



November 20, 2014

Mr. Paul Schneider  
Senior Staff EHS Representative  
Kerr-McGee Oil & Gas Onshore LP  
1099 18<sup>th</sup> Street, Suite 1800  
Denver, Colorado 80202

**Re: Sump Excavation Summary Letter Report  
Kurtz Albert D GU B True #1  
API# 05-123-11352  
SWSE 20-T3N-R67W**

Dear Mr. Schneider:

LT Environmental, Inc. (LTE) was contracted by Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) to perform environmental oversight activities at the above referenced site. The oversight activities included collection of a confirmation soil sample from the sump excavation, documentation of field activities, and analytical results review.

The objective of the soil sampling was to determine if petroleum hydrocarbon impacts to subsurface soil resulted from Kerr-McGee operating a produced water sump at the site. The soil sampling activities, laboratory analytical results, and conclusions are summarized below. The general site layout, sump excavation dimensions, and soil sample location are shown on the attached hand-sketched map.

After removing the produced water sump, one representative confirmation soil sample (B01@3.5') was collected from the soil directly beneath the water sump. The soil sample was submitted for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260B and total petroleum hydrocarbons (TPH) by EPA Methods 8015 and 8260B. The laboratory analytical results are summarized on Table 1 and provided in the attached analytical laboratory report.

The sump excavation measured approximately 15 feet north to south by 12 feet east to west to an approximate depth of 3.5 feet below ground surface. No indication of petroleum hydrocarbon impacts, including soil staining or odor, was observed beneath the water sump. In addition, TPH and BTEX concentrations were below Colorado Oil and Gas Conservation Commission allowable levels in soil sample B01@3.5'. Based on the field and analytical results, no remedial action is required at this site.



Please call us at (303) 433-9788 if you have any questions regarding this Sump Excavation Summary Letter Report or if you require additional information.

Sincerely,

LT ENVIRONMENTAL, INC.

Reviewed by

A handwritten signature in blue ink that reads "Michael J. Furtaw". The signature is written in a cursive, flowing style.

A handwritten signature in blue ink that reads "Aimee Cole". The signature is written in a cursive, flowing style.

Michael J. Furtaw  
Project Geologist

Aimee Cole  
Project Geologist

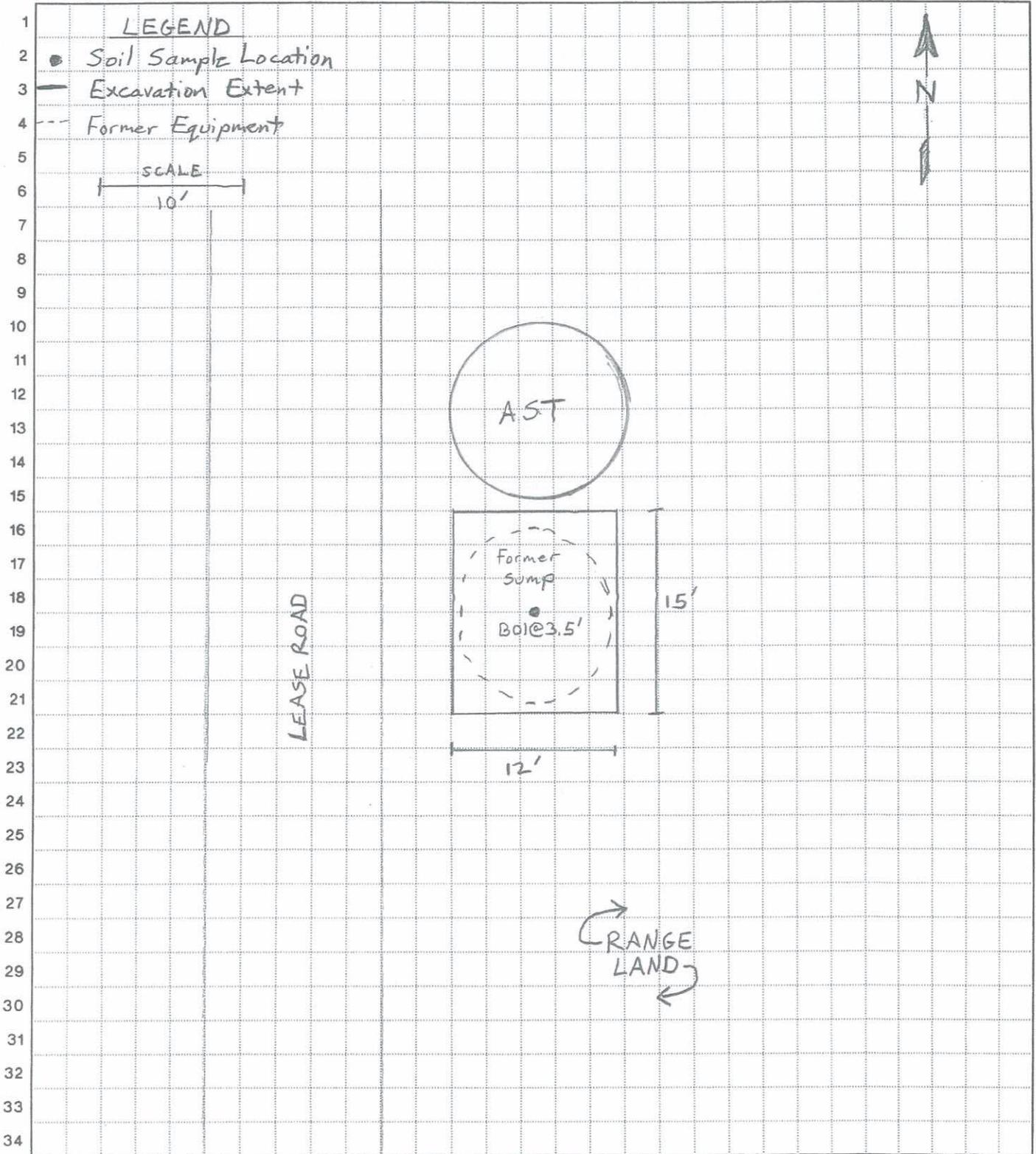
Attachments



PROJECT Kurtz Albert D GUB Trce 1  
PROJECT MANAGER John Cocroft  
JOB No. 014214031  
LOCATION SWSE 20-T3N-R67W

DATE 1-16-2014  
CONT. No.  
BY \_\_\_\_\_ CHK'D \_\_\_\_\_  
SHEET No. 1 OF 1

95L T0038 10/1997



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**KURTZ ALBERT D GU B TRUE #1**  
**WELD COUNTY, COLORADO**  
**KERR-MCGEE OIL & GAS ONSHORE LP**

<b>Soil Sample ID</b>	<b>Depth (bgs)</b>	<b>Date</b>	<b>Benzene (mg/kg)</b>	<b>Toluene (mg/kg)</b>	<b>Ethylbenzene (mg/kg)</b>	<b>Xylenes (mg/kg)</b>	<b>DRO (mg/kg)</b>	<b>GRO (mg/kg)</b>	<b>ORO (mg/kg)</b>
B01 @ 3.5'	3.5'	01/16/2014	<0.01	<0.01	<0.01	<0.01	<50	<50	<50
<b>COGCC Standards</b>			<b>0.17</b>	<b>85</b>	<b>100</b>	<b>175</b>	<b>500*</b>	<b>500*</b>	<b>500*</b>

Notes: bgs - below ground surface

< - less than

DRO - Diesel Range Organics

ORO - Oil Range Organics

GRO - Gasoline Range Organics

\* - Standard applies to combined DRO-GRO-ORO

mg/kg - milligrams per kilogram

NA - Not Analyzed/Not Available

Bold numbers indicate result equaled or exceeded standard.

COGCC - Colorado Oil and Gas Conservation Commission



# Test Report

## eANALYTICS LABORATORY

January 16, 2014

Client: LT Environmental / Anadarko  
Project: Kurtz Albert D GU "B" True #1  
Lab ID: 599  
Date Samples Received: 1/16/2014  
Number of Samples: 5  
Sample Condition: Samples arrived intact and in appropriate sample containers  
Sample Temperature: Within acceptable range of 2-6° C, or as specified in EPA Method

The quality control procedures associated with the requested analyses were satisfactorily passed before the samples were run.

Thank you for allowing eAnalytics Laboratory to provide laboratory services for you.

Sincerely,



Christopher Dieken  
Quality Assurance Manager



Todd Rhea  
Laboratory Manager



Proudly certified by A2LA & The  
United States Department of Defense  
(DoD ELAP)

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538





Client: LT Environmental / Anadarko Lab ID: 599  
 Project: Kurtz Albert D GU "B" True #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene mg/kg	Toluene mg/kg	Ethyl- benzene mg/kg	Total Xylenes mg/kg	TPH	TPH	TPH	Date Sampled	Date Analyzed	Lab ID
					GRO C6-C10 mg/kg	DRO C10-C28 mg/kg	ORO C28-C36 mg/kg			
B01 @ 3.5'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	01/16/14	01/16/14	599 1



Client:	LT Environmental / Anadarko	Lab ID:	599
Project:	Kurtz Albert D GU "B" True #1	Method:	EPA8260

Sample Name	Dibromo- fluoromethane % Recovery	1,2 Dichloro- ethane-D4 % Recovery	Toluene-D8 % Recovery	Bromo- fluorobenzene % Recovery	Date Sampled	Date Analyzed	Lab ID
B01 @ 3.5'	93	91	89	90	01/16/14	01/16/14	599 1



Client: LT Environmental / Anadarko Lab ID: 599  
 Project: Kurtz Albert D GU "B" True #1  
 Analysis: Volatile Organics Method: EPA8260  
 TPH-GRO / DRO / ORO EPA8260/8015

Sample Name	Benzene % Rec	Toluene % Rec	Ethyl- benzene % Rec	Total Xylenes % Rec	TPH GRO C6-C10 % Rec	TPH DRO C10-C28 % Rec	TPH ORO C28-C36 % Rec	Date Analyzed	Lab ID	
Laboratory Control (70-130%)	99	89	101	91	103	89	93	01/16/14	LCS	599 1
Calibration Verification (80-120%)	95	97	99	96	103	95	97	01/16/14	CCV	599 1
Method Blank	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 0.01 mg/kg	< 50 mg/kg	< 50 mg/kg	< 50 mg/kg	01/16/14	MB	599 1