Figure 2. Confirmation soil sampling analytical results are summarized in Table 2 and provided as an attachment.

Water samples were collected from the off-site pond, pond effluent, and the on-site containment ditch to determine potential impact from the crude oil release. The water samples were submitted to Pace for BTEX and DRO analyses. Water sampling locations are shown on Figure 2. Water sample analytical results are summarized in Table 2 and provided as an attachment. Waste soil samples were collected from the excavated gravel stock piles and analyzed for benzene and RCRA 8 metals under the Toxicity Characteristic Leaching Procedure (TCLP). Laboratory analytical results for the waste soil samples are provided in Table 3.

Based on field observations, measurements, and analytical data, the response excavation efforts have mitigated impacts of BTEX and DRO to the surface and subsurface soils to below Kansas



Mr. Tom Winn,
KDHE
July 20, 2011
Page 3 of 3

Tier 2 Risk Based Screening Levels (RBSLs) for non-residential soil pathway scenarios. The excavated areas have been backfilled. No additional work is planned for the site.

This letter report is provided on behalf of TransCanada. If you have any questions regarding this letter report, please feel free to contact Robert Baumgartner, Environmental Program Manager for TransCanada, at 832-320-5538 or me at 913-344-1023.

Sincerely,



Rick O. Horner RG
Senior Project Manager

cc: Robert Baumgartner, TransCanada
Steve McManamon, URS

Enclosures:

Tables

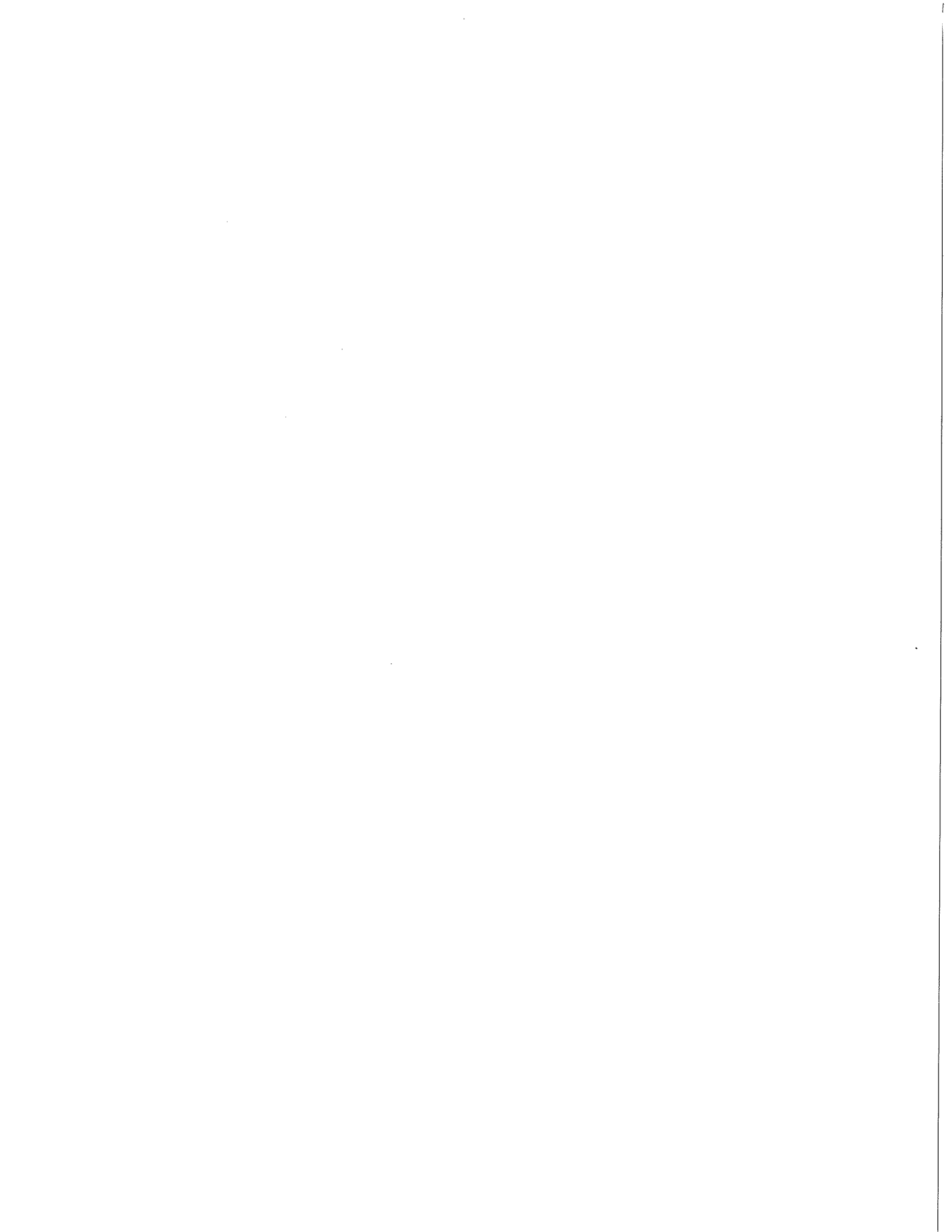
Table 1 – Laboratory Analysis Soil Verification
Table 2 – Laboratory Analysis Water Verification
Table 3 – Laboratory Analysis Soil Data for Disposal

Figures

Figure 1 – Site Location
Figure 2 – Soil and Water Sample Locations

Attachment

Laboratory Data



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

Location	Unit	OFF-1	OFF-2	OFF-3	OFF-4	OFF-5	ON-1	ON-2	Tier 2 Action Level**
Sample Date		5/31/11	5/31/11	5/31/11	5/31/11	5/31/11	5/31/11	5/31/11	
Lithology		Clay	Clay	Clay	Clay	Clay	Clay	Clay	
Depth	(feet)	Surface	Surface	Surface	Surface	Surface	Surface	Surface	
PID	(ppm)*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chemical of Concern									
Benzene	mg/kg	<0.0064	<0.0062	<0.0063	<0.0057	<0.0063	<0.0057	<0.0058	28.2
Toluene	mg/kg	<0.0064	<0.0062	<0.0063	<0.0057	<0.0063	<0.0057	<0.0058	29,800
Ethylbenzene	mg/kg	<0.0064	<0.0062	<0.0063	<0.0057	<0.0063	<0.0057	<0.0058	145
Total Xylenes	mg/kg	<0.0064	<0.0062	<0.0063	<0.0057	<0.0063	<0.0057	<0.0058	1,410
Total Petroleum Hydrocarbons (OA-2)	mg/kg	<24.8	<23.2	<24.1	<21.5	<25.2	<21.4	<23.3	20,000

NOTES:

mg/kg = Milligrams per kilogram, equivalent to parts per million (ppm) dry weight

<x = Not detected to reporting limits of x

*= Total organic vapors (ppm as isobutylene)

** = Tier 2 Non Residential Soil Pathway Action Level

**Table 2 – Laboratory Analysis Water Verification
TransCanada Keystone Pipeline
Severence Pump Station; Severence, Kansas**

Location	Unit	Severence Pond	Severence Outfall	Severence Ditch	Tier 2 Action Level**
Sample Date		5/31/11	5/31/11	5/31/11	
Media		Water	Water	Water	
Chemical of Concern					
Benzene	µg/l	<1.0	<1.0	<1.0	5.0
Toluene	µg/l	<1.0	<1.0	<1.0	1,000
Ethylbenzene	µg/l	<1.0	<1.0	<1.0	700
Total Xylenes	µg/l	<3.0	<3.0	<3.0	10,000
Total Petroleum Hydrocarbons (OA-2)	mg/l	<0.22	<0.21	<0.21	720

NOTES:

µg/L = Micrograms per liter, equivalent to parts per billion (ppb)

<x = Not detected to reporting limits of x

*=Total organic vapors (ppm as isobutylene)

** = Tier 2 Non Residential Groundwater Pathway Action Level

**Table 3– Laboratory Analysis Soil Data for Disposal
TransCanada Keystone Pipeline
Severence Pump Station; Severence, Kansas**

Location	Units	Waste
Sample Date		5/31/11
Lithology		Gravel
PID	(ppm)*	0.00
Chemical of Concern		
Benzene – TCLP	µg/l	<50.0
Arsenic - TCLP	mg/L	<0.50
Barium- TCLP	mg/L	<2.5
Cadmium- TCLP	mg/L	<0.050
Chromium-TCLP	mg/L	<0.10
Lead-TCLP	mg/L	<0.50
Selenium-TCLP	mg/L	<0.50
Silver-TCLP	mg/L	<0.10
Mercury-TCLP	µg/L	<2.0

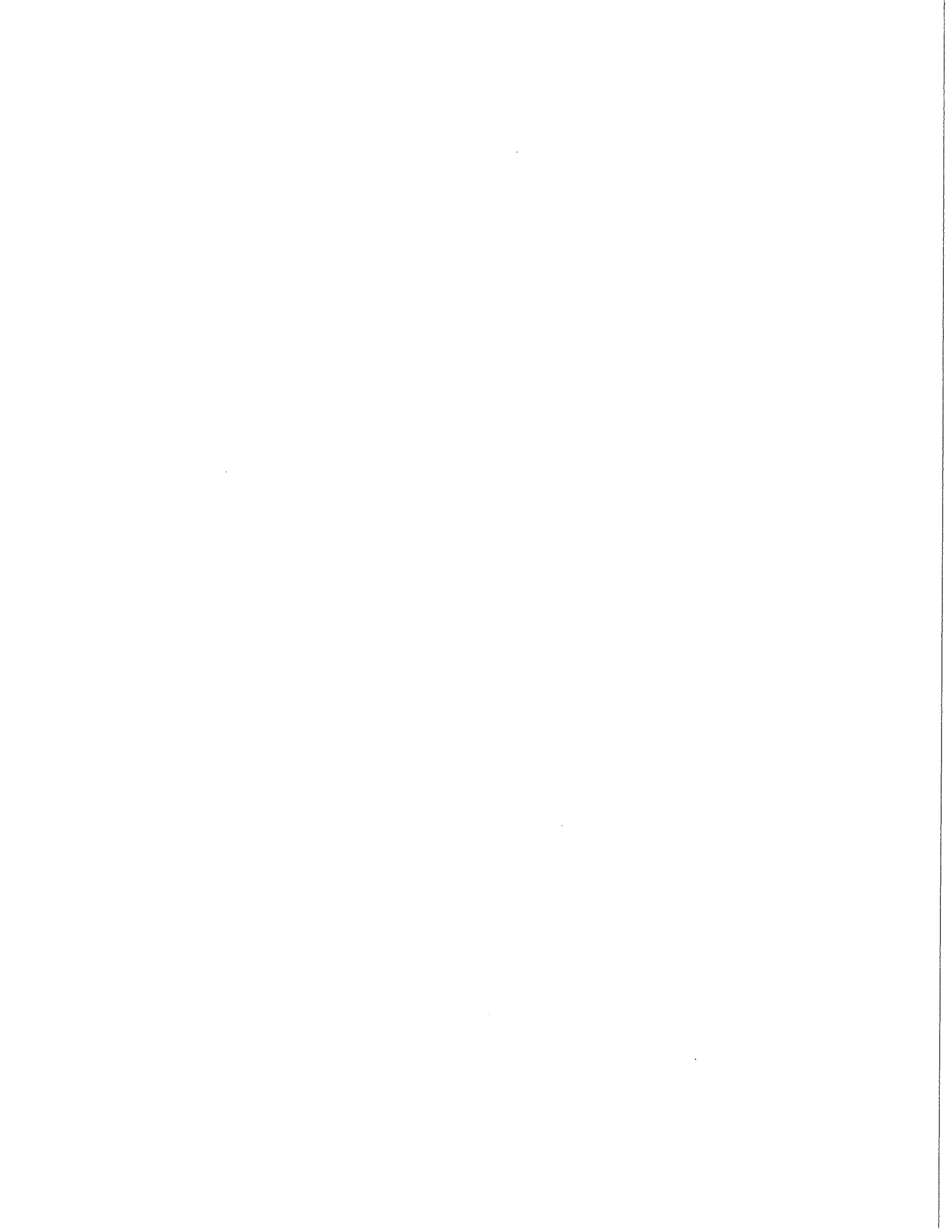
NOTES:

µg/L = Micrograms per liter, equivalent to parts per billion (ppb)

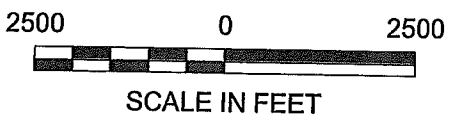
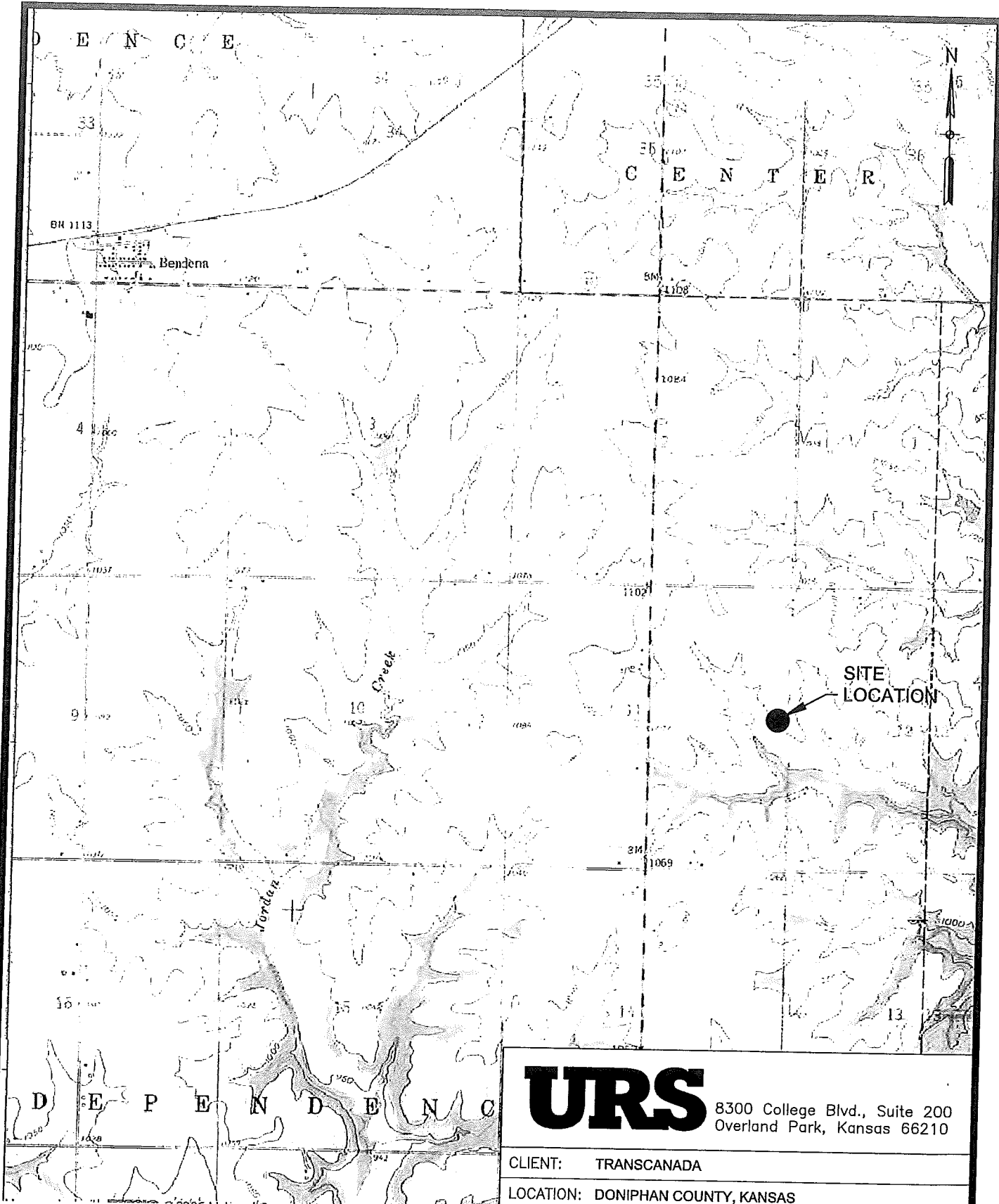
mg/L = Milligrams per liter, equivalent to parts per million (ppm)

<x = Not detected to reporting limits of x

*= Total organic vapors (ppm as isobutylene)



July 14, 2011 6:42:59 am (cra)
J:\TransCanada Severence\CAD\Plan Sheets\Location Map.dwg



URS 8300 College Blvd., Suite 200 Overland Park, Kansas 66210		
CLIENT: TRANSCANADA		
LOCATION: DONIPHAN COUNTY, KANSAS		
TITLE: SITE LOCATION		
DRAWN BY TMS	CHECKED BY ROH	APPROVED BY ALS
PROJECT NO. 31810971	DATE JULY 2011	FIGURE NO. 1

July 13, 2011 2:06.36 pm (cra)
J:\TransCanada Severence\CAD\Plan Sheets\Sample Locations.dwg



LEGEND:

- SOIL SAMPLE
- ▲ WATER SAMPLE



NOT TO SCALE

URS

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

CLIENT: TRANSCANADA SEVERENCE STATION

LOCATION: DONIPHAN COUNTY, KANSAS

TITLE: SOIL AND WATER
SAMPLE LOCATIONS

DRAWN BY TMS	CHECKED BY ROH	APPROVED BY ALS
PROJECT NO. 31810971	DATE JULY 2011	FIGURE NO. 2

June 07, 2011

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

RE: Project: SEVERANCE STATION
Pace Project No.: 6099915

Dear Rick Horner:

Enclosed are the analytical results for sample(s) received by the laboratory on June 01, 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

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SEVERANCE STATION
Pace Project No.: 6099915

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: SEVERANCE STATION
Pace Project No.: 6099915

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6099915001	OFF-1	Solid	05/31/11 15:30	06/01/11 07:33
6099915002	OFF-2	Solid	05/31/11 15:45	06/01/11 07:33
6099915003	OFF-3	Solid	05/31/11 16:00	06/01/11 07:33
6099915004	OFF-4	Solid	05/31/11 16:10	06/01/11 07:33
6099915005	OFF-5	Solid	05/31/11 16:20	06/01/11 07:33
6099915006	ON-1	Solid	05/31/11 16:30	06/01/11 07:33
6099915007	ON-2	Solid	05/31/11 16:40	06/01/11 07:33
6099915009	SEVERANCE POND	Water	05/31/11 13:30	06/01/11 07:33
6099915010	SEVERANCE OUTFALL	Water	05/31/11 14:30	06/01/11 07:33
6099915011	SEVERANCE DITCH	Water	05/31/11 14:00	06/01/11 07:33
6099915012	TRIP BLANK	Water	05/31/11 15:30	06/01/11 07:33

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SEVERANCE STATION
Pace Project No.: 6099915

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6099915001	OFF-1	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915002	OFF-2	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915003	OFF-3	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915004	OFF-4	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915005	OFF-5	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915006	ON-1	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915007	ON-2	OA2	SDR	9
		EPA 8260	RAB	8
		ASTM D2974-87	DWC	1
6099915009	SEVERANCE POND	OA2	SDR	9
		EPA 8260	BRM	9
6099915010	SEVERANCE OUTFALL	OA2	SDR	9
		EPA 8260	BRM	9
6099915011	SEVERANCE DITCH	OA2	SDR	9
		EPA 8260	BRM	9
6099915012	TRIP BLANK	EPA 8260	PRG	9

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: OFF-1 Lab ID: 6099915001 Collected: 05/31/11 15:30 Received: 06/01/11 07:33 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	24.8	1	06/02/11 00:00	06/02/11 20:34	68334-30-5	
Fuel Oil	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34	68553-00-4	
Jet Fuel	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34	94114-58-6	
Kerosene	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34	8008-20-6	
Mineral Spirits	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34	8030-30-6	
Motor Oil	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.8	1	06/02/11 00:00	06/02/11 20:34		
n-Tetracosane (S)	78	%	50-137	1	06/02/11 00:00	06/02/11 20:34	646-31-1	
p-Terphenyl (S)	86	%	41-129	1	06/02/11 00:00	06/02/11 20:34	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	6.4	1		06/04/11 13:45	71-43-2	
Ethylbenzene	ND	ug/kg	6.4	1		06/04/11 13:45	100-41-4	
Toluene	ND	ug/kg	6.4	1		06/04/11 13:45	108-88-3	
Xylene (Total)	ND	ug/kg	6.4	1		06/04/11 13:45	1330-20-7	
Dibromofluoromethane (S)	104	%	68-129	1		06/04/11 13:45	1868-53-7	
Toluene-d8 (S)	101	%	81-121	1		06/04/11 13:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		06/04/11 13:45	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	77-131	1		06/04/11 13:45	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	22.8	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: OFF-2 Lab ID: 6099915002 Collected: 05/31/11 15:45 Received: 06/01/11 07:33 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	06/02/11 00:00	06/02/11 20:58	68334-30-5	
Fuel Oil	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58	68553-00-4	
Jet Fuel	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58	94114-58-6	
Kerosene	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58	8008-20-6	
Mineral Spirits	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58	8030-30-6	
Motor Oil	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.2	1	06/02/11 00:00	06/02/11 20:58		
n-Tetracosane (S)	82	%	50-137	1	06/02/11 00:00	06/02/11 20:58	646-31-1	
p-Terphenyl (S)	88	%	41-129	1	06/02/11 00:00	06/02/11 20:58	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	6.2	1		06/04/11 14:00	71-43-2	
Ethylbenzene	ND	ug/kg	6.2	1		06/04/11 14:00	100-41-4	
Toluene	ND	ug/kg	6.2	1		06/04/11 14:00	108-88-3	
Xylene (Total)	ND	ug/kg	6.2	1		06/04/11 14:00	1330-20-7	
Dibromofluoromethane (S)	104	%	68-129	1		06/04/11 14:00	1868-53-7	
Toluene-d8 (S)	101	%	81-121	1		06/04/11 14:00	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		06/04/11 14:00	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	77-131	1		06/04/11 14:00	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	21.3	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: OFF-3 Lab ID: 6099915003 Collected: 05/31/11 16:00 Received: 06/01/11 07:33 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	24.1	1	06/02/11 00:00	06/02/11 21:22	68334-30-5	
Fuel Oil	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22	68553-00-4	
Jet Fuel	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22	94114-58-6	
Kerosene	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22	8008-20-6	
Mineral Spirits	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22	8030-30-6	
Motor Oil	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.1	1	06/02/11 00:00	06/02/11 21:22		
n-Tetracosane (S)	78	%	50-137	1	06/02/11 00:00	06/02/11 21:22	646-31-1	
p-Terphenyl (S)	85	%	41-129	1	06/02/11 00:00	06/02/11 21:22	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	6.3	1		06/04/11 14:14	71-43-2	
Ethylbenzene	ND	ug/kg	6.3	1		06/04/11 14:14	100-41-4	
Toluene	ND	ug/kg	6.3	1		06/04/11 14:14	108-88-3	
Xylene (Total)	ND	ug/kg	6.3	1		06/04/11 14:14	1330-20-7	
Dibromofluoromethane (S)	108	%	68-129	1		06/04/11 14:14	1868-53-7	
Toluene-d8 (S)	102	%	81-121	1		06/04/11 14:14	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-131	1		06/04/11 14:14	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	77-131	1		06/04/11 14:14	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.2	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: OFF-4 Lab ID: 6099915004 Collected: 05/31/11 16:10 Received: 06/01/11 07:33 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	21.5	1	06/02/11 00:00	06/02/11 21:46	68334-30-5	
Fuel Oil	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46	68553-00-4	
Jet Fuel	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46	94114-58-6	
Kerosene	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46	8008-20-6	
Mineral Spirits	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46	8030-30-6	
Motor Oil	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	21.5	1	06/02/11 00:00	06/02/11 21:46		
n-Tetracosane (S)	79	%	50-137	1	06/02/11 00:00	06/02/11 21:46	646-31-1	
p-Terphenyl (S)	85	%	41-129	1	06/02/11 00:00	06/02/11 21:46	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	5.7	1		06/04/11 14:29	71-43-2	
Ethylbenzene	ND	ug/kg	5.7	1		06/04/11 14:29	100-41-4	
Toluene	ND	ug/kg	5.7	1		06/04/11 14:29	108-88-3	
Xylene (Total)	ND	ug/kg	5.7	1		06/04/11 14:29	1330-20-7	
Dibromofluoromethane (S)	105	%	68-129	1		06/04/11 14:29	1868-53-7	
Toluene-d8 (S)	102	%	81-121	1		06/04/11 14:29	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-131	1		06/04/11 14:29	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	77-131	1		06/04/11 14:29	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	12.5	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION

Pace Project No.: 6099915

Sample: OFF-5 Lab ID: 6099915005 Collected: 05/31/11 16:20 Received: 06/01/11 07:33 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		25.2	1	06/02/11 00:00	06/02/11 22:09	68334-30-5	
Fuel Oil	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09	68553-00-4	
Jet Fuel	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09	94114-58-6	
Kerosene	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09	8008-20-6	
Mineral Spirits	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09	8030-30-6	
Motor Oil	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09	64742-65-0	
Total Petroleum Hydrocarbons	ND mg/kg		25.2	1	06/02/11 00:00	06/02/11 22:09		
n-Tetracosane (S)	78 %		50-137	1	06/02/11 00:00	06/02/11 22:09	646-31-1	
p-Terphenyl (S)	85 %		41-129	1	06/02/11 00:00	06/02/11 22:09	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND ug/kg		6.3	1		06/04/11 14:43	71-43-2	
Ethylbenzene	ND ug/kg		6.3	1		06/04/11 14:43	100-41-4	
Toluene	ND ug/kg		6.3	1		06/04/11 14:43	108-88-3	
Xylene (Total)	ND ug/kg		6.3	1		06/04/11 14:43	1330-20-7	
Dibromofluoromethane (S)	108 %		68-129	1		06/04/11 14:43	1868-53-7	
Toluene-d8 (S)	102 %		81-121	1		06/04/11 14:43	2037-26-5	
4-Bromofluorobenzene (S)	100 %		75-131	1		06/04/11 14:43	460-00-4	
1,2-Dichloroethane-d4 (S)	119 %		77-131	1		06/04/11 14:43	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	22.0 %		0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: ON-1 Lab ID: 6099915006 Collected: 05/31/11 16:30 Received: 06/01/11 07:33 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	21.4	1	06/02/11 00:00	06/02/11 22:33	68334-30-5	
Fuel Oil	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33	68553-00-4	
Jet Fuel	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33	94114-58-6	
Kerosene	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33	8008-20-6	
Mineral Spirits	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33	8030-30-6	
Motor Oil	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	21.4	1	06/02/11 00:00	06/02/11 22:33		
n-Tetracosane (S)	78	%	50-137	1	06/02/11 00:00	06/02/11 22:33	646-31-1	
p-Terphenyl (S)	84	%	41-129	1	06/02/11 00:00	06/02/11 22:33	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	5.7	1		06/04/11 14:58	71-43-2	
Ethylbenzene	ND	ug/kg	5.7	1		06/04/11 14:58	100-41-4	
Toluene	ND	ug/kg	5.7	1		06/04/11 14:58	108-88-3	
Xylene (Total)	ND	ug/kg	5.7	1		06/04/11 14:58	1330-20-7	
Dibromofluoromethane (S)	105	%	68-129	1		06/04/11 14:58	1868-53-7	
Toluene-d8 (S)	101	%	81-121	1		06/04/11 14:58	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-131	1		06/04/11 14:58	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	77-131	1		06/04/11 14:58	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	13.3	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: ON-2 Lab ID: 6099915007 Collected: 05/31/11 16:40 Received: 06/01/11 07:33 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	23.3	1	06/02/11 00:00	06/02/11 22:57	68334-30-5	
Fuel Oil	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57	68553-00-4	
Jet Fuel	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57	94114-58-6	
Kerosene	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57	8008-20-6	
Mineral Spirits	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57	8030-30-6	
Motor Oil	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.3	1	06/02/11 00:00	06/02/11 22:57		
n-Tetracosane (S)	77	%	50-137	1	06/02/11 00:00	06/02/11 22:57	646-31-1	
p-Terphenyl (S)	83	%	41-129	1	06/02/11 00:00	06/02/11 22:57	92-94-4	
8260 MSV 5035A VOA		Analytical Method: EPA 8260						
Benzene	ND	ug/kg	5.8	1		06/04/11 15:12	71-43-2	
Ethylbenzene	ND	ug/kg	5.8	1		06/04/11 15:12	100-41-4	
Toluene	ND	ug/kg	5.8	1		06/04/11 15:12	108-88-3	
Xylene (Total)	ND	ug/kg	5.8	1		06/04/11 15:12	1330-20-7	
Dibromofluoromethane (S)	104	%	68-129	1		06/04/11 15:12	1868-53-7	
Toluene-d8 (S)	102	%	81-121	1		06/04/11 15:12	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-131	1		06/04/11 15:12	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	77-131	1		06/04/11 15:12	17060-07-0	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	16.1	%	0.50	1		06/02/11 00:00		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: SEVERANCE POND Lab ID: 6099915009 Collected: 05/31/11 13:30 Received: 06/01/11 07:33 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	68334-30-5	
Fuel Oil	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	68553-00-4	
Jet Fuel	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	94114-58-6	
Kerosene	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	8008-20-6	
Mineral Spirits	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	8030-30-6	
Motor Oil	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.22	1	06/01/11 00:00	06/02/11 16:59		
p-Terphenyl (S)	55 %		20-122	1	06/01/11 00:00	06/02/11 16:59	92-94-4	
n-Tetracosane (S)	58 %		30-122	1	06/01/11 00:00	06/02/11 16:59	646-31-1	
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		06/01/11 20:54	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/01/11 20:54	100-41-4	
Toluene	ND	ug/L	1.0	1		06/01/11 20:54	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/01/11 20:54	1330-20-7	
Dibromofluoromethane (S)	98 %		86-112	1		06/01/11 20:54	1868-53-7	
Toluene-d8 (S)	101 %		90-110	1		06/01/11 20:54	2037-26-5	
4-Bromofluorobenzene (S)	96 %		87-113	1		06/01/11 20:54	460-00-4	
1,2-Dichloroethane-d4 (S)	90 %		82-119	1		06/01/11 20:54	17060-07-0	
Preservation pH	1.0		1.0	1		06/01/11 20:54		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: SEVERANCE OUTFALL	Lab ID: 6099915010	Collected: 05/31/11 14:30	Received: 06/01/11 07:33	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual

OA2 GCS

Analytical Method: OA2 Preparation Method: OA2

Diesel Fuel	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	68334-30-5	
Fuel Oil	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	68553-00-4	
Jet Fuel	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	94114-58-6	
Kerosene	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	8008-20-6	
Mineral Spirits	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	8030-30-6	
Motor Oil	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23	64742-65-0	
Total Petroleum Hydrocarbons	ND mg/L		0.21	1	06/01/11 00:00	06/02/11 17:23		
p-Terphenyl (S)	57 %		20-122	1	06/01/11 00:00	06/02/11 17:23	92-94-4	
n-Tetracosane (S)	58 %		30-122	1	06/01/11 00:00	06/02/11 17:23	646-31-1	

8260 MSV UST, Water

Analytical Method: EPA 8260

Benzene	ND ug/L		1.0	1		06/01/11 21:10	71-43-2	
Ethylbenzene	ND ug/L		1.0	1		06/01/11 21:10	100-41-4	
Toluene	ND ug/L		1.0	1		06/01/11 21:10	108-88-3	
Xylene (Total)	ND ug/L		3.0	1		06/01/11 21:10	1330-20-7	
Dibromofluoromethane (S)	101 %		86-112	1		06/01/11 21:10	1868-53-7	
Toluene-d8 (S)	97 %		90-110	1		06/01/11 21:10	2037-26-5	
4-Bromofluorobenzene (S)	93 %		87-113	1		06/01/11 21:10	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		82-119	1		06/01/11 21:10	17060-07-0	
Preservation pH	1.0		1.0	1		06/01/11 21:10		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample: SEVERANCE DITCH Lab ID: 6099915011 Collected: 05/31/11 14:00 Received: 06/01/11 07:33 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	68334-30-5	
Fuel Oil	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	68553-00-4	
Jet Fuel	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	94114-58-6	
Kerosene	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	8008-20-6	
Mineral Spirits	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	8030-30-6	
Motor Oil	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/L	0.21	1	06/01/11 00:00	06/02/11 17:47		
p-Terphenyl (S)	56	%	20-122	1	06/01/11 00:00	06/02/11 17:47	92-94-4	
n-Tetracosane (S)	60	%	30-122	1	06/01/11 00:00	06/02/11 17:47	646-31-1	
8260 MSV UST, Water		Analytical Method: EPA 8260						
Benzene	ND	ug/L	1.0	1		06/01/11 21:25	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/01/11 21:25	100-41-4	
Toluene	ND	ug/L	1.0	1		06/01/11 21:25	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/01/11 21:25	1330-20-7	
Dibromofluoromethane (S)	98	%	86-112	1		06/01/11 21:25	1868-53-7	
Toluene-d8 (S)	96	%	90-110	1		06/01/11 21:25	2037-26-5	
4-Bromofluorobenzene (S)	93	%	87-113	1		06/01/11 21:25	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	82-119	1		06/01/11 21:25	17060-07-0	
Preservation pH	1.0		1.0	1		06/01/11 21:25		

ANALYTICAL RESULTS

Project: SEVERANCE STATION
Pace Project No.: 6099915

Sample:	Lab ID:	Collected:	Received:	Matrix:				
TRIP BLANK	6099915012	05/31/11 15:30	06/01/11 07:33	Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		06/06/11 16:51	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		06/06/11 16:51	100-41-4	
Toluene	ND	ug/L	1.0	1		06/06/11 16:51	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		06/06/11 16:51	1330-20-7	
Dibromofluoromethane (S)	102	%	86-112	1		06/06/11 16:51	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		06/06/11 16:51	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-113	1		06/06/11 16:51	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-119	1		06/06/11 16:51	17060-07-0	
Preservation pH	1.0		1.0	1		06/06/11 16:51		

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 6099915

QC Batch: OEXT/28726 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 6099915001, 6099915002, 6099915003, 6099915004, 6099915005, 6099915006, 6099915007

METHOD BLANK: 823487 Matrix: Solid
Associated Lab Samples: 6099915001, 6099915002, 6099915003, 6099915004, 6099915005, 6099915006, 6099915007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	19.0	06/02/11 18:59	
Fuel Oil	mg/kg	ND	19.0	06/02/11 18:59	
Jet Fuel	mg/kg	ND	19.0	06/02/11 18:59	
Kerosene	mg/kg	ND	19.0	06/02/11 18:59	
Mineral Spirits	mg/kg	ND	19.0	06/02/11 18:59	
Motor Oil	mg/kg	ND	19.0	06/02/11 18:59	
Total Petroleum Hydrocarbons	mg/kg	ND	19.0	06/02/11 18:59	
n-Tetracosane (S)	%	83	50-137	06/02/11 18:59	
p-Terphenyl (S)	%	89	41-129	06/02/11 18:59	

LABORATORY CONTROL SAMPLE: 823488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	466	507	109	66-138	
n-Tetracosane (S)	%			85	50-137	
p-Terphenyl (S)	%			91	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 823489 823490

Parameter	Units	6099915002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Diesel Fuel	mg/kg	ND	562	606	662	682	118	113	56-154	3	27
n-Tetracosane (S)	%						82	78	50-137		
p-Terphenyl (S)	%						94	89	41-129		

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 6099915

QC Batch: OEXT/28713 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 6099915009, 6099915010, 6099915011

METHOD BLANK: 823194 Matrix: Water
Associated Lab Samples: 6099915009, 6099915010, 6099915011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/L	ND	0.20	06/02/11 16:12	
Fuel Oil	mg/L	ND	0.20	06/02/11 16:12	
Jet Fuel	mg/L	ND	0.20	06/02/11 16:12	
Kerosene	mg/L	ND	0.20	06/02/11 16:12	
Mineral Spirits	mg/L	ND	0.20	06/02/11 16:12	
Motor Oil	mg/L	ND	0.20	06/02/11 16:12	
Total Petroleum Hydrocarbons	mg/L	ND	0.20	06/02/11 16:12	
n-Tetracosane (S)	%	56	30-122	06/02/11 16:12	
p-Terphenyl (S)	%	45	20-122	06/02/11 16:12	

LABORATORY CONTROL SAMPLE: 823195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/L	2.5	1.6	65	47-122	
n-Tetracosane (S)	%			55	30-122	
p-Terphenyl (S)	%			48	20-122	

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 6099915

QC Batch: MSV/37526 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV 5035A Volatile Organics
Associated Lab Samples: 6099915001, 6099915002, 6099915003, 6099915004, 6099915005, 6099915006, 6099915007

METHOD BLANK: 824344 Matrix: Solid
Associated Lab Samples: 6099915001, 6099915002, 6099915003, 6099915004, 6099915005, 6099915006, 6099915007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	5.0	06/04/11 10:38	
Ethylbenzene	ug/kg	ND	5.0	06/04/11 10:38	
Toluene	ug/kg	ND	5.0	06/04/11 10:38	
Xylene (Total)	ug/kg	ND	5.0	06/04/11 10:38	
1,2-Dichloroethane-d4 (S)	%	100	77-131	06/04/11 10:38	
4-Bromofluorobenzene (S)	%	97	75-131	06/04/11 10:38	
Dibromofluoromethane (S)	%	101	68-129	06/04/11 10:38	
Toluene-d8 (S)	%	101	81-121	06/04/11 10:38	

LABORATORY CONTROL SAMPLE: 824345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	100	101	101	84-119	
Ethylbenzene	ug/kg	100	106	106	80-120	
Toluene	ug/kg	100	97.7	98	83-117	
Xylene (Total)	ug/kg	300	309	103	80-120	
1,2-Dichloroethane-d4 (S)	%			96	77-131	
4-Bromofluorobenzene (S)	%			102	75-131	
Dibromofluoromethane (S)	%			99	68-129	
Toluene-d8 (S)	%			99	81-121	

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 6099915

QC Batch: MSV/37469 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6099915009, 6099915010, 6099915011

METHOD BLANK: 823353 Matrix: Water
Associated Lab Samples: 6099915009, 6099915010, 6099915011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/01/11 15:33	
Ethylbenzene	ug/L	ND	1.0	06/01/11 15:33	
Toluene	ug/L	ND	1.0	06/01/11 15:33	
Xylene (Total)	ug/L	ND	3.0	06/01/11 15:33	
1,2-Dichloroethane-d4 (S)	%	105	82-119	06/01/11 15:33	
4-Bromofluorobenzene (S)	%	102	87-113	06/01/11 15:33	
Dibromofluoromethane (S)	%	99	86-112	06/01/11 15:33	
Toluene-d8 (S)	%	96	90-110	06/01/11 15:33	

LABORATORY CONTROL SAMPLE: 823354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.1	95	82-117	
Ethylbenzene	ug/L	20	18.2	91	79-121	
Toluene	ug/L	20	17.8	89	80-120	
Xylene (Total)	ug/L	60	56.6	94	79-120	
1,2-Dichloroethane-d4 (S)	%			94	82-119	
4-Bromofluorobenzene (S)	%			97	87-113	
Dibromofluoromethane (S)	%			93	86-112	
Toluene-d8 (S)	%			94	90-110	

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 6099915

QC Batch: MSV/37569 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 6099915012

METHOD BLANK: 825515 Matrix: Water
Associated Lab Samples: 6099915012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/06/11 15:58	
Ethylbenzene	ug/L	ND	1.0	06/06/11 15:58	
Toluene	ug/L	ND	1.0	06/06/11 15:58	
Xylene (Total)	ug/L	ND	3.0	06/06/11 15:58	
1,2-Dichloroethane-d4 (S)	%	102	82-119	06/06/11 15:58	
4-Bromofluorobenzene (S)	%	97	87-113	06/06/11 15:58	
Dibromofluoromethane (S)	%	98	86-112	06/06/11 15:58	
Toluene-d8 (S)	%	98	90-110	06/06/11 15:58	

LABORATORY CONTROL SAMPLE: 825516

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.5	97	82-117	
Ethylbenzene	ug/L	20	19.5	97	79-121	
Toluene	ug/L	20	19.8	99	80-120	
Xylene (Total)	ug/L	60	56.6	94	79-120	
1,2-Dichloroethane-d4 (S)	%			104	82-119	
4-Bromofluorobenzene (S)	%			101	87-113	
Dibromofluoromethane (S)	%			101	86-112	
Toluene-d8 (S)	%			102	90-110	

QUALIFIERS

Project: SEVERANCE STATION
Pace Project No.: 6099915

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.

BATCH QUALIFIERS

Batch: OEXT/28713

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/37469

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/37526

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: MSV/37569

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SEVERANCE STATION
Pace Project No.: 6099915

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6099915001	OFF-1	OA2	OEXT/28726	OA2	GCSV/10599
6099915002	OFF-2	OA2	OEXT/28726	OA2	GCSV/10599
6099915003	OFF-3	OA2	OEXT/28726	OA2	GCSV/10599
6099915004	OFF-4	OA2	OEXT/28726	OA2	GCSV/10599
6099915005	OFF-5	OA2	OEXT/28726	OA2	GCSV/10599
6099915006	ON-1	OA2	OEXT/28726	OA2	GCSV/10599
6099915007	ON-2	OA2	OEXT/28726	OA2	GCSV/10599
6099915009	SEVERANCE POND	OA2	OEXT/28713	OA2	GCSV/10598
6099915010	SEVERANCE OUTFALL	OA2	OEXT/28713	OA2	GCSV/10598
6099915011	SEVERANCE DITCH	OA2	OEXT/28713	OA2	GCSV/10598
6099915001	OFF-1	EPA 8260	MSV/37526		
6099915002	OFF-2	EPA 8260	MSV/37526		
6099915003	OFF-3	EPA 8260	MSV/37526		
6099915004	OFF-4	EPA 8260	MSV/37526		
6099915005	OFF-5	EPA 8260	MSV/37526		
6099915006	ON-1	EPA 8260	MSV/37526		
6099915007	ON-2	EPA 8260	MSV/37526		
6099915009	SEVERANCE POND	EPA 8260	MSV/37469		
6099915010	SEVERANCE OUTFALL	EPA 8260	MSV/37469		
6099915011	SEVERANCE DITCH	EPA 8260	MSV/37469		
6099915012	TRIP BLANK	EPA 8260	MSV/37569		
6099915001	OFF-1	ASTM D2974-87	PMST/6187		
6099915002	OFF-2	ASTM D2974-87	PMST/6187		
6099915003	OFF-3	ASTM D2974-87	PMST/6187		
6099915004	OFF-4	ASTM D2974-87	PMST/6187		
6099915005	OFF-5	ASTM D2974-87	PMST/6187		
6099915006	ON-1	ASTM D2974-87	PMST/6187		
6099915007	ON-2	ASTM D2974-87	PMST/6187		

Section A Required Client Information:
 Company: **URS Corp**
 Address: **8300 College Blvd Ste 200**
Overland Park, KS 66210
 Email To: **brion-meyer@urscorp.com**

Section B Required Project Information:
 Report To: **rick-hoan@urscorp.com**
 Copy To: **Aaron-Steisner@urscorp.com**
 Purchase Order No.: **brion-meyer@urscorp.com**

Section C Invoice Information:
 Attention: **Transcepts**
 Company Name: **URS**
 Address: **Same**
 Pace Quote Reference: **Mary Zoe walls**
 Pace Project Manager: **Mary Zoe walls**
 Pace Profile #:

Section D Required Client Information:
 Project Name: **Severance Station**
 Project Number: **713-344-1011**
 Requested Due Date/TAT: **7/16/15 due 2day**

Page: **1** of **1**
 Regulatory Agency: **KS**
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

ITEM #	SAMPLE ID (A-Z, 0-9 / -)	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		# OF CONTAINERS	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB					
1	Off-12(WGFU)	DW	SL	G	1530	1530	2	X			6099915
2	Off-2	WT	SL	G	1545	1545	2	X			5 day turn
3	Off-3	WT	SL	G	1600	1600	2	X			
4	Off-4	Product	SL	G	1600	1600	2	X			
5	Off-5	Soil/Solid	SL	G	1620	1620	2	X			
6	On-1	Oil	SL	G	1630	1630	2	X			
7	On-2	Wipe	SL	G	1640	1640	2	X			
8	Waste 3(WGFU)	Waste Water	WT	G	1650	1650	3	X			
9	Severance Pond	Water	WT	G	1730	3(DG9H)	4	X			
10	Severance Outfall	Product	WT	G	1430	↓	4	X			
11	Severance Ditch	Soil/Solid	WT	G	1400	↓	4	X			
12	Trip Blank	Other	---	---	---	---	2	X			

RELIQUISHED BY / AFFILIATION DATE TIME
 6/11/11 0733

ACCEPTED BY / AFFILIATION DATE TIME
 6/11/11 0733 2.0 Y N Y

SAMPLE CONDITIONS
 Received on Ice (Y/N)
 Custody Sealed Cooler (Y/N)
 Samples Intact (Y/N)

ADDITIONAL COMMENTS
 BTEX SAGO
 TPH-DRO DAZ
 TCLP Benzene
 TCLP PCB-Metals

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Brion Meyer**
 SIGNATURE OF SAMPLER: *Brion Meyer*
 DATE Signed (MM/DD/YYYY): **5/21/11**

ORIGINAL

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



Sample Condition Upon Receipt

Client Name: URS Corp

Project #: 6099915

Courier: Fed Ex UPS USPS Client Commercial Pace Other

Tracking #: Pace Shipping Label Used? Yes No

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

Optional Proj. Due Date: 6/2/11 Proj. Name: Severance Station

Packing Material: Bubble Wrap Bubble Bags Foam None Other ZALC

Thermometer Used: T-191 T-194 Type of Ice: Wet Blue None Samples on Ice, cooling process has begun

Cooler Temperature: 2.0

Date and Initials of person examining contents: MR 6-1-11

Temperature should be above freezing to 6°C

Comments:

Table with 17 rows of inspection items and checkboxes. Items include Chain of Custody, Rush Turn Around Time (24 hour & 48 hour), Containers intact, and Project sampled in USDA Regulated Area.

Client Notification/ Resolution: Copy COC to Client? Y N Field Data Required? Y N

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: [Signature]

Date: 6.1.11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

June 03, 2011

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

RE: Project: SEVERANCE STATION
Pace Project No.: 60100143

Dear Rick Horner:

Enclosed are the analytical results for sample(s) received by the laboratory on June 01, 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

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: SEVERANCE STATION
Pace Project No.: 60100143

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

REPORT OF LABORATORY ANALYSIS

Page 2 of 10

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SAMPLE SUMMARY

Project: SEVERANCE STATION
Pace Project No.: 60100143

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6099915008	WASTE	Solid	05/31/11 16:50	06/01/11 07:33

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: SEVERANCE STATION
Pace Project No.: 60100143

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6099915008	WASTE	EPA 6010	SMW	7
		EPA 7470	JDH	1
		EPA 8260	RAB	5

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: SEVERANCE STATION

Pace Project No.: 60100143

Sample: WASTE Lab ID: 6099915008 Collected: 05/31/11 16:50 Received: 06/01/11 07:33 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP		Analytical Method: EPA 6010 Preparation Method: EPA 3010						
		Leachate Method/Date: EPA 1311; 06/01/11 00:00						
Arsenic	ND	mg/L	0.50	1	06/02/11 10:50	06/02/11 18:35	7440-38-2	
Barium	ND	mg/L	2.5	1	06/02/11 10:50	06/02/11 18:35	7440-39-3	
Cadmium	ND	mg/L	0.050	1	06/02/11 10:50	06/02/11 18:35	7440-43-9	
Chromium	ND	mg/L	0.10	1	06/02/11 10:50	06/02/11 18:35	7440-47-3	
Lead	ND	mg/L	0.50	1	06/02/11 10:50	06/02/11 18:35	7439-92-1	
Selenium	ND	mg/L	0.50	1	06/02/11 10:50	06/02/11 18:35	7782-49-2	
Silver	ND	mg/L	0.10	1	06/02/11 10:50	06/02/11 18:35	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 06/01/11 00:00						
Mercury	ND	ug/L	2.0	1	06/03/11 11:04	06/03/11 15:24	7439-97-6	
8260 MSV TCLP		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 06/01/11 00:00						
Benzene	ND	ug/L	50.0	1		06/02/11 14:29	71-43-2	
1,2-Dichloroethane-d4 (S)	100	%	83-120	1		06/02/11 14:29	17060-07-0	
Toluene-d8 (S)	100	%	81-117	1		06/02/11 14:29	2037-26-5	
4-Bromofluorobenzene (S)	98	%	82-121	1		06/02/11 14:29	460-00-4	
Dibromofluoromethane (S)	100	%	85-113	1		06/02/11 14:29	1868-53-7	

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 60100143

QC Batch: MPRP/14376 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6099915008

METHOD BLANK: 823670 Matrix: Water
Associated Lab Samples: 6099915008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	06/02/11 18:29	
Barium	mg/L	ND	2.5	06/02/11 18:29	
Cadmium	mg/L	ND	0.050	06/02/11 18:29	
Chromium	mg/L	ND	0.10	06/02/11 18:29	
Lead	mg/L	ND	0.50	06/02/11 18:29	
Selenium	mg/L	ND	0.50	06/02/11 18:29	
Silver	mg/L	ND	0.10	06/02/11 18:29	

LABORATORY CONTROL SAMPLE: 823671

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.94	94	80-120	
Barium	mg/L	1	0.98	98	80-120	
Cadmium	mg/L	1	0.95	95	80-120	
Chromium	mg/L	1	0.98	98	80-120	
Lead	mg/L	1	1.0	100	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: 823672 823673

Parameter	Units	6099915008 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
			Spike Conc.	Conc.	Result	Result					
Arsenic	mg/L	ND	10	10	9.8	9.4	98	94	75-125	5	20
Barium	mg/L	ND	10	10	9.9	9.4	97	92	75-125	5	20
Cadmium	mg/L	ND	10	10	9.6	9.2	96	92	75-125	5	20
Chromium	mg/L	ND	10	10	9.6	9.2	96	92	75-125	5	20
Lead	mg/L	ND	10	10	9.5	9.0	95	90	75-125	5	20
Selenium	mg/L	ND	10	10	9.8	9.3	98	93	75-125	5	20
Silver	mg/L	ND	5	5	4.9	4.6	97	92	75-125	5	20

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 60100143

QC Batch: MERP/5216 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6099915008

METHOD BLANK: 824262 Matrix: Water
Associated Lab Samples: 6099915008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	06/03/11 15:20	

LABORATORY CONTROL SAMPLE: 824263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	89	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 824264 824265

Parameter	Units	6099915008 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	13.4	13.7	90	91	75-125	2	19	

QUALITY CONTROL DATA

Project: SEVERANCE STATION
Pace Project No.: 60100143

QC Batch: MSV/37500 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 6099915008

METHOD BLANK: 823813 Matrix: Water
Associated Lab Samples: 6099915008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	50.0	06/02/11 14:15	
1,2-Dichloroethane-d4 (S)	%	102	83-120	06/02/11 14:15	
4-Bromofluorobenzene (S)	%	99	82-121	06/02/11 14:15	
Dibromofluoromethane (S)	%	101	85-113	06/02/11 14:15	
Toluene-d8 (S)	%	101	81-117	06/02/11 14:15	

LABORATORY CONTROL SAMPLE: 823814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	1000	1010	101	81-120	
1,2-Dichloroethane-d4 (S)	%			100	83-120	
4-Bromofluorobenzene (S)	%			102	82-121	
Dibromofluoromethane (S)	%			100	85-113	
Toluene-d8 (S)	%			100	81-117	

MATRIX SPIKE SAMPLE: 823815

Parameter	Units	6099879009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	1000	980	98	53-130	
1,2-Dichloroethane-d4 (S)	%				99	83-120	
4-Bromofluorobenzene (S)	%				101	82-121	
Dibromofluoromethane (S)	%				99	85-113	
Toluene-d8 (S)	%				100	81-117	

QUALIFIERS

Project: SEVERANCE STATION
Pace Project No.: 60100143

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.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SEVERANCE STATION
Pace Project No.: 60100143

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6099915008	WASTE	EPA 3010	MPRP/14376	EPA 6010	ICP/12503
6099915008	WASTE	EPA 7470	MERP/5216	EPA 7470	MERC/5187
6099915008	WASTE	EPA 8260	MSV/37500		

