



May 15, 2009

**Doc #1733380**  
**Spill #200204999**

Mr. Scott Rose  
Samson Resources Company  
Two West 2<sup>nd</sup> Street  
Tulsa, OK 74103

RE: Soil Investigation Results  
Gore GU A#15-1 (API #05-067-07900)  
La Plata County, Colorado

Dear Mr. Rose:

LT Environmental, Inc. (LTE) is pleased to provide Samson Resources Company (Samson) with this letter summarizing the results of the follow-up soil investigation activities conducted at the Gore GU A#15-1 (API #05-067-07900) production well site (Site) on May 11, 2009. LTE conducted the initial investigation in response to a release of produced water that overflowed a pit at the Site. A follow-up investigation was performed at the request of Samson after excavation of the impacted soil at the Site had been completed.

## **SOIL SAMPLING**

On May 11, 2009, LTE collected three soil samples to demonstrate that the impacted soil had been excavated. One soil sample (labeled "Pit") was collected within the pit located on the Site production pad. The other two soil samples (labeled "1A" and "2A") were collected downgradient of the well pad within the excavated area immediately north of the access road. Sample 1A was collected at the ground surface and sample 2A was collected at 12 inches below ground surface (bgs).

The soil samples were placed in clean Teflon-lined glass jars and stored in a cooler with ice in the field. The samples were submitted to Cardinal Laboratories of Hobbs, New Mexico for the analysis of Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) using EPA modified Method 8015.

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## **RESULTS**

Laboratory analytical results for the Pit sample indicate DRO was detected at a concentration of 958 milligrams per kilogram (mg/kg). Analytical results for the 1A sample indicate DRO was detected at a concentration of 131 mg/kg. DRO was not detected above the laboratory



method detection limit in sample 2A. Table 1 presents the soil analytical results. The laboratory analytical report is included as Attachment 1.

## CONCLUSIONS

Based on soil analytical results, both the 1A and 2A soil samples collected north of the access road are below the Colorado Oil and Gas Conservation Commission (COGCC) Concentration Level of 500 mg/kg for total produced hydrocarbons (TPH) established in Table 910-1 of the Rules. No further action is necessary at this time.

LTE appreciates the opportunity to provide environmental services to Samson. If you have any questions regarding this report or would like additional information, please contact us at (970) 884-5215.

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Travis Laverty". The signature is written in a cursive, flowing style.

Travis Laverty  
Staff Geologist

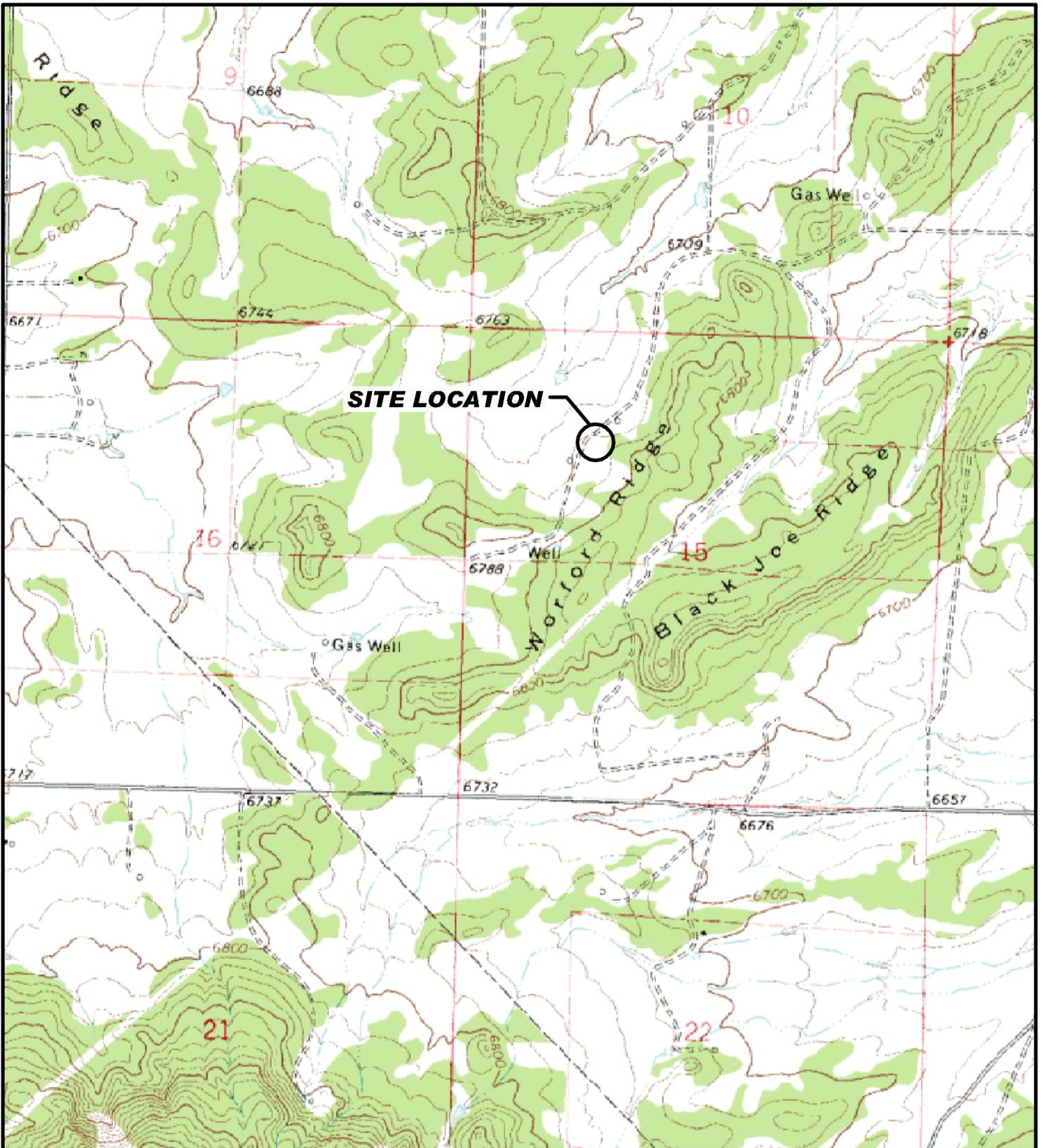
A handwritten signature in black ink that reads "John D. Peterson". The signature is written in a cursive, flowing style.

John D. Peterson, P.G.  
Principal/Senior Geologist

Attachments (3)

## FIGURES





**LEGEND**

○ **SITE LOCATION**



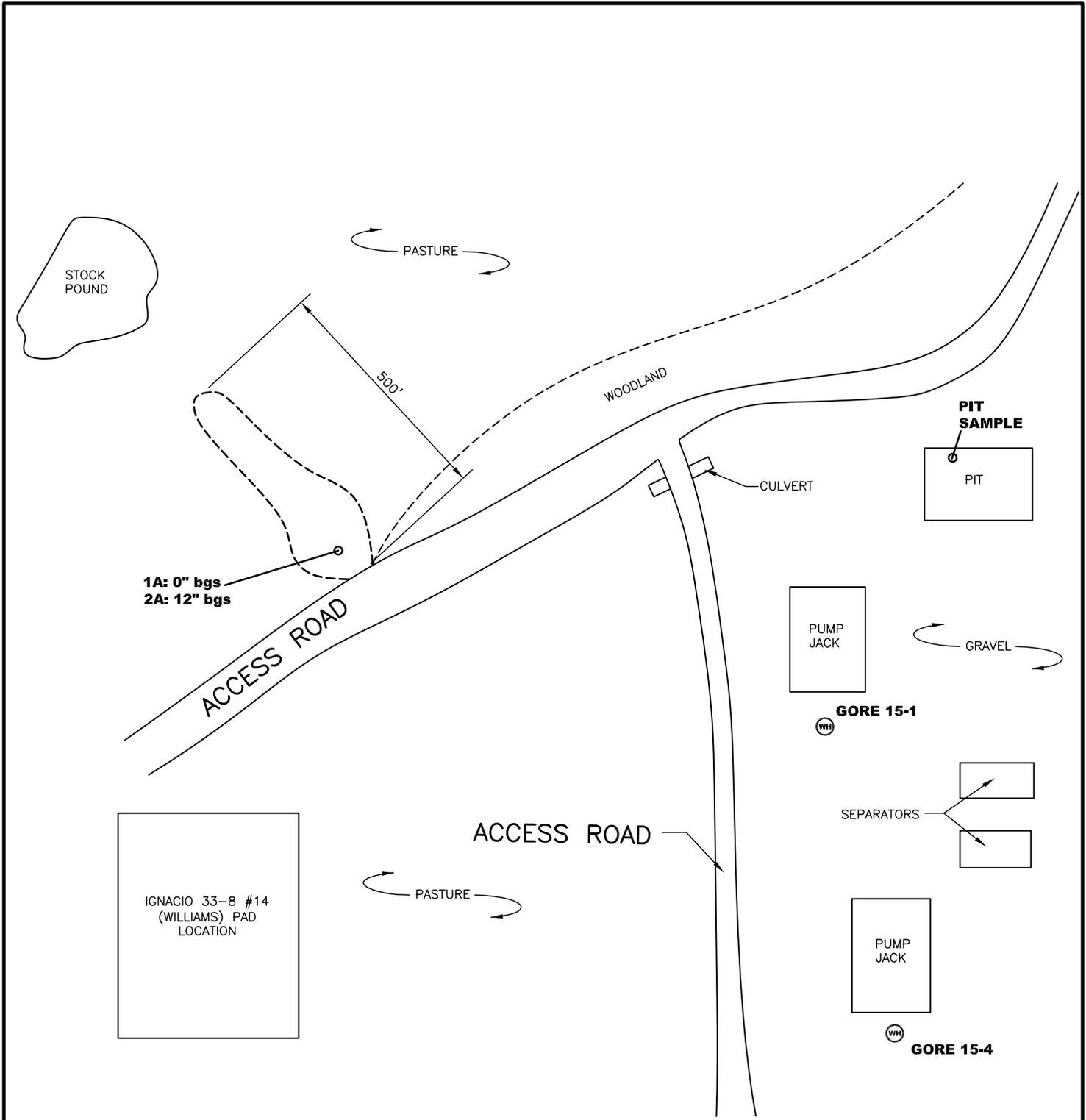
0 375 750 1500  
FEET

SOURCE: TOPOZONE.COM  
USGS 7.5' QUADRANGLE  
(NAD27)

**FIGURE 1**  
**SITE LOCATION MAP**  
**GORE GU A#15-1**  
**LA PLATA COUNTY, CO**  
**SAMSON RESOURCES COMPANY**

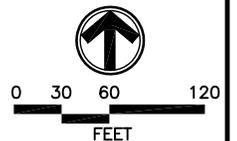


SAM090101\_SL 4/09



**LEGEND**

- GORE 15-1** (WH) WELL HEAD
- 1A: 0" bgs** (O) SOIL SAMPLE LOCATION
- EXTENT OF EXCAVATION
- bgs BELOW GROUND SURFACE



SOURCE:  
LTE SKETCH

**FIGURE 2**  
**SITE MAP**  
**GORE GU A#15-1**  
**LA PLATA COUNTY, CO**  
**SAMSON RESOURCES COMPANY**



## TABLES



**TABLE 1**  
**SOIL ANALYTICAL RESULTS - TPH**  
**GORE GU A#15-1 (API #05-067-07900)**  
**LA PLATA COUNTY, COLORADO**  
**SAMSON RESOURCES COMPANY**

<b>Sample ID</b>	<b>Sample Depth</b>	<b>Sample Date</b>	<b>GRO (mg/kg)</b>	<b>DRO (mg/kg)</b>
Pit	0"	5/11/2009	<10.0	958
1A	0"	5/11/2009	<10.0	131
2A	12"	5/11/2009	<10.0	<10.0
<b>COGCC Concentration Level*</b>			<b>500 TPH</b>	

Notes:

mg/kg - milligrams per kilogram

GRO - gasoline range organics

DRO - diesel range organics

" - inches below ground surface

Colorado Oil and Gas Conservation Commission Concentration Level deri

TPH - total petroleum hydrocarbons

**ATTACHMENT 1**  
**LABORATORY ANALYTICAL REPORT**





ANALYTICAL RESULTS FOR  
 GREEN ANALYTICAL LABORATORIES, INC.  
 ATTN: DEBBIE ZUFELT  
 75 SUTTLE STREET  
 DURANGO, CO 81303

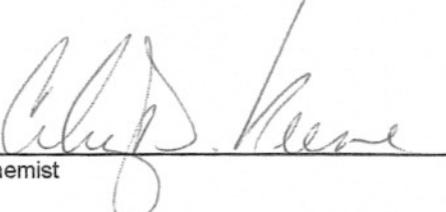
Receiving Date: 05/12/09  
 Reporting Date: 05/13/09  
 Project Number: 905-046-01, 02, 03  
 Project Name: LT ENVIRONMENTAL  
 Project Location: NOT GIVEN

Sampling Date: 05/11/09  
 Sample Type: SOIL/SEDIMENT  
 Sample Condition: COOL & INTACT  
 Sample Received By: CK  
 Analyzed By: AB

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	DRO EXT. (>C <sub>28</sub> -C <sub>35</sub> ) (mg/kg)
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ANALYSIS DATE:	05/12/09	05/12/09	05/12/09
H17407-1 PIT	<10.0	958	<10.0
H17407-2 1A	<10.0	131	<10.0
H17407-3 2A	<10.0	<10.0	<10.0
Quality Control	550	458	-
True Value QC	500	500	-
% Recovery	110	91.6	-
Relative Percent Difference	1.2	1.0	-

METHODS: TPH GRO & DRO - EPA SW-846 8015 M

  
 Chemist

05/13/09  
 Date

H17407 TPHE GAL

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