


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:	06/10/2011
	No.	20110181 - 19269 ----- (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:	04/17/2014		
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:	02/17/2011 15:10		
5. Location of Accident:			
Latitude:	37.3612		
Longitude:	-97.0539		
6. National Response Center Report Number (if applicable):	968357		
7. Local time (24-hr clock) and date of initial telephonic report to the National Response Center (if applicable):	02/23/2011 14:43		
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):	.24		
10. Estimated volume of intentional and/or controlled release/blowdown (Barrels):			
11. Estimated volume of commodity recovered (Barrels):	.24		
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?	Yes
- If No, Explain:	
- If Yes, complete Questions 14a and 14b: (use local time, 24-hr clock)	
14a. Local time and date of shutdown:	02/17/2011 15:10
14b. Local time pipeline/facility restarted:	02/18/2011 08:00
- 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:	02/17/2011 15:10
18b. Local time Operator resources arrived on site:	02/17/2011 15:10
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:	67146
4. City:	Udall
5. County or Parish:	Cowley
6. Operator-designated location:	Milepost/Valve Station
Specify:	193.4
7. Pipeline/Facility name:	Rock Pump Station
8. Segment name/ID:	Gateway
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:	
- If Other, Describe:	
Depth-of-Cover (in):	
12. Did Accident occur in a crossing?	
- 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:	Valve

- 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:	Auxiliary or Other Valve
- 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:	
5. Material involved in Accident:	
- If Material other than Carbon Steel, specify:	
6. Type of Accident Involved:	Leak
- If Mechanical Puncture – Specify Approx. size:	
in. (axial) by	
in. (circumferential)	
- If Leak - Select Type:	Seal or Packing
- If Other, Describe:	
- If Rupture - Select Orientation:	
- If Other, Describe:	
Approx. size: in. (widest opening) by	
in. (length circumferentially or axially)	
- If Other – Describe:	
PART D - ADDITIONAL CONSEQUENCE INFORMATION	
1. Wildlife impact:	
1a. If Yes, specify all that apply:	
- Fish/aquatic	
- Birds	
- Terrestrial	
2. Soil contamination:	
3. Long term impact assessment performed or planned:	
4. Anticipated remediation:	
4a. If Yes, specify all that apply:	
- Surface water	
- Groundwater	
- Soil	
- Vegetation	
- Wildlife	
5. Water contamination:	No
5a. If Yes, specify all that apply:	
- Ocean/Seawater	
- Surface	
- Groundwater	
- Drinking water: (Select one or both)	
- Private Well	
- Public Water Intake	
5b. Estimated amount released in or reaching water (Barrels):	
5c. Name of body of water, if commonly known:	
6. At the location of this Accident, had the pipeline segment or facility been identified as one that "could affect" a High Consequence Area (HCA) as determined in the Operator's Integrity Management Program?	No
7. Did the released commodity reach or occur in one or more High Consequence Area (HCA)?	No
7a. If Yes, specify HCA type(s): (Select all that apply)	
- Commercially Navigable Waterway:	
Was this HCA identified in the "could affect"	

determination for this Accident site in the Operator's Integrity Management Program?	
- High Population Area:	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Other Populated Area	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Drinking Water	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
- Unusually Sensitive Area (USA) - Ecological	
Was this HCA identified in the "could affect" determination for this Accident site in the Operator's Integrity Management Program?	
8. Estimated Property Damage:	
8a. Estimated cost of public and non-Operator private property damage	\$ 0
8b. Estimated cost of commodity lost	\$ 24
8c. Estimated cost of Operator's property damage & repairs	\$ 1,500
8d. Estimated cost of Operator's emergency response	\$ 1,500
8e. Estimated cost of Operator's environmental remediation	\$ 2,500
8f. Estimated other costs	\$ 0
Describe:	
8g. Total estimated property damage (sum of above)	\$ 5,524
PART E - ADDITIONAL OPERATING INFORMATION	
1. Estimated pressure at the point and time of the Accident (psig):	
2. Maximum Operating Pressure (MOP) at the point and time of the Accident (psig):	
3. Describe the pressure on the system or facility relating to the Accident (psig):	
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?	
- If Yes, Complete 4.a and 4.b below:	
4a. Did the pressure exceed this established pressure restriction?	
4b. Was this pressure restriction mandated by PHMSA or the State?	
5. Was "Onshore Pipeline, Including Valve Sites" OR "Offshore Pipeline, Including Riser and Riser Bend" selected in PART C, Question 2?	No
- If Yes - (Complete 5a. – 5e. below)	
5a. Type of upstream valve used to initially isolate release source:	
5b. Type of downstream valve used to initially isolate release source:	
5c. Length of segment isolated between valves (ft):	
5d. Is the pipeline configured to accommodate internal inspection tools?	
- If No, Which physical features limit tool accommodation? (select all that apply)	
- Changes in line pipe diameter	
- Presence of unsuitable mainline valves	
- Tight or mitered pipe bends	
- Other passage restrictions (i.e. unbarred tee's, projecting instrumentation, etc.)	
- Extra thick pipe wall (applicable only for magnetic flux leakage internal inspection tools)	
- Other -	
- If Other, Describe:	
5e. For this pipeline, are there operational factors which significantly complicate the execution of an internal inspection tool run?	
- If Yes, Which operational factors complicate execution? (select all that apply)	
- Excessive debris or scale, wax, or other wall buildup	

- Low operating pressure(s)	
- Low flow or absence of flow	
- Incompatible commodity	
- Other -	
- If Other, Describe:	
5f. Function of pipeline system:	> 20% SMYS Regulated Trunkline/Transmission
6. Was a Supervisory Control and Data Acquisition (SCADA)-based system in place on the pipeline or facility involved in the Accident?	
If Yes -	
6a. Was it operating at the time of the Accident?	
6b. Was it fully functional at the time of the Accident?	
6c. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the detection of the Accident?	
6d. Did SCADA-based information (such as alarm(s), alert(s), event(s), and/or volume calculations) assist with the confirmation of the Accident?	
7. Was a CPM leak detection system in place on the pipeline or facility involved in the Accident?	
- If Yes:	
7a. Was it operating at the time of the Accident?	
7b. Was it fully functional at the time of the Accident?	
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?	
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?	
8. How was the Accident initially identified for the Operator?	
- If Other, Specify:	
8a. If "Controller", "Local Operating Personnel", including contractors", "Air Patrol", or "Guard Patrol by Operator or its contractor" is selected in Question 8, specify the following:	
9. Was an investigation initiated into whether or not the controller(s) or control room issues were the cause of or a contributing factor to the Accident?	
- If No, the Operator did not find that an investigation of the controller(s) actions or control room issues was necessary due to: <i>(provide an explanation for why the operator did not investigate)</i>	
- If Yes, specify investigation result(s): <i>(select all that apply)</i>	
- 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:		Non-threaded Connection 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:		
- 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		
- 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 (*select all that apply*): -

- Inadequate procedure
- No procedure established
- Failure to follow procedure
- Other:

- If Other, Describe:

4. What category type was the activity that caused the Accident?

5. Was the task(s) that led to the Accident identified as a covered task in your Operator Qualification Program?

5a. If Yes, were the individuals performing the task(s) qualified for the task(s)?

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

Other Accident Cause – Sub-Cause:

- If Miscellaneous:

1. Describe:

- If Unknown:

2. Specify:

PART H - NARRATIVE DESCRIPTION OF THE ACCIDENT

A 3½ flanged drain valve located between the discharge and suction piping of Pump unit #1 experienced a release. The release originated from the valve body o-ring. The cause of the release was due to the bolted ball assembly mid valve, o-ring failure.

File Full Name

PART I - PREPARER AND AUTHORIZED SIGNATURE

Preparer's Name	Daniel C Cerkoney
Preparer's Title	Compliance Engineer
Preparer's Telephone Number	701-483-1434
Preparer's E-mail Address	dan_cerkoney@transcanada.com
Preparer's Facsimile Number	701-483-1431
Authorized Signature's Name	Daniel C Cerkoney
Authorized Signature Title	Compliance Engineer
Authorized Signature Telephone Number	701-290-1176
Authorized Signature Email	dan_cerkoney@transcanada.com
Date	04/17/2014



June 7, 2011

Mr. Kyle Parker
South Central District Office
Kansas Department of Health and Environment
130 South Market Street, 6th Floor
Wichita, KS 67202-3802

Re: Crude Oil Release at TransCanada Rock Pump Station
6347 82nd Street
Udall, Kansas

The purpose of this letter report is to provide you with the details of the cleanup activities that took place in response to a crude oil release at the above referenced property. The spill was reported by Mr. Robert Baumgartner, Environmental Program Manager of TransCanada Keystone US Operations to The Kansas Department of Health and Environment (KDHE) South Central District Office in Wichita, Kansas on February 23, 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) provided technical oversight for sampling and health and safety monitoring during the portion of the cleanup process that URS was on-site.

As previously noted, the location of the release is a pump station owned and operated by TransCanada Keystone Pipeline, LP (TransCanada). The pump station is in a rural area located at 6347 82nd Street, Udall, Kansas (Figure 1). The site is approximately 3.75 miles southeast of Udall, Kansas. The nearest residence is approximately 0.5 miles from the Site. The release of petroleum was entirely contained on TransCanada property.

The release occurred from the failure of a gasket on a 6 inch flange of a valve on the pipeline drainage system. A total of 30 gallons of crude oil was released. The oil stained surface gravel in a circular area approximately 3 feet in diameter and followed the sand backfill of the pipeline drain system that is used when there are maintenance needs at the Site.

When the release was discovered, TransCanada personnel immediately isolated the leaking valve, removed the faulty gasket and sealed the pipe against further leaks. Due to the relatively small area of stained gravel on the surface, TransCanada personnel began to manually excavate the stained gravel. Once it was determined that the release impacted a larger area than the area stained on the surface, Seneca Waste Solutions was mobilized to the site. A vac truck, skid-steer loader, hydrovac, and other equipment were mobilized to the site on March 4, 2011.



Soil excavation and oil recovery operations were conducted from February 24 to March 11, 2011. During excavation activities, rainfall would accumulate in the excavation. The area of the spill was de-watered to prevent the spread of product along the ground surface. Collected free product and water was pumped from the excavation and approximately 30 gallons of oil was recovered during response operations. Collected product was transferred to an on-site tank. Oily water was collected via vacuum truck and stored on-site for later transport to a permitted treatment and disposal facility. Approximately 1,625 gallons of oily water was recovered from the excavation area.

Residual oil had accumulated around the drain line backfill sand, electrical conduits, pipeline foundations and other structures (Figure 2). Visually stained soils were excavated around the structures using a hydrovac truck, mini excavator or manual excavation. Impacted soil/gravel was placed in roll-off containers for later transfer to an approved landfill facility. The excavation ranged in thickness from a few inches to eight feet where the drain line entered a sump tank. Groundwater was not encountered during excavation activities.

Soils were screened using a photoionization detector (PID) with 10.6 eV lamp after excavation activities to determine the required limits of excavation. In addition, scraped areas of the surface yard were screened using the PID. The soil samples were collected from native clay soil. A small hole was dug approximately 4 inches into the native soil to collect post-excavation confirmation samples. Confirmation soil samples were collected at 14 locations after excavation was completed. Sampling and PID screening locations and excavation areas are shown in Figures 2.

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

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

A total of 1,625 gallons of oily water was transported on March 25, 2011 by Safety-Kleen Systems for disposal. A total of approximately 165 cubic yards of impacted soil was stockpiled in eleven roll-off containers and was disposed of at Waste Management's Rolling Meadows landfill. Waste manifests and landfill tickets will be sent to KDHE when available from Waste Management.

Laboratory analytical reports and associated chain of custody forms are provided as attachments to this letter report.



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

Sincerely,

A handwritten signature in black ink, appearing to be 'Rick O. Horner', with a long horizontal flourish extending to the right.

Rick O. Horner, RG
Senior Project Manager

cc: Robert Baumgartner, TransCanada
Steve McManamon, URS

Tables

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

Figures

Figure 1 – Site Location Map
Figure 2 – Site Plan

Attachments

Laboratory Data

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

Location	Units	F-SE	F-SW	SW-S	SW-W	SW-N	F-MD	SW-S2	SW-N2	Tier 2 Action Level**
Sample Date		3/11/11	3/11/11	3/11/11	3/11/11	3/11/11	3/11/11	3/11/11	3/11/11	
Lithology		Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	
Depth	(feet)	3	3	7	7	7	8	6	7	
PID	(ppm)*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Chemical of Concern										
Benzene	mg/kg	0.614	<0.0626	1.12	0.17	0.343	<0.0679	<0.062	<0.0616	28.2
Toluene	mg/kg	3.17	0.507	3.25	0.515	1.68	<0.136	<0.124	<0.123	29,800
Ethylbenzene	mg/kg	0.836	0.176	0.498	0.143	0.392	<0.0679	<0.062	<0.0616	145
Total Xylenes	mg/kg	10.8	1.29	6.4	1.09	3.97	<0.340	<0.310	<0.308	1,410
Diesel Components	mg/kg	<22.1	<23.6	<23.2	<22.9	<22.4	<27.1	<22.3	<13.2	20,000

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

<x = Not detected to reporting limits of x
 * = Total organic vapors (ppm as benzene)

** = Tier 2 Non Residential Soil Pathway Action Level
 COMP = Composite of three samples

<3 = less than three feet of excavation

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

Location	Units		F2-E	F2-E2	F2-W	F2-W2	Tier 2 Action Level**
	Sample Date						
Lithology			3/11/11	3/11/11	3/11/11	3/11/11	
Depth	(feet)		Clay	Clay	Clay	Clay	
PID			8	8	8	8	
Chemical of Concern	(ppm)*		0.0	0.0	0.0	0.0	
Benzene	mg/kg		<0.0567	<0.0634	<0.0645	<0.0666	28.2
Toluene	mg/kg		<0.113	<0.127	<0.129	<0.133	29,800
Ethylbenzene	mg/kg		<0.0567	<0.0634	<0.0645	<0.0666	145
Total Xylenes	mg/kg		0.284	<0.317	<0.323	<0.333	1,410
Diesel Components	mg/kg		<22.3	<24.9	<23.5	<25.7	20,000

NOTES:

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

µg/kg = Micrograms per kilogram dry weight

<x = Not detected to reporting limits of x

*= Total organic vapors (ppm as isobutylene)

** = Tier 2 Non Residential Soil Pathway Action Level

**Table 2 - Laboratory Analysis Soil Data for Disposal
TransCanada Keystone Pipeline
Rock Pump Station; Udall, Kansas**

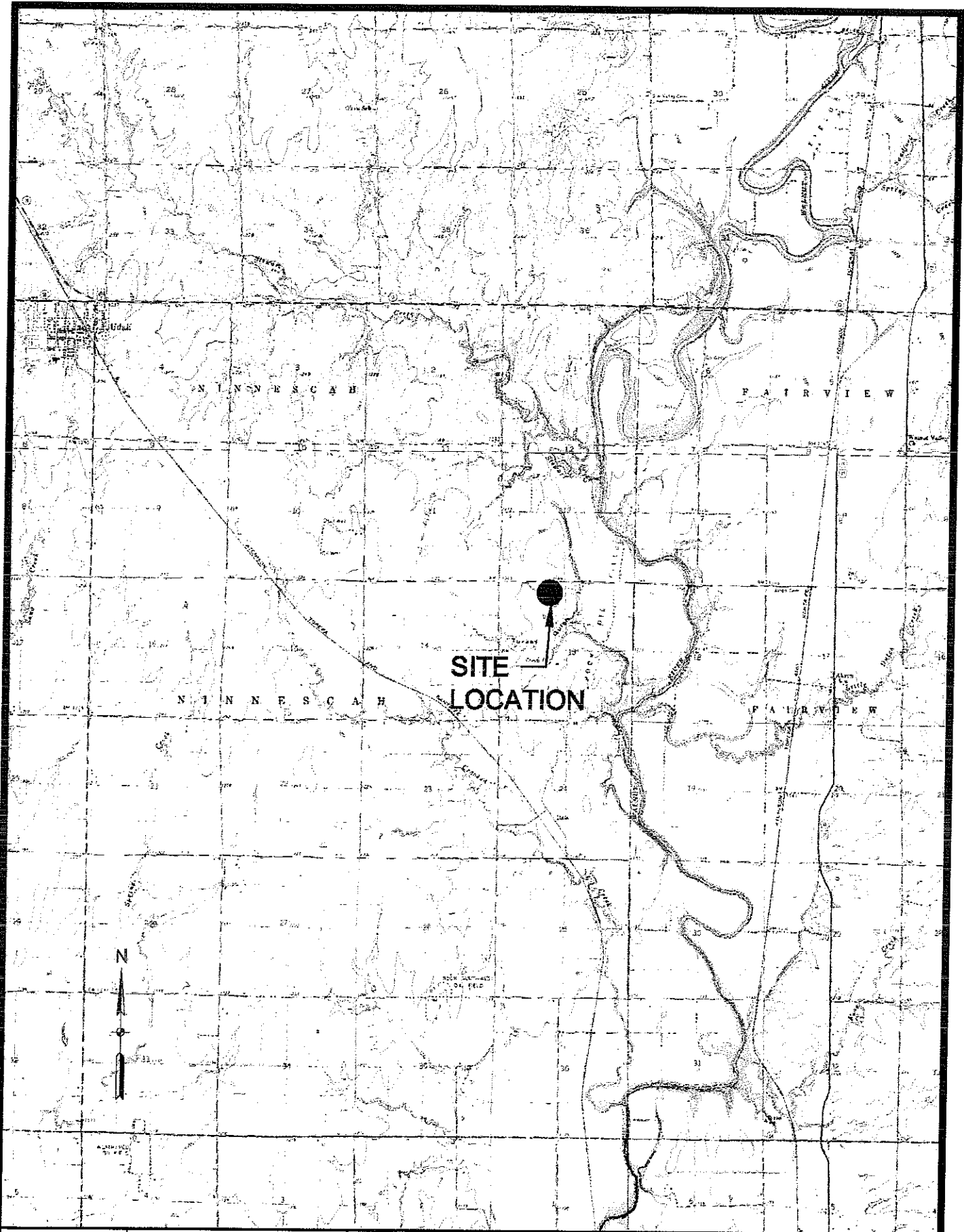
Location	Units	RO-795757	RO-247980	RO-494957	RO-79332	RO-7449
Sample Date		3/10/11	3/10/11	3/10/11	3/11/11	3/11/11
Lithology		Gravel	Gravel	Gravel	Gravel	Gravel
PID	(ppm)*	0.00	0.00	0.00	0.00	0.00
Chemical of Concern						
Benzene	mg/kg	0.467	<0.0626	1.57	0.158	0.0878
Toluene	mg/kg	3.12	0.205	5.84	0.54	0.445
Ethylbenzene	mg/kg	0.829	<0.125	1.04	0.18	<0.117
Xylenes	mg/kg	9.24	0.592	10.3	2.24	1.31
Arsenic - TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Barium- TCLP	mg/L	<2.5	<2.5	3	<2.5	<2.5
Cadmium- TCLP	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Chromium-TCLP	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Lead-TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Selenium-TCLP	mg/L	<0.5	<0.5	<0.5	<0.5	<0.5
Silver-TCLP	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
Mercury-TCLP	µg/L	<2	<2	<2	<2	<2

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

<x = Not detected to reporting limits of x

* = Total organic vapors (ppm as isobutylene)

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Project No.
31810923

TransCanada
UDALL, KANSAS

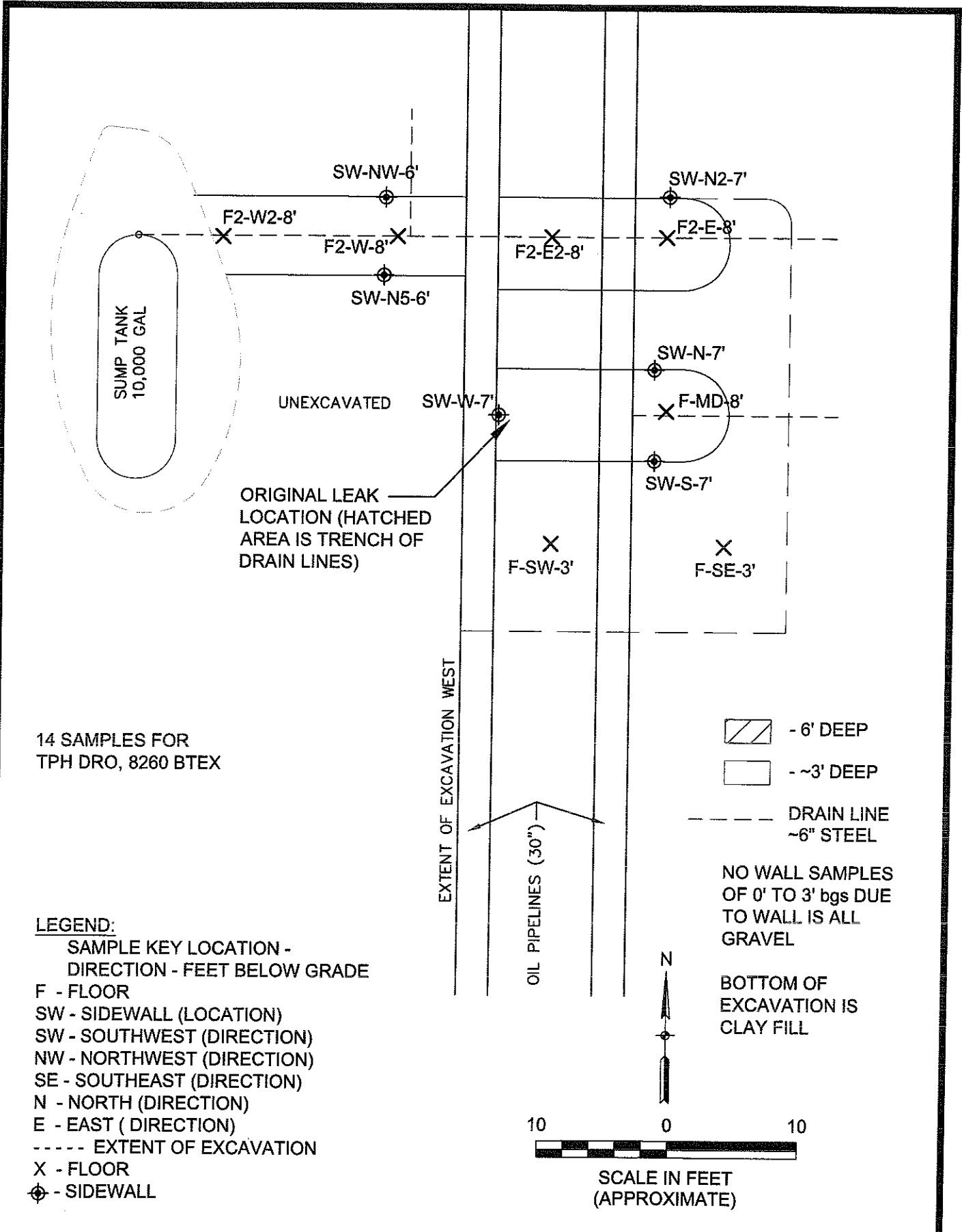


8300 Collega Blvd., Suite 200
Overland Park, Kansas 66210
TEL: 913-344-1000
FAX: 913-344-1015

SITE LOCATION MAP
MARCH 2011 - TRANS CANADA
ROCK PUMP STATION - UDALL, KANSAS

Figure 1

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14 SAMPLES FOR
 TPH DRO, 8260 BTEX

LEGEND:
 SAMPLE KEY LOCATION -
 DIRECTION - FEET BELOW GRADE
 F - FLOOR
 SW - SIDEWALL (LOCATION)
 SW - SOUTHWEST (DIRECTION)
 NW - NORTHWEST (DIRECTION)
 SE - SOUTHEAST (DIRECTION)
 N - NORTH (DIRECTION)
 E - EAST (DIRECTION)
 ----- EXTENT OF EXCAVATION
 X - FLOOR
 ⊕ - SIDEWALL

- 6' DEEP
 - ~3' DEEP
 ----- DRAIN LINE
 ~6" STEEL

NO WALL SAMPLES
 OF 0' TO 3' bgs DUE
 TO WALL IS ALL
 GRAVEL

 BOTTOM OF
 EXCAVATION IS
 CLAY FILL

N

 10 0 10
 SCALE IN FEET
 (APPROXIMATE)

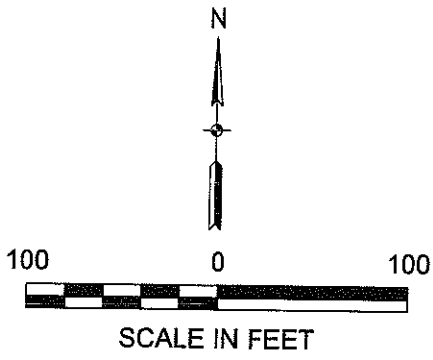
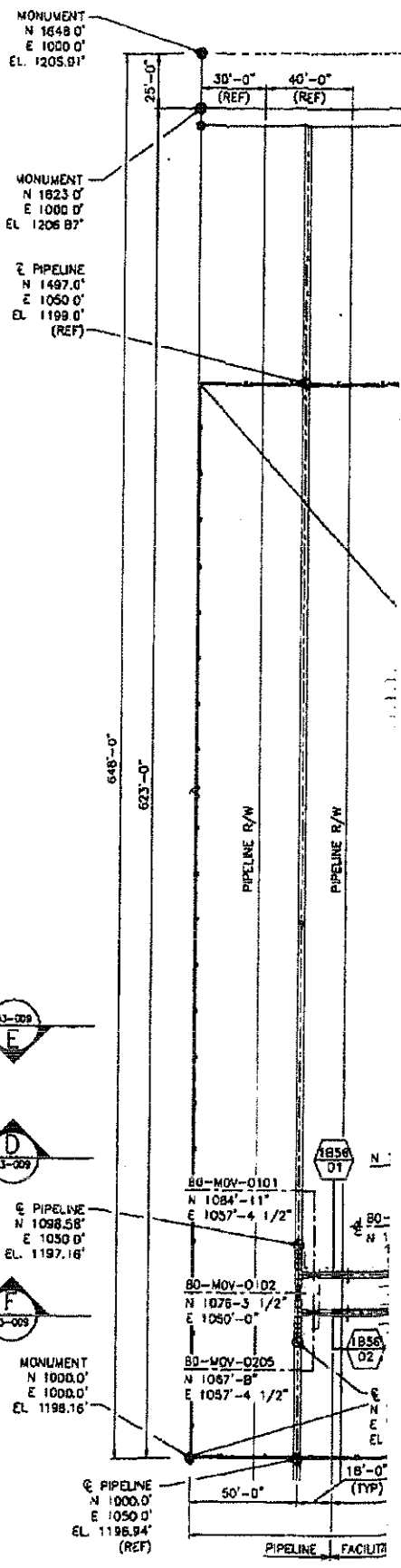
Project No. 31810923
 TransCanada UDALL, KANSAS

URS
 8300 College Blvd., Suite 200
 Overland Park, Kansas 66210
 TEL: 913-344-1000
 FAX: 913-344-1016

SITE PLAN
 MARCH 2011 - TRANS CANADA
 ROCK PUMP STATION - UDALL, KANSAS

Figure 2

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Project Number 31810923	Date APRIL 2011
Checked by RDH	Figure No. 3

March 28, 2011

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

RE: Project: UDALL, KS
Pace Project No.: 6095222

Dear Rick Horner:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 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

Page 1 of 26

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CERTIFICATIONS

Project: UDALL, KS
Pace Project No.: 6095222

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 26

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SAMPLE SUMMARY

Project: UDALL, KS
Pace Project No.: 6095222

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6095222001	F-SE-3'	Solid	03/11/11 09:15	03/12/11 08:43
6095222002	F-SW-3'	Solid	03/11/11 09:25	03/12/11 08:43
6095222003	SW-S-7'	Solid	03/11/11 09:35	03/12/11 08:43
6095222004	SW-W-7'	Solid	03/11/11 09:45	03/12/11 08:43
6095222005	SW-N-7'	Solid	03/11/11 09:55	03/12/11 08:43
6095222006	F-MD-8'	Solid	03/11/11 10:05	03/12/11 08:43
6095222007	SW-S2-6'	Solid	03/11/11 10:35	03/12/11 08:43
6095222008	SW-N2-7'	Solid	03/11/11 10:45	03/12/11 08:43
6095222009	F2-E-8'	Solid	03/11/11 10:55	03/12/11 08:43
6095222010	F2-E2-8'	Solid	03/11/11 11:10	03/12/11 08:43
6095222011	SW-NS-6'	Solid	03/11/11 11:20	03/12/11 08:43
6095222012	F2-W-8'	Solid	03/11/11 11:40	03/12/11 08:43
6095222013	F2-W2-8'	Solid	03/11/11 12:05	03/12/11 08:43
6095222014	TRIP BLANK	Solid	03/11/11 00:00	03/12/11 08:43
6095222015	SWNN-6'	Solid	03/11/11 11:30	03/12/11 08:43

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UDALL, KS
Pace Project No.: 6095222

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6095222001	F-SE-3'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222002	F-SW-3'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222003	SW-S-7'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222004	SW-W-7'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222005	SW-N-7'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222006	F-MD-8'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222007	SW-S2-6'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222008	SW-N2-7'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222009	F2-E-8'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222010	F2-E2-8'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222011	SW-NS-6'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222012	F2-W-8'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222013	F2-W2-8'	OA2	SDR	9

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UDALL, KS
Pace Project No.: 6095222

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1
6095222014	TRIP BLANK	EPA 8260	JDM	8
6095222015	SWNN-6'	OA2	SDR	9
		EPA 8260	JDM	8
		ASTM D2974-87	DWC	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F-SE-3' Lab ID: 6095222001 Collected: 03/11/11 09:15 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	68334-30-5	
Fuel Oil	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	68553-00-4	
Jet Fuel	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	94114-58-6	
Kerosene	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	8008-20-6	
Mineral Spirits	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	8030-30-6	
Motor Oil	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.1	1	03/15/11 00:00	03/23/11 19:17		
n-Tetracosane (S)	82	%	50-137	1	03/15/11 00:00	03/23/11 19:17	646-31-1	
p-Terphenyl (S)	69	%	41-129	1	03/15/11 00:00	03/23/11 19:17	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	614	ug/kg	60.7	1	03/17/11 00:00	03/21/11 21:37	71-43-2	
Ethylbenzene	836	ug/kg	60.7	1	03/17/11 00:00	03/21/11 21:37	100-41-4	
Toluene	3170	ug/kg	121	1	03/17/11 00:00	03/21/11 21:37	108-88-3	
Xylene (Total)	10800	ug/kg	304	1	03/17/11 00:00	03/21/11 21:37	1330-20-7	
Dibromofluoromethane (S)	100	%	85-113	1	03/17/11 00:00	03/21/11 21:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	75-121	1	03/17/11 00:00	03/21/11 21:37	17060-07-0	
4-Bromofluorobenzene (S)	101	%	79-119	1	03/17/11 00:00	03/21/11 21:37	460-00-4	
Toluene-d8 (S)	107	%	86-119	1	03/17/11 00:00	03/21/11 21:37	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	18.3	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F-SW-3' Lab ID: 6095222002 Collected: 03/11/11 09:25 Received: 03/12/11 08:43 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	23.6	1	03/15/11 00:00	03/23/11 19:26	68334-30-5	
Fuel Oil	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26	68553-00-4	
Jet Fuel	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26	94114-58-6	
Kerosene	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26	8008-20-6	
Mineral Spirits	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26	8030-30-6	
Motor Oil	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.6	1	03/15/11 00:00	03/23/11 19:26		
n-Tetracosane (S)	82	%	50-137	1	03/15/11 00:00	03/23/11 19:26	646-31-1	
p-Terphenyl (S)	68	%	41-129	1	03/15/11 00:00	03/23/11 19:26	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	62.6	1	03/17/11 00:00	03/21/11 22:22	71-43-2	
Ethylbenzene	176	ug/kg	62.6	1	03/17/11 00:00	03/21/11 22:22	100-41-4	
Toluene	507	ug/kg	125	1	03/17/11 00:00	03/21/11 22:22	108-88-3	
Xylene (Total)	1290	ug/kg	313	1	03/17/11 00:00	03/21/11 22:22	1330-20-7	
Dibromofluoromethane (S)	96	%	85-113	1	03/17/11 00:00	03/21/11 22:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	75-121	1	03/17/11 00:00	03/21/11 22:22	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-119	1	03/17/11 00:00	03/21/11 22:22	460-00-4	
Toluene-d8 (S)	100	%	86-119	1	03/17/11 00:00	03/21/11 22:22	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.9	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-S-7 Lab ID: 6095222003 Collected: 03/11/11 09:35 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	68334-30-5	
Fuel Oil	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	68553-00-4	
Jet Fuel	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	94114-58-6	
Kerosene	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	8008-20-6	
Mineral Spirits	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	8030-30-6	
Motor Oil	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.2	1	03/15/11 00:00	03/23/11 19:35		
n-Tetracosane (S)	82	%	50-137	1	03/15/11 00:00	03/23/11 19:35	646-31-1	
p-Terphenyl (S)	68	%	41-129	1	03/15/11 00:00	03/23/11 19:35	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	1120	ug/kg	61.8	1	03/17/11 00:00	03/21/11 22:37	71-43-2	
Ethylbenzene	498	ug/kg	61.8	1	03/17/11 00:00	03/21/11 22:37	100-41-4	
Toluene	3250	ug/kg	124	1	03/17/11 00:00	03/21/11 22:37	108-88-3	
Xylene (Total)	6400	ug/kg	309	1	03/17/11 00:00	03/21/11 22:37	1330-20-7	
Dibromofluoromethane (S)	97	%	85-113	1	03/17/11 00:00	03/21/11 22:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	75-121	1	03/17/11 00:00	03/21/11 22:37	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-119	1	03/17/11 00:00	03/21/11 22:37	460-00-4	
Toluene-d8 (S)	106	%	86-119	1	03/17/11 00:00	03/21/11 22:37	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	19.9	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-W-7 Lab ID: 6095222004 Collected: 03/11/11 09:45 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	68334-30-5	
Fuel Oil	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	68553-00-4	
Jet Fuel	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	94114-58-6	
Kerosene	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	8008-20-6	
Mineral Spirits	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	8030-30-6	
Motor Oil	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.9	1	03/15/11 00:00	03/23/11 19:45		
n-Tetracosane (S)	82	%	50-137	1	03/15/11 00:00	03/23/11 19:45	646-31-1	
p-Terphenyl (S)	68	%	41-129	1	03/15/11 00:00	03/23/11 19:45	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	170	ug/kg	62.9	1	03/17/11 00:00	03/21/11 22:52	71-43-2	
Ethylbenzene	143	ug/kg	62.9	1	03/17/11 00:00	03/21/11 22:52	100-41-4	
Toluene	515	ug/kg	126	1	03/17/11 00:00	03/21/11 22:52	108-88-3	
Xylene (Total)	1090	ug/kg	315	1	03/17/11 00:00	03/21/11 22:52	1330-20-7	
Dibromofluoromethane (S)	98	%	85-113	1	03/17/11 00:00	03/21/11 22:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	75-121	1	03/17/11 00:00	03/21/11 22:52	17060-07-0	
4-Bromofluorobenzene (S)	102	%	79-119	1	03/17/11 00:00	03/21/11 22:52	460-00-4	
Toluene-d8 (S)	100	%	86-119	1	03/17/11 00:00	03/21/11 22:52	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.7	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-N-7 Lab ID: 6095222005 Collected: 03/11/11 09:55 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	68334-30-5	
Fuel Oil	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	68553-00-4	
Jet Fuel	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	94114-58-6	
Kerosene	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	8008-20-6	
Mineral Spirits	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	8030-30-6	
Motor Oil	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.4	1	03/15/11 00:00	03/23/11 19:54		
n-Tetracosane (S)	77	%	50-137	1	03/15/11 00:00	03/23/11 19:54	646-31-1	
p-Terphenyl (S)	62	%	41-129	1	03/15/11 00:00	03/23/11 19:54	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	343	ug/kg	62.6	1	03/17/11 00:00	03/21/11 23:07	71-43-2	
Ethylbenzene	392	ug/kg	62.6	1	03/17/11 00:00	03/21/11 23:07	100-41-4	
Toluene	1680	ug/kg	125	1	03/17/11 00:00	03/21/11 23:07	108-88-3	
Xylene (Total)	3970	ug/kg	313	1	03/17/11 00:00	03/21/11 23:07	1330-20-7	
Dibromofluoromethane (S)	98	%	85-113	1	03/17/11 00:00	03/21/11 23:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	75-121	1	03/17/11 00:00	03/21/11 23:07	17060-07-0	
4-Bromofluorobenzene (S)	106	%	79-119	1	03/17/11 00:00	03/21/11 23:07	460-00-4	
Toluene-d8 (S)	104	%	86-119	1	03/17/11 00:00	03/21/11 23:07	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	21.0	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F-MD-8⁺ Lab ID: 6095222006 Collected: 03/11/11 10:05 Received: 03/12/11 08:43 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	27.1	1	03/15/11 00:00	03/23/11 20:03	68334-30-5	
Fuel Oil	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03	68553-00-4	
Jet Fuel	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03	94114-58-6	
Kerosene	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03	8008-20-6	
Mineral Spirits	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03	8030-30-6	
Motor Oil	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	27.1	1	03/15/11 00:00	03/23/11 20:03		
n-Tetracosane (S)	82 %		50-137	1	03/15/11 00:00	03/23/11 20:03	646-31-1	
p-Terphenyl (S)	68 %		41-129	1	03/15/11 00:00	03/23/11 20:03	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	67.9	1	03/17/11 00:00	03/21/11 23:22	71-43-2	
Ethylbenzene	ND	ug/kg	67.9	1	03/17/11 00:00	03/21/11 23:22	100-41-4	
Toluene	ND	ug/kg	136	1	03/17/11 00:00	03/21/11 23:22	108-88-3	
Xylene (Total)	ND	ug/kg	340	1	03/17/11 00:00	03/21/11 23:22	1330-20-7	
Dibromofluoromethane (S)	100 %		85-113	1	03/17/11 00:00	03/21/11 23:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	91 %		75-121	1	03/17/11 00:00	03/21/11 23:22	17060-07-0	
4-Bromofluorobenzene (S)	98 %		79-119	1	03/17/11 00:00	03/21/11 23:22	460-00-4	
Toluene-d8 (S)	96 %		86-119	1	03/17/11 00:00	03/21/11 23:22	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	26.4 %		0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-S2-6' Lab ID: 6095222007 Collected: 03/11/11 10:35 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	68334-30-5	
Fuel Oil	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	68553-00-4	
Jet Fuel	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	94114-58-6	
Kerosene	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	8008-20-6	
Mineral Spirits	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	8030-30-6	
Motor Oil	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:13		
n-Tetracosane (S)	82	%	50-137	1	03/15/11 00:00	03/23/11 20:13	646-31-1	
p-Terphenyl (S)	68	%	41-129	1	03/15/11 00:00	03/23/11 20:13	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	62.0	1	03/17/11 00:00	03/21/11 23:37	71-43-2	
Ethylbenzene	ND	ug/kg	62.0	1	03/17/11 00:00	03/21/11 23:37	100-41-4	
Toluene	ND	ug/kg	124	1	03/17/11 00:00	03/21/11 23:37	108-88-3	
Xylene (Total)	ND	ug/kg	310	1	03/17/11 00:00	03/21/11 23:37	1330-20-7	
Dibromofluoromethane (S)	98	%	85-113	1	03/17/11 00:00	03/21/11 23:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	75-121	1	03/17/11 00:00	03/21/11 23:37	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-119	1	03/17/11 00:00	03/21/11 23:37	460-00-4	
Toluene-d8 (S)	97	%	86-119	1	03/17/11 00:00	03/21/11 23:37	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	19.7	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-N2-7' Lab ID: 6095222008 Collected: 03/11/11 10:45 Received: 03/12/11 08:43 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	23.0	1	03/15/11 00:00	03/23/11 20:22	68334-30-5	
Fuel Oil	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22	68553-00-4	
Jet Fuel	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22	94114-58-6	
Kerosene	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22	8008-20-6	
Mineral Spirits	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22	8030-30-6	
Motor Oil	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.0	1	03/15/11 00:00	03/23/11 20:22		
n-Tetracosane (S)	85 %		50-137	1	03/15/11 00:00	03/23/11 20:22	646-31-1	
p-Terphenyl (S)	69 %		41-129	1	03/15/11 00:00	03/23/11 20:22	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	61.6	1	03/17/11 00:00	03/21/11 23:52	71-43-2	
Ethylbenzene	ND	ug/kg	61.6	1	03/17/11 00:00	03/21/11 23:52	100-41-4	
Toluene	ND	ug/kg	123	1	03/17/11 00:00	03/21/11 23:52	108-88-3	
Xylene (Total)	ND	ug/kg	308	1	03/17/11 00:00	03/21/11 23:52	1330-20-7	
Dibromofluoromethane (S)	96 %		85-113	1	03/17/11 00:00	03/21/11 23:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	92 %		75-121	1	03/17/11 00:00	03/21/11 23:52	17060-07-0	
4-Bromofluorobenzene (S)	101 %		79-119	1	03/17/11 00:00	03/21/11 23:52	460-00-4	
Toluene-d8 (S)	96 %		86-119	1	03/17/11 00:00	03/21/11 23:52	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	19.6 %		0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F2-E-8' Lab ID: 6095222009 Collected: 03/11/11 10:55 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
OA2 GCS		Analytical Method: OA2 Preparation Method: OA2						
Diesel Fuel	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	68334-30-5	
Fuel Oil	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	68553-00-4	
Jet Fuel	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	94114-58-6	
Kerosene	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	8008-20-6	
Mineral Spirits	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	8030-30-6	
Motor Oil	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	22.3	1	03/15/11 00:00	03/23/11 20:32		
n-Tetracosane (S)	81	%	50-137	1	03/15/11 00:00	03/23/11 20:32	646-31-1	
p-Terphenyl (S)	66	%	41-129	1	03/15/11 00:00	03/23/11 20:32	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	56.7	1	03/17/11 00:00	03/22/11 00:07	71-43-2	
Ethylbenzene	ND	ug/kg	56.7	1	03/17/11 00:00	03/22/11 00:07	100-41-4	
Toluene	ND	ug/kg	113	1	03/17/11 00:00	03/22/11 00:07	108-88-3	
Xylene (Total)	ND	ug/kg	284	1	03/17/11 00:00	03/22/11 00:07	1330-20-7	
Dibromofluoromethane (S)	95	%	85-113	1	03/17/11 00:00	03/22/11 00:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	89	%	75-121	1	03/17/11 00:00	03/22/11 00:07	17060-07-0	
4-Bromofluorobenzene (S)	99	%	79-119	1	03/17/11 00:00	03/22/11 00:07	460-00-4	
Toluene-d8 (S)	97	%	86-119	1	03/17/11 00:00	03/22/11 00:07	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	11.8	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F2-E2-8 Lab ID: 6095222010 Collected: 03/11/11 11:10 Received: 03/12/11 08:43 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	24.9	1	03/15/11 00:00	03/23/11 20:41	68334-30-5	
Fuel Oil	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41	68553-00-4	
Jet Fuel	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41	94114-58-6	
Kerosene	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41	8008-20-6	
Mineral Spirits	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41	8030-30-6	
Motor Oil	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:41		
n-Tetracosane (S)	83	%	50-137	1	03/15/11 00:00	03/23/11 20:41	646-31-1	
p-Terphenyl (S)	70	%	41-129	1	03/15/11 00:00	03/23/11 20:41	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	63.4	1	03/17/11 00:00	03/22/11 00:22	71-43-2	
Ethylbenzene	ND	ug/kg	63.4	1	03/17/11 00:00	03/22/11 00:22	100-41-4	
Toluene	ND	ug/kg	127	1	03/17/11 00:00	03/22/11 00:22	108-88-3	
Xylene (Total)	ND	ug/kg	317	1	03/17/11 00:00	03/22/11 00:22	1330-20-7	
Dibromofluoromethane (S)	96	%	85-113	1	03/17/11 00:00	03/22/11 00:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	75-121	1	03/17/11 00:00	03/22/11 00:22	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-119	1	03/17/11 00:00	03/22/11 00:22	460-00-4	
Toluene-d8 (S)	97	%	86-119	1	03/17/11 00:00	03/22/11 00:22	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	21.1	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SW-NS-6' Lab ID: 6095222011 Collected: 03/11/11 11:20 Received: 03/12/11 08:43 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	24.9	1	03/15/11 00:00	03/23/11 20:50	68334-30-5	
Fuel Oil	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50	68553-00-4	
Jet Fuel	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50	94114-58-6	
Kerosene	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50	8008-20-6	
Mineral Spirits	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50	8030-30-6	
Motor Oil	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	24.9	1	03/15/11 00:00	03/23/11 20:50		
n-Tetracosane (S)	81 %		50-137	1	03/15/11 00:00	03/23/11 20:50	646-31-1	
p-Terphenyl (S)	67 %		41-129	1	03/15/11 00:00	03/23/11 20:50	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	62.8	1	03/17/11 00:00	03/22/11 00:37	71-43-2	
Ethylbenzene	ND	ug/kg	62.8	1	03/17/11 00:00	03/22/11 00:37	100-41-4	
Toluene	ND	ug/kg	126	1	03/17/11 00:00	03/22/11 00:37	108-88-3	
Xylene (Total)	ND	ug/kg	314	1	03/17/11 00:00	03/22/11 00:37	1330-20-7	
Dibromofluoromethane (S)	96 %		85-113	1	03/17/11 00:00	03/22/11 00:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	90 %		75-121	1	03/17/11 00:00	03/22/11 00:37	17060-07-0	
4-Bromofluorobenzene (S)	97 %		79-119	1	03/17/11 00:00	03/22/11 00:37	460-00-4	
Toluene-d8 (S)	97 %		86-119	1	03/17/11 00:00	03/22/11 00:37	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	21.2 %		0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F2-W-8[†] Lab ID: 6095222012 Collected: 03/11/11 11:40 Received: 03/12/11 08:43 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	23.5	1	03/15/11 00:00	03/23/11 21:00	68334-30-5	
Fuel Oil	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00	68553-00-4	
Jet Fuel	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00	94114-58-6	
Kerosene	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00	8008-20-6	
Mineral Spirits	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00	8030-30-6	
Motor Oil	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	23.5	1	03/15/11 00:00	03/23/11 21:00		
n-Tetracosane (S)	83	%	50-137	1	03/15/11 00:00	03/23/11 21:00	646-31-1	
p-Terphenyl (S)	71	%	41-129	1	03/15/11 00:00	03/23/11 21:00	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	64.5	1	03/17/11 00:00	03/22/11 00:52	71-43-2	
Ethylbenzene	ND	ug/kg	64.5	1	03/17/11 00:00	03/22/11 00:52	100-41-4	
Toluene	ND	ug/kg	129	1	03/17/11 00:00	03/22/11 00:52	108-88-3	
Xyiene (Total)	ND	ug/kg	323	1	03/17/11 00:00	03/22/11 00:52	1330-20-7	
Dibromofluoromethane (S)	97	%	85-113	1	03/17/11 00:00	03/22/11 00:52	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	75-121	1	03/17/11 00:00	03/22/11 00:52	17060-07-0	
4-Bromofluorobenzene (S)	100	%	79-119	1	03/17/11 00:00	03/22/11 00:52	460-00-4	
Toluene-d8 (S)	97	%	86-119	1	03/17/11 00:00	03/22/11 00:52	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	22.9	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: F2-W2-8' Lab ID: 6095222013 Collected: 03/11/11 12:05 Received: 03/12/11 08:43 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	25.7	1	03/15/11 00:00	03/23/11 21:09	68334-30-5	
Fuel Oil	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09	68553-00-4	
Jet Fuel	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09	94114-58-6	
Kerosene	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09	8008-20-6	
Mineral Spirits	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09	8030-30-6	
Motor Oil	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.7	1	03/15/11 00:00	03/23/11 21:09		
n-Tetracosane (S)	88 %		50-137	1	03/15/11 00:00	03/23/11 21:09	646-31-1	
p-Terphenyl (S)	74 %		41-129	1	03/15/11 00:00	03/23/11 21:09	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	66.6	1	03/17/11 00:00	03/22/11 01:07	71-43-2	
Ethylbenzene	ND	ug/kg	66.6	1	03/17/11 00:00	03/22/11 01:07	100-41-4	
Toluene	ND	ug/kg	133	1	03/17/11 00:00	03/22/11 01:07	108-88-3	
Xylene (Total)	ND	ug/kg	333	1	03/17/11 00:00	03/22/11 01:07	1330-20-7	
Dibromofluoromethane (S)	97 %		85-113	1	03/17/11 00:00	03/22/11 01:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	93 %		75-121	1	03/17/11 00:00	03/22/11 01:07	17060-07-0	
4-Bromofluorobenzene (S)	98 %		79-119	1	03/17/11 00:00	03/22/11 01:07	460-00-4	
Toluene-d8 (S)	96 %		86-119	1	03/17/11 00:00	03/22/11 01:07	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	25.0 %		0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: TRIP BLANK Lab ID: 6095222014 Collected: 03/11/11 00:00 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	50.0	1	03/17/11 00:00	03/22/11 01:22	71-43-2	
Ethylbenzene	ND	ug/kg	50.0	1	03/17/11 00:00	03/22/11 01:22	100-41-4	
Toluene	ND	ug/kg	100	1	03/17/11 00:00	03/22/11 01:22	108-88-3	
Xylene (Total)	ND	ug/kg	250	1	03/17/11 00:00	03/22/11 01:22	1330-20-7	
Dibromofluoromethane (S)	95 %		85-113	1	03/17/11 00:00	03/22/11 01:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	92 %		75-121	1	03/17/11 00:00	03/22/11 01:22	17060-07-0	
4-Bromofluorobenzene (S)	96 %		79-119	1	03/17/11 00:00	03/22/11 01:22	460-00-4	
Toluene-d8 (S)	98 %		86-119	1	03/17/11 00:00	03/22/11 01:22	2037-26-5	

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095222

Sample: SWNN-6' Lab ID: 6095222015 Collected: 03/11/11 11:30 Received: 03/12/11 08:43 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	25.0	1	03/15/11 00:00	03/23/11 21:19	68334-30-5	
Fuel Oil	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19	68553-00-4	
Jet Fuel	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19	94114-58-6	
Kerosene	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19	8008-20-6	
Mineral Spirits	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19	8030-30-6	
Motor Oil	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19	64742-65-0	
Total Petroleum Hydrocarbons	ND	mg/kg	25.0	1	03/15/11 00:00	03/23/11 21:19		
n-Tetracosane (S)	86	%	50-137	1	03/15/11 00:00	03/23/11 21:19	646-31-1	
p-Terphenyl (S)	70	%	41-129	1	03/15/11 00:00	03/23/11 21:19	92-94-4	
8260 MSV UST 5030 Med Level		Analytical Method: EPA 8260 Preparation Method: EPA 5035/5030B						
Benzene	ND	ug/kg	64.6	1	03/17/11 00:00	03/22/11 01:37	71-43-2	
Ethylbenzene	ND	ug/kg	64.6	1	03/17/11 00:00	03/22/11 01:37	100-41-4	
Toluene	ND	ug/kg	129	1	03/17/11 00:00	03/22/11 01:37	108-88-3	
Xylene (Total)	ND	ug/kg	323	1	03/17/11 00:00	03/22/11 01:37	1330-20-7	
Dibromofluoromethane (S)	96	%	85-113	1	03/17/11 00:00	03/22/11 01:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	90	%	75-121	1	03/17/11 00:00	03/22/11 01:37	17060-07-0	
4-Bromofluorobenzene (S)	98	%	79-119	1	03/17/11 00:00	03/22/11 01:37	460-00-4	
Toluene-d8 (S)	98	%	86-119	1	03/17/11 00:00	03/22/11 01:37	2037-26-5	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	22.8	%	0.50	1		03/21/11 00:00		

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095222

QC Batch: OEXT/27794 Analysis Method: OA2
QC Batch Method: OA2 Analysis Description: OA2 GCS
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008, 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222015

METHOD BLANK: 784139 Matrix: Solid
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008, 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diesel Fuel	mg/kg	ND	20.0	03/18/11 02:50	
Fuel Oil	mg/kg	ND	20.0	03/18/11 02:50	
Jet Fuel	mg/kg	ND	20.0	03/18/11 02:50	
Kerosene	mg/kg	ND	20.0	03/18/11 02:50	
Mineral Spirits	mg/kg	ND	20.0	03/18/11 02:50	
Motor Oil	mg/kg	ND	20.0	03/18/11 02:50	
Total Petroleum Hydrocarbons	mg/kg	ND	20.0	03/18/11 02:50	
n-Tetracosane (S)	%	74	50-137	03/18/11 02:50	
p-Terphenyl (S)	%	66	41-129	03/18/11 02:50	

LABORATORY CONTROL SAMPLE: 784140

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Diesel Fuel	mg/kg	486	525	108	66-138	
n-Tetracosane (S)	%			79	50-137	
p-Terphenyl (S)	%			79	41-129	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 784141 784142

Parameter	Units	6095049042		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Diesel Fuel	mg/kg	4600	600	615	5710	5900	186	211	56-154	3	27	M3
n-Tetracosane (S)	%						100	103	50-137			
p-Terphenyl (S)	%						165	169	41-129			S2

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095222

QC Batch: MSV/35774 Analysis Method: EPA 8260
QC Batch Method: EPA 5035/5030B Analysis Description: 8260 MSV 5030 Med
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008, 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222014, 6095222015

METHOD BLANK: 785833 Matrix: Solid
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008, 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222014, 6095222015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	50.0	03/21/11 21:07	
Ethylbenzene	ug/kg	ND	50.0	03/21/11 21:07	
Toluene	ug/kg	ND	100	03/21/11 21:07	
Xylene (Total)	ug/kg	ND	250	03/21/11 21:07	
1,2-Dichloroethane-d4 (S)	%	92	75-121	03/21/11 21:07	
4-Bromofluorobenzene (S)	%	97	79-119	03/21/11 21:07	
Dibromofluoromethane (S)	%	100	85-113	03/21/11 21:07	
Toluene-d8 (S)	%	96	86-119	03/21/11 21:07	

LABORATORY CONTROL SAMPLE: 785834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2000	2240	112	70-128	
Ethylbenzene	ug/kg	2000	2130	106	78-121	
Toluene	ug/kg	2000	2120	106	68-128	
Xylene (Total)	ug/kg	6000	6520	109	76-124	
1,2-Dichloroethane-d4 (S)	%			93	75-121	
4-Bromofluorobenzene (S)	%			97	79-119	
Dibromofluoromethane (S)	%			98	85-113	
Toluene-d8 (S)	%			99	86-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 785835 785836

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
		Spike Conc.	Result	Spike Conc.	Result						
Benzene	ug/kg	614	2420	2420	3050	100	98	60-132	2	25	
Ethylbenzene	ug/kg	836	2420	2420	3360	104	100	66-128	3	24	
Toluene	ug/kg	3170	2420	2420	5570	99	92	51-136	3	27	
Xylene (Total)	ug/kg	10800	7290	7290	18100	99	93	62-130	3	26	
1,2-Dichloroethane-d4 (S)	%					91	93	75-121			
4-Bromofluorobenzene (S)	%					101	113	79-119			
Dibromofluoromethane (S)	%					101	99	85-113			
Toluene-d8 (S)	%					109	109	86-119			

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095222

QC Batch: PMST/5981 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008

METHOD BLANK: 786848 Matrix: Solid
Associated Lab Samples: 6095222001, 6095222002, 6095222003, 6095222004, 6095222005, 6095222006, 6095222007, 6095222008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/21/11 00:00	

SAMPLE DUPLICATE: 786849

Parameter	Units	6095220004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.8	20.2	3	20	

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095222

QC Batch: PMST/5982 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222015

METHOD BLANK: 786854 Matrix: Solid
Associated Lab Samples: 6095222009, 6095222010, 6095222011, 6095222012, 6095222013, 6095222015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/21/11 00:00	

SAMPLE DUPLICATE: 786855

Parameter	Units	6095222009 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.8	13.4	12	20	

QUALIFIERS

Project: UDALL, KS
Pace Project No.: 6095222

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.

ANALYTE QUALIFIERS

M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.
S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UDALL, KS
Pace Project No.: 6095222

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6095222001	F-SE-3'	OA2	OEXT/27794	OA2	GCSV/10259
6095222002	F-SW-3'	OA2	OEXT/27794	OA2	GCSV/10259
6095222003	SW-S-7'	OA2	OEXT/27794	OA2	GCSV/10259
6095222004	SW-W-7'	OA2	OEXT/27794	OA2	GCSV/10259
6095222005	SW-N-7'	OA2	OEXT/27794	OA2	GCSV/10259
6095222006	F-MD-8'	OA2	OEXT/27794	OA2	GCSV/10259
6095222007	SW-S2-6'	OA2	OEXT/27794	OA2	GCSV/10259
6095222008	SW-N2-7'	OA2	OEXT/27794	OA2	GCSV/10259
6095222009	F2-E-8'	OA2	OEXT/27794	OA2	GCSV/10259
6095222010	F2-E2-8'	OA2	OEXT/27794	OA2	GCSV/10259
6095222011	SW-NS-6'	OA2	OEXT/27794	OA2	GCSV/10259
6095222012	F2-W-8'	OA2	OEXT/27794	OA2	GCSV/10259
6095222013	F2-W2-8'	OA2	OEXT/27794	OA2	GCSV/10259
6095222015	SWNN-6'	OA2	OEXT/27794	OA2	GCSV/10259
6095222001	F-SE-3'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222002	F-SW-3'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222003	SW-S-7'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222004	SW-W-7'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222005	SW-N-7'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222006	F-MD-8'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222007	SW-S2-6'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222008	SW-N2-7'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222009	F2-E-8'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222010	F2-E2-8'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222011	SW-NS-6'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222012	F2-W-8'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222013	F2-W2-8'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222014	TRIP BLANK	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222015	SWNN-6'	EPA 5035/5030B	MSV/35774	EPA 8260	MSV/35812
6095222001	F-SE-3'	ASTM D2974-87	PMST/5981		
6095222002	F-SW-3'	ASTM D2974-87	PMST/5981		
6095222003	SW-S-7'	ASTM D2974-87	PMST/5981		
6095222004	SW-W-7'	ASTM D2974-87	PMST/5981		
6095222005	SW-N-7'	ASTM D2974-87	PMST/5981		
6095222006	F-MD-8'	ASTM D2974-87	PMST/5981		
6095222007	SW-S2-6'	ASTM D2974-87	PMST/5981		
6095222008	SW-N2-7'	ASTM D2974-87	PMST/5981		
6095222009	F2-E-8'	ASTM D2974-87	PMST/5982		
6095222010	F2-E2-8'	ASTM D2974-87	PMST/5982		
6095222011	SW-NS-6'	ASTM D2974-87	PMST/5982		
6095222012	F2-W-8'	ASTM D2974-87	PMST/5982		
6095222013	F2-W2-8'	ASTM D2974-87	PMST/5982		
6095222015	SWNN-6'	ASTM D2974-87	PMST/5982		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
 Required Client Information:
 Company: URS Corp.
 Address: 8300 College Blvd, Suite 200
 Overland Park, KS 66210
 Email To: brian.meyer@urscorp.com
 Phone: 913-344-1023 Fax: 913-344-1023
 Requested Due Date/TAT: 3/18/09

Section B
 Required Project Information:
 Report To: Rick Horner
 Copy To: Brian Meyer
 Purchase Order No.: 31810923
 Project Name: Udall, KS
 Project Number: 31810923

Section C
 Invoice Information:
 Attention: RICK HORNER
 Company Name: URS Corp.
 Address: 8300 College Blvd Ste 200
 Site Location: KS
 Regulatory Agency: NPDES UST RCRA OTHER DRINKING WATER

ITEM #	Valid Matrix Codes MATRIX CODE OR DRINKING WATER DW WASTE WATER WT WATER PRODUCT P SOIL/SOLID SL ONLINE WPE AIR AIR OTHER TISSUE TS	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	PRESERVATIVES	ANALYSIS TEST	ACCEPTED BY / AFFILIATION	DATE	TIME	RELINQUISHED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS	
					COMPOSITE START	COMPOSITE END/GRAB												
1		F-SE-3'	SL G	G	3/11/09	0915		2	Unpreserved	X								
2		F-3W-3'	SL G	G	3/11/09	0925		2	Unpreserved	X								
3		SW-S-7'	SL G	G	3/11/09	0935		2	Unpreserved	X								
4		SW-W-7'	SL G	G	3/11/09	0945		2	Unpreserved	X								
5		SW-N-7'	SL G	G	3/11/09	0955		2	Unpreserved	X								
6		F-MD-8'	SL G	G	3/11/09	1005		2	Unpreserved	X								
7		SW-SZ-6'	SL G	G	3/11/09	1035		2	Unpreserved	X								
8		SW-NZ-7'	SL G	G	3/11/09	1045		2	Unpreserved	X								
9		FZ-E-8'	SL G	G	3/11/09	1055		2	Unpreserved	X								
10		FZ-EZ-8'	SL G	G	3/11/09	1110		2	Unpreserved	X								
11		SW-NS-6'	SL G	G	3/11/09	1120		2	Unpreserved	X								
12		SW-NW-6'	SL G	G	3/11/09	1130		2	Unpreserved	X								

Requested Analysis Filtered (Y/N)

Residual Chlorine (Y/N)

Analysis Test

Other

Methanol

NaOH

HCl

HNO₃

H₂SO₄

Unpreserved

DATE SIGNED 3/12/09 0843:05
SIGNATURE *Brian Meyer*

DATE SIGNED (MM/DD/YY) 03/11/09

DATE SIGNED (MM/DD/YY) 03/11/09

DATE SIGNED (MM/DD/YY) 03/11/09

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
 Required Client Information:
 Company: **URS Corp.**
 Address: **8300 College Blvd, Suite 200**
Overland Park, KS 66210
 Email To: _____
 Phone: **913-344-1023** Fax: **913-344-1011**
 Requested Due Date/TAT: **2/1/11**

Section B
 Required Project Information:
 Report To: **Rick Horner**
 Copy To: **Brian Meyer**
 Purchase Order No.: _____
 Project Name: **UWHL KS**
 Project Number: **3180923**

Section C
 Invoice Information:
 Attention: **Rick Horner**
 Company Name: **URS Corp**
 Address: **8300 College Blvd Sk 200**
 Reference: _____
 Pace Project Manager: **Sherril Guess**
 Pace Profile #: _____

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER
 Site Location: _____ STATE: **KS**

ITEM #	Section D Required Client Information	Valid Matrix Codes	MATRIX CODE (see yard codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB							
			DATE	TIME	DATE	TIME							
1			2/1/11	1410				2	Unpreserved	X GRO (TPH)			2 (N/A) 2/1/11
2			2/1/11	1205				2		X BTEX			2 (N/A) 2/1/11
3			2/1/11	0915				2		X			2 (N/A) 2/1/11
4													
5													
6													
7													
8													
9													
10													
11													
12													

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION DATE TIME

ACCEPTED BY / AFFILIATION DATE TIME

SAMPLE CONDITIONS

Temp in C: _____
 Received on: _____
 Custody Sealed: _____
 Codes (Y/N): _____

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Brian Meyer**
 SIGNATURE of SAMPLER: _____

DATE Signed (MM/DD/YYYY): **02/01/11**



Sample Condition Upon Receipt

Client Name: URS Corp

Project # 6095222

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: <u>3/28</u>
Proj. Name: _____

Packing Material: Bubble Wrap Bubble Bags Foam None Other

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

Cooler Temperature: 0.5
Temperature should be above freezing to 6°C

Date and Initials of person examining contents: 3/12/11 b

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix: <u>SL</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Exception: VOA, conform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
		Lot # of added preservative
Trip Blank present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	17. List State: <u>KS</u>

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: 3.14.11

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)

March 28, 2011

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

RE: Project: UDALL, KS
Pace Project No.: 6095220

Dear Rick Horner:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 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: UDALL, KS
Pace Project No.: 6095220

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 17

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SAMPLE SUMMARY

Project: UDALL, KS
Pace Project No.: 6095220

Lab ID	Sample ID	Matrix	Date Collected	Date Received
6095220001	RO-795757	Solid	03/10/11 14:00	03/12/11 08:43
6095220002	RO-247980	Solid	03/10/11 14:25	03/12/11 08:43
6095220003	RO-494957	Solid	03/10/11 16:00	03/12/11 08:43
6095220004	RO-79332	Solid	03/11/11 12:20	03/12/11 08:43
6095220005	RO-7449	Solid	03/11/11 14:20	03/12/11 08:43

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: UDALL, KS
Pace Project No.: 6095220

Lab ID	Sample ID	Method	Analysts	Analytes Reported
6095220001	RO-795757	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260/OA1	JDM	8
		ASTM D2974-87	DWC	1
6095220002	RO-247980	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260/OA1	JDM	8
		ASTM D2974-87	DWC	1
6095220003	RO-494957	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260/OA1	JDM	8
		ASTM D2974-87	DWC	1
6095220004	RO-79332	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260/OA1	JDM	8
		ASTM D2974-87	DWC	1
6095220005	RO-7449	EPA 6010	JDH	7
		EPA 7470	SMW	1
		EPA 8260/OA1	JDM	8
		ASTM D2974-87	DWC	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095220

Sample: RO-795757 Lab ID: 6095220001 Collected: 03/10/11 14:00 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-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; 03/23/11 00:00						
Arsenic	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:01	7440-38-2	
Barium	ND	mg/L	2.5	1	03/24/11 16:22	03/25/11 12:01	7440-39-3	
Cadmium	ND	mg/L	0.050	1	03/24/11 16:22	03/25/11 12:01	7440-43-9	
Chromium	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:01	7440-47-3	
Lead	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:01	7439-92-1	
Selenium	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:01	7782-49-2	
Silver	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:01	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 03/23/11 00:00						
Mercury	ND	ug/L	2.0	1	03/28/11 10:52	03/28/11 15:16	7439-97-6	
8260/OA1 UST		Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1						
Benzene	467	ug/kg	62.1	1	03/15/11 00:00	03/17/11 06:59	71-43-2	
Toluene	3120	ug/kg	124	1	03/15/11 00:00	03/17/11 06:59	108-88-3	
Ethylbenzene	829	ug/kg	124	1	03/15/11 00:00	03/17/11 06:59	100-41-4	
Xylene (Total)	9240	ug/kg	311	1	03/15/11 00:00	03/17/11 06:59	1330-20-7	
Dibromofluoromethane (S)	94	%	85-113	1	03/15/11 00:00	03/17/11 06:59	1868-53-7	
Toluene-d8 (S)	106	%	86-119	1	03/15/11 00:00	03/17/11 06:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	75-121	1	03/15/11 00:00	03/17/11 06:59	17060-07-0	
4-Bromofluorobenzene (S)	105	%	79-119	1	03/15/11 00:00	03/17/11 06:59	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	19.5	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095220

Sample: RO-247980 Lab ID: 6095220002 Collected: 03/10/11 14:25 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-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; 03/23/11 00:00						
Arsenic	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:11	7440-38-2	
Barium	ND	mg/L	2.5	1	03/24/11 16:22	03/25/11 12:11	7440-39-3	
Cadmium	ND	mg/L	0.050	1	03/24/11 16:22	03/25/11 12:11	7440-43-9	
Chromium	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:11	7440-47-3	
Lead	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:11	7439-92-1	
Selenium	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:11	7782-49-2	
Silver	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:11	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 03/23/11 00:00						
Mercury	ND	ug/L	2.0	1	03/28/11 10:52	03/28/11 15:22	7439-97-6	
8260/OA1 UST		Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1						
Benzene	ND	ug/kg	62.6	1	03/15/11 00:00	03/17/11 07:14	71-43-2	
Toluene	205	ug/kg	125	1	03/15/11 00:00	03/17/11 07:14	108-88-3	
Ethylbenzene	ND	ug/kg	125	1	03/15/11 00:00	03/17/11 07:14	100-41-4	
Xylene (Total)	592	ug/kg	313	1	03/15/11 00:00	03/17/11 07:14	1330-20-7	
Dibromofluoromethane (S)	95	%	85-113	1	03/15/11 00:00	03/17/11 07:14	1868-53-7	
Toluene-d8 (S)	101	%	86-119	1	03/15/11 00:00	03/17/11 07:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	75-121	1	03/15/11 00:00	03/17/11 07:14	17060-07-0	
4-Bromofluorobenzene (S)	103	%	79-119	1	03/15/11 00:00	03/17/11 07:14	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.6	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS
Pace Project No.: 6095220

Sample: RO-494957 Lab ID: 6095220003 Collected: 03/10/11 16:00 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-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; 03/23/11 00:00						
Arsenic	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:20	7440-38-2	
Barium	3.0	mg/L	2.5	1	03/24/11 16:22	03/25/11 12:20	7440-39-3	
Cadmium	ND	mg/L	0.050	1	03/24/11 16:22	03/25/11 12:20	7440-43-9	
Chromium	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:20	7440-47-3	
Lead	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:20	7439-92-1	
Selenium	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:20	7782-49-2	
Silver	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:20	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 03/23/11 00:00						
Mercury	ND	ug/L	2.0	1	03/28/11 10:52	03/28/11 15:24	7439-97-6	
8260/OA1 UST		Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1						
Benzene	1570	ug/kg	57.5	1	03/15/11 00:00	03/17/11 07:29	71-43-2	
Toluene	5840	ug/kg	115	1	03/15/11 00:00	03/17/11 07:29	108-88-3	
Ethylbenzene	1040	ug/kg	115	1	03/15/11 00:00	03/17/11 07:29	100-41-4	
Xylene (Total)	10300	ug/kg	288	1	03/15/11 00:00	03/17/11 07:29	1330-20-7	
Dibromofluoromethane (S)	93	%	85-113	1	03/15/11 00:00	03/17/11 07:29	1868-53-7	
Toluene-d8 (S)	108	%	86-119	1	03/15/11 00:00	03/17/11 07:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	75-121	1	03/15/11 00:00	03/17/11 07:29	17060-07-0	
4-Bromofluorobenzene (S)	115	%	79-119	1	03/15/11 00:00	03/17/11 07:29	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	13.3	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS

Pace Project No.: 6095220

Sample: RO-79332 Lab ID: 6095220004 Collected: 03/11/11 12:20 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-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; 03/23/11 00:00						
Arsenic	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:24	7440-38-2	
Barium	ND	mg/L	2.5	1	03/24/11 16:22	03/25/11 12:24	7440-39-3	
Cadmium	ND	mg/L	0.050	1	03/24/11 16:22	03/25/11 12:24	7440-43-9	
Chromium	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:24	7440-47-3	
Lead	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:24	7439-92-1	
Selenium	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 12:24	7782-49-2	
Silver	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 12:24	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 03/23/11 00:00						
Mercury	ND	ug/L	2.0	1	03/28/11 10:52	03/28/11 15:26	7439-97-6	
8260/OA1 UST		Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1						
Benzene	158	ug/kg	62.7	1	03/15/11 00:00	03/17/11 07:44	71-43-2	
Toluene	540	ug/kg	125	1	03/15/11 00:00	03/17/11 07:44	108-88-3	
Ethylbenzene	180	ug/kg	125	1	03/15/11 00:00	03/17/11 07:44	100-41-4	
Xylene (Total)	2240	ug/kg	314	1	03/15/11 00:00	03/17/11 07:44	1330-20-7	
Dibromofluoromethane (S)	94	%	85-113	1	03/15/11 00:00	03/17/11 07:44	1868-53-7	
Toluene-d8 (S)	104	%	86-119	1	03/15/11 00:00	03/17/11 07:44	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	75-121	1	03/15/11 00:00	03/17/11 07:44	17060-07-0	
4-Bromofluorobenzene (S)	106	%	79-119	1	03/15/11 00:00	03/17/11 07:44	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	20.8	%	0.50	1		03/21/11 00:00		

ANALYTICAL RESULTS

Project: UDALL, KS

Pace Project No.: 6095220

Sample: RO-7449 Lab ID: 6095220005 Collected: 03/11/11 14:20 Received: 03/12/11 08:43 Matrix: Solid

Results reported on a "dry-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; 03/23/11 00:00						
Arsenic	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 11:13	7440-38-2	
Barium	ND	mg/L	2.5	1	03/24/11 16:22	03/25/11 11:13	7440-39-3	
Cadmium	ND	mg/L	0.050	1	03/24/11 16:22	03/25/11 11:13	7440-43-9	
Chromium	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 11:13	7440-47-3	
Lead	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 11:13	7439-92-1	
Selenium	ND	mg/L	0.50	1	03/24/11 16:22	03/25/11 11:13	7782-49-2	
Silver	ND	mg/L	0.10	1	03/24/11 16:22	03/25/11 11:13	7440-22-4	
7470 Mercury, TCLP		Analytical Method: EPA 7470 Preparation Method: EPA 7470						
		Leachate Method/Date: EPA 1311; 03/23/11 00:00						
Mercury	ND	ug/L	2.0	1	03/28/11 10:52	03/28/11 15:37	7439-97-6	
8260/OA1 UST		Analytical Method: EPA 8260/OA1 Preparation Method: EPA 8260/OA1						
Benzene	87.8	ug/kg	58.7	1	03/15/11 00:00	03/17/11 07:59	71-43-2	
Toluene	445	ug/kg	117	1	03/15/11 00:00	03/17/11 07:59	108-88-3	
Ethylbenzene	ND	ug/kg	117	1	03/15/11 00:00	03/17/11 07:59	100-41-4	
Xylene (Total)	1310	ug/kg	293	1	03/15/11 00:00	03/17/11 07:59	1330-20-7	
Dibromofluoromethane (S)	94	%	85-113	1	03/15/11 00:00	03/17/11 07:59	1868-53-7	
Toluene-d8 (S)	106	%	86-119	1	03/15/11 00:00	03/17/11 07:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	90	%	75-121	1	03/15/11 00:00	03/17/11 07:59	17060-07-0	
4-Bromofluorobenzene (S)	105	%	79-119	1	03/15/11 00:00	03/17/11 07:59	460-00-4	
Percent Moisture		Analytical Method: ASTM D2974-87						
Percent Moisture	15.0	%	0.50	1		03/21/11 00:00		

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: MPRP/13781 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004

METHOD BLANK: 788932 Matrix: Water
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/25/11 11:55	
Barium	mg/L	ND	2.5	03/25/11 11:55	
Cadmium	mg/L	ND	0.050	03/25/11 11:55	
Chromium	mg/L	ND	0.10	03/25/11 11:55	
Lead	mg/L	ND	0.50	03/25/11 11:55	
Selenium	mg/L	ND	0.50	03/25/11 11:55	
Silver	mg/L	ND	0.10	03/25/11 11:55	

LABORATORY CONTROL SAMPLE: 788933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.98	98	80-120	
Barium	mg/L	1	1.1	107	80-120	
Cadmium	mg/L	1	0.99	99	80-120	
Chromium	mg/L	1	1.0	103	80-120	
Lead	mg/L	1	1.0	105	80-120	
Selenium	mg/L	1	0.98	98	80-120	
Silver	mg/L	.5	0.49	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 788934 788935

Parameter	Units	6095220001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
										RPD	RPD	Qual
Arsenic	mg/L	ND	10	10	7.9	10.2	79	102	75-125	26	20	M0,R1
Barium	mg/L	ND	10	10	8.6	12.1	73	108	75-125	34	20	M0,R1
Cadmium	mg/L	ND	10	10	8.0	10.2	80	102	75-125	24	20	M0,R1
Chromium	mg/L	ND	10	10	8.0	10.2	80	102	75-125	24	20	M0,R1
Lead	mg/L	ND	10	10	8.2	10.0	81	100	75-125	21	20	M0,R1
Selenium	mg/L	ND	10	10	7.9	10.2	79	102	75-125	26	20	M0,R1
Silver	mg/L	ND	5	5	4.0	5.1	79	101	75-125	25	20	M0,R1

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: MPRP/13782 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET TCLP
Associated Lab Samples: 6095220005

METHOD BLANK: 788939 Matrix: Water
Associated Lab Samples: 6095220005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	03/25/11 11:06	
Barium	mg/L	ND	2.5	03/25/11 11:06	
Cadmium	mg/L	ND	0.050	03/25/11 11:06	
Chromium	mg/L	ND	0.10	03/25/11 11:06	
Lead	mg/L	ND	0.50	03/25/11 11:06	
Selenium	mg/L	ND	0.50	03/25/11 11:06	
Silver	mg/L	ND	0.10	03/25/11 11:06	

LABORATORY CONTROL SAMPLE: 788940

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.96	96	80-120	
Barium	mg/L	1	1.0	103	80-120	
Cadmium	mg/L	1	0.97	97	80-120	
Chromium	mg/L	1	1.0	102	80-120	
Lead	mg/L	1	1.0	104	80-120	
Selenium	mg/L	1	0.96	96	80-120	
Silver	mg/L	.5	0.49	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 788941 788942

Parameter	Units	6095220005		MS Spike	MSD Spike	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		Result	Conc.	Conc.	Conc.	Result	Result	% Rec	% Rec		RPD	
Arsenic	mg/L	ND	10	10	10.1	10.1	101	101	101	75-125	0	20
Barium	mg/L	ND	10	10	11.5	11.5	102	101	101	75-125	0	20
Cadmium	mg/L	ND	10	10	9.9	9.9	99	99	99	75-125	0	20
Chromium	mg/L	ND	10	10	10.1	10.1	101	101	101	75-125	0	20
Lead	mg/L	ND	10	10	9.8	9.8	98	98	98	75-125	0	20
Selenium	mg/L	ND	10	10	10.2	10.1	102	101	101	75-125	1	20
Silver	mg/L	ND	5	5	5.0	5.0	100	100	100	75-125	0	20

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: MERP/5056 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004

METHOD BLANK: 790909 Matrix: Water
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	03/28/11 15:14	

LABORATORY CONTROL SAMPLE: 790910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 790911 790912

Parameter	Units	6095220001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Mercury	ug/L	ND	15	15	13.3	13.2	89	88	75-125	1	19	

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: MERP/5057 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 6095220005

METHOD BLANK: 790913 Matrix: Water
Associated Lab Samples: 6095220005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	2.0	03/28/11 15:35	

LABORATORY CONTROL SAMPLE: 790914

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: 790915 790916

Parameter	Units	6095220005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		Qual
										RPD	RPD	
Mercury	ug/L	ND	15	15	13.0	13.6	86	90	75-125	5	19	

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: MSV/35708 Analysis Method: EPA 8260/OA1
QC Batch Method: EPA 8260/OA1 Analysis Description: 8260/OA1 UST
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004, 6095220005

METHOD BLANK: 784510 Matrix: Solid
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004, 6095220005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/kg	ND	50.0	03/17/11 04:44	
Ethylbenzene	ug/kg	ND	100	03/17/11 04:44	
Toluene	ug/kg	ND	100	03/17/11 04:44	
Xylene (Total)	ug/kg	ND	250	03/17/11 04:44	
1,2-Dichloroethane-d4 (S)	%	97	75-121	03/17/11 04:44	
4-Bromofluorobenzene (S)	%	100	79-119	03/17/11 04:44	
Dibromofluoromethane (S)	%	98	85-113	03/17/11 04:44	
Toluene-d8 (S)	%	100	86-119	03/17/11 04:44	

LABORATORY CONTROL SAMPLE: 784511

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/kg	2000	2090	104	70-128	
Ethylbenzene	ug/kg	2000	2090	105	78-121	
Toluene	ug/kg	2000	2060	103	68-128	
Xylene (Total)	ug/kg	6000	6240	104	76-124	
1,2-Dichloroethane-d4 (S)	%			96	75-121	
4-Bromofluorobenzene (S)	%			99	79-119	
Dibromofluoromethane (S)	%			96	85-113	
Toluene-d8 (S)	%			101	86-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 784512 784513

Parameter	Units	6095043035		MS		MSD		% Rec	% Rec	% Rec Limits	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	MS Result	MSD Result					
Benzene	ug/kg	ND	2440	2440	2440	2650	2600	109	106	60-132	2	25
Ethylbenzene	ug/kg	ND	2440	2440	2440	2660	2650	109	108	66-128	0	24
Toluene	ug/kg	ND	2440	2440	2440	2570	2500	105	102	51-136	3	27
Xylene (Total)	ug/kg	ND	7340	7340	7340	7780	7610	106	104	62-130	2	26
1,2-Dichloroethane-d4 (S)	%							97	95	75-121		
4-Bromofluorobenzene (S)	%							100	98	79-119		
Dibromofluoromethane (S)	%							99	97	85-113		
Toluene-d8 (S)	%							100	99	86-119		

QUALITY CONTROL DATA

Project: UDALL, KS
Pace Project No.: 6095220

QC Batch: PMST/5981 Analysis Method: ASTM D2974-87
QC Batch Method: ASTM D2974-87 Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004, 6095220005

METHOD BLANK: 786848 Matrix: Solid
Associated Lab Samples: 6095220001, 6095220002, 6095220003, 6095220004, 6095220005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	03/21/11 00:00	

SAMPLE DUPLICATE: 786849

Parameter	Units	6095220004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.8	20.2	3	20	

QUALIFIERS

Project: UDALL, KS
Pace Project No.: 6095220

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.

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
R1 RPD value was outside control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: UDALL, KS
Pace Project No.: 6095220

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
6095220001	RO-795757	EPA 3010	MPRP/13781	EPA 6010	ICP/11972
6095220002	RO-247980	EPA 3010	MPRP/13781	EPA 6010	ICP/11972
6095220003	RO-494957	EPA 3010	MPRP/13781	EPA 6010	ICP/11972
6095220004	RO-79332	EPA 3010	MPRP/13781	EPA 6010	ICP/11972
6095220005	RO-7449	EPA 3010	MPRP/13782	EPA 6010	ICP/11971
6095220001	RO-795757	EPA 7470	MERP/5056	EPA 7470	MERC/5027
6095220002	RO-247980	EPA 7470	MERP/5056	EPA 7470	MERC/5027
6095220003	RO-494957	EPA 7470	MERP/5056	EPA 7470	MERC/5027
6095220004	RO-79332	EPA 7470	MERP/5056	EPA 7470	MERC/5027
6095220005	RO-7449	EPA 7470	MERP/5057	EPA 7470	MERC/5028
6095220001	RO-795757	EPA 8260/OA1	MSV/35708	EPA 8260/OA1	MSV/35728
6095220002	RO-247980	EPA 8260/OA1	MSV/35708	EPA 8260/OA1	MSV/35728
6095220003	RO-494957	EPA 8260/OA1	MSV/35708	EPA 8260/OA1	MSV/35728
6095220004	RO-79332	EPA 8260/OA1	MSV/35708	EPA 8260/OA1	MSV/35728
6095220005	RO-7449	EPA 8260/OA1	MSV/35708	EPA 8260/OA1	MSV/35728
6095220001	RO-795757	ASTM D2974-87	PMST/5981		
6095220002	RO-247980	ASTM D2974-87	PMST/5981		
6095220003	RO-494957	ASTM D2974-87	PMST/5981		
6095220004	RO-79332	ASTM D2974-87	PMST/5981		
6095220005	RO-7449	ASTM D2974-87	PMST/5981		



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
 Required Client Information:
 Company: **URS Corp.**
 Address: **8300 College Blvd, Suite 200**
 Overland Park, KS 66210
 Email To:
 Phone: **913-344-1023**
 Requested Due Date/TAT: **5/10**

Section B
 Required Project Information:
 Report To: **Rick Horner**
 Copy To: **Brian Meyer**
 Purchase Order No.:
 Project Name: **Udell, KS**
 Project Number: **31810923**

Section C
 Invoice Information:
 Attention: **Rick Horner**
 Company Name: **URS Corp**
 Address: **8300 College Blvd Ste 200**
 Site Location: **KS**
 State: **KS**

REGULATORY AGENCY
 NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

ITEM #	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW WATER P PRODUCT SOLID OIL WIPE AIR OTHER TISSUE	SAMPLE ID (A-Z, 0-9 / -) Samples IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP)	MATRIX CODE (see valid codes to left)	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ O ₂ Methanol Other	Analysis Test Y/N BTEX DRO	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
			COMPOSITE START	COMPOSITE END/GRAB								
1		RO-795757	5/11/11 1500		C	SL	2					081
2		RO-747980	5/11/11 1445		C	SL	2					085
3		RO-494957	5/11/11 1600		C	SL	2					083
4		RO-795757	5/11/11 1220		C	SL	2					081
5		RO-795757	5/11/11 1420		C	SL	2					085

ADDITIONAL COMMENTS
 [Handwritten notes and signatures]

RELINQUISHED BY / AFFILIATION
 DATE: 5/11/11 TIME: 0800
 SIGNATURE: [Signature]

ACCEPTED BY / AFFILIATION
 DATE: 5/12/11 TIME: 0843.16
 SIGNATURE: [Signature]

SAMPLE CONDITIONS
 Received on: []
 Ice (Y/N): []
 Custody Sealed (Y/N): []
 Samples Intact (Y/N): []

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: **Brian Meyer**
 SIGNATURE OF SAMPLER: [Signature]
 DATE SIGNED (MM/DD/YYYY): 5/11/11



Sample Condition Upon Receipt

Client Name: URS Corp Project # 6095220

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

Packing Material: Bubble Wrap Bubble Bags Foam None Other

Thermometer Used: T-191 / T-194

Type of Ice: Wet Blue None

Samples on ice, cooling process has begun

Cooler Temperature: 1.6

Temperature should be above freezing to 6°C

Comments:

Date and initials of person examining contents: 3/12/11 AD

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
-Includes date/time/ID/analyses Matrix: <u>9</u>		
All containers needing preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: <u>AD</u> Lot # of added preservative: _____
Trip Blank present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State: _____

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: 3.14.11

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)