

## **ANALYTICAL TABLES**

**TABLE 1**  
**UPRC 15-3K and 15-6K**  
**Soil Laboratory Analytical Data**  
**Kerr-McGee Oil and Gas Onshore, LP**

Sample ID	Date Sampled	Depth (feet bgs)	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Total Xylenes mg/kg	TPH - GRO mg/kg	TPH - ORO+DRO mg/kg
<i>COGCC Standards for soil (mg/kg) <sup>(1)</sup></i>			<i>0.17</i>	<i>85</i>	<i>100</i>	<i>175</i>	<i>500</i>	
E01 @ 1'	25-Aug-14	1	< 0.01	< 0.01	< 0.01	0.274	68.7	208
N01 @ 1'	25-Aug-14	1	< 0.01	< 0.01	< 0.01	< 0.01	< 50	<50
S01 @ 1'	25-Aug-14	1	< 0.01	< 0.01	< 0.01	< 0.01	< 50	<50
W01 @ 1'	25-Aug-14	1	< 0.01	< 0.01	< 0.01	< 0.01	< 50	<50

**Notes:**

1. Standards for soil are taken from 2 CCR 404-1, Table 910-1, effective February 1, 2014.

COGCC = Colorado Oil and Gas Conservation Commission

TVPH - GRO = Total volatile petroleum hydrocarbons - gasoline range organics

TEPH - DRO = Total extractable petroleum hydrocarbons - diesel range organics

TEPH - ORO = Total extractable petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

bgs = Below ground surface

(<) = Analytical result is less than the indicated laboratory reporting limit

= Analytical result is in exceedance of COGCC Table 910-1 soil standards

TABLE 2  
UPRC 15-3K and 15-6K  
Groundwater Laboratory Analytical Data  
Kerr-McGee Oil and Gas Onshore, LP

Sample Location	Sample Date	Benzene ug/L	Toluene ug/L	Ethylbenzene ug/L	Total Xylenes ug/L
COGCC Table 910-1 Groundwater Standard (ug/L) <sup>(1)</sup>		5	560	700	1,400
GW01	25-Aug-14	66.5	69.5	7.6	639
GW02	28-Aug-14	88.4	120	65.1	1745

Notes:

Groundwater standards referenced from 2 CCR 404-1, Table 910-1, effective February 1, 2014

COGCC = Colorado Oil and Gas Conservation Commission

ug/L = Micrograms per liter

< = Analytical result is less than the indicated laboratory reporting limit

  = Analytical result is in exceedance of COGCC Table 910-1 groundwater standards

## **LABORATORY ANALYTICAL REPORTS**

# Test Report



August 28, 2014

Client: Tasman Geosciences / Anadarko

Project: UPRC 15-3K & 6K

Lab ID: 2045

Date Samples Received: 8/28/2014

Number of Samples: 1

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,

A handwritten signature in black ink, appearing to read "Chris Dieken".

Christopher Dieken  
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Todd Rhea".

Todd Rhea  
Laboratory Manager

**eAnalytics Laboratory**

1767 Rocky Mountain Avenue Loveland CO 80538

## Chain of Custody

**e**ANALYTICS  
LABORATORY

Chain of Custody Form

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## eAnalytics Laboratory

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The results contained within this report relate only to the items analyzed

**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2045

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics

Method: EPA8260

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Date Sampled	Date Analyzed	Lab ID	
	ug/L	ug/L	ug/L	ug/L				
GW02	88.4	120	65.1	1745	08/28/14	08/28/14	2045	1

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**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2045

Project: UPRC 15-3K &amp; 6K

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
GW02	91	108	103	90	08/28/14	08/28/14	2045 1

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**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2045

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics

Method: EPA8260

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Date Analyzed	Lab ID		
	% Rec	% Rec	% Rec	% Rec				
Laboratory Control	94	103	91	92	08/28/14	LCS	2045	1
(70-130%)								
Method Blank	< 1.0	< 1.0	< 1.0	< 1.0	08/28/14	MB	2045	1
	ug/L	ug/L	ug/L	ug/L				

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# Test Report



August 26, 2014

Client: Tasman Geosciences / Anadarko

Project: UPRC 15-3K & 6K

Lab ID: 2026

Date Samples Received: 8/25/2014

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,

A handwritten signature in black ink, appearing to read "Chris Dieken".

Christopher Dieken  
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Todd Rhea".

Todd Rhea  
Laboratory Manager

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## Chain of Custody

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## LABORATORY

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<b>CLIENT INFORMATION</b> (*New Clients please fill out completely)						<b>ANALYSIS INFORMATION</b> (*Select analysis by checking box on corresponding sample line)							
Company: Tasman Geosciences / Anadarko						Other Analysis							
Project: <u>UPRC 15-3K4K</u>													
Project Manager: Paul Schneider / Phil Hamlin													
Sampler: Christine Wasko													
Phone/Email: 720-409-8791 / cwasko@tasman-geo.com													
Address: 6899 Pecos Street, Unit C Denver, CO 80221													
Lab ID	Sample Name	Sampling Date/Time	Number of Containers	Matrix (S) Soil (W) Water (V) Vapor (O) Other	BTX (EPA 8260)	BTX/GRO (EPA 8260)	DRO/RO (EPA 8015)	TPH-GRO/DRO/RO (EPA 8260/8015)	SAR (US Dept of Ag Method 200)	EC (US Dept of Ag Method 3)	pH (EPA 9045D)		
1	GWOI	8/25/14	3	N	X								
2	EOI@1		1	S		X	X						
3	NOI@1		1	S		X	X						
4	SOI@1		1	S		X	X						
5	WOI@1		1	S		X	X						
Comments: <u>By 7am 8/26/14 Please</u>													
<b>Turnaround Time (Business Days)</b> TAT begins when sample is received by eANALYTICS <input checked="" type="checkbox"/> Normal (5-10 Days) <input type="checkbox"/> 1 Day (1.25x) <input type="checkbox"/> 1 Day (2x) <input type="checkbox"/> Same Day (3x) <input type="checkbox"/> Next Bus. Morning (APC Pricing)						<b>Record of Custody</b> Relinquished by: <u>[Signature]</u> Date: <u>8/25/14</u> Company: _____ Time: _____ Received by: _____ Date: _____ Company: _____ Time: _____ Relinquished by: _____ Date: _____ Company: _____ Time: _____ Received by: <u>[Signature]</u> Date: <u>8/25/14</u> Company: <u>eANALYTICS</u> Time: <u>6:00</u>							
<b>For eANALYTICS Use</b> Samples Received Intact <input checked="" type="checkbox"/> / No Received Within Temperature Range (2-6°C) <input checked="" type="checkbox"/> / No Sample Preservative <u>None</u> / Acid / Other													

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Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics  
TPHMethod: EPA8260  
EPA8260/8015

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH GRO C6-C10	TPH DRO C10-C28	TPH ORO C28-C36	Date Sampled	Date Analyzed	Lab ID	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
E01 @ 1'	< 0.01	< 0.01	< 0.01	<b>0.274</b>	<b>68.7</b>	<b>208</b>	< 50	08/25/14	08/25/14	2026	2

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LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics

Method: EPA8260

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Date Sampled	Date Analyzed	Lab ID	
	ug/L	ug/L	ug/L	ug/L				
GW01	66.5	69.5	7.6	639	08/25/14	08/25/14	2026	1

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LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

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
E01 @ 1'	105	95	111	91	08/25/14	08/25/14	2026 2

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LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

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
GW01	99	91	97	105	08/25/14	08/25/14	2026 1

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Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics  
TPHMethod: EPA8260  
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 Sample (70-130%)	91	96	95	101	89	103	90	08/25/14	LCS	2026	1
Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	08/25/14	MB	2026	1
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				

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LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics

Method: EPA8260

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	Date Analyzed	Lab ID		
	% Rec	% Rec	% Rec	% Rec				
Laboratory Control Sample	96	102	103	97	08/25/14	LCS	2026	1
(70-130%)								
Method Blank	< 1.0	< 1.0	< 1.0	< 1.0	08/25/14	MB	2026	1
	ug/L	ug/L	ug/L	ug/L				

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# Test Report



August 26, 2014

Client: Tasman Geosciences / Anadarko

Project: UPRC 15-3K & 6K

Lab ID: 2026

Date Samples Received: 8/25/2014

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,

A handwritten signature in black ink, appearing to read "Chris Dieken".

Christopher Dieken  
Quality Assurance Manager

A handwritten signature in black ink, appearing to read "Todd Rhea".

Todd Rhea  
Laboratory Manager

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## Chain of Custody

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CLIENT INFORMATION (*New Clients please fill out completely)				ANALYSIS INFORMATION (Select analysis by checking box on corresponding sample line)					
Company: Tasman Geosciences / Anadarko				Other Analysis					
Project: <u>UPRC 15-3K 4K</u>									
Project Manager: Paul Schneider / Phil Hamlin									
Sampler: Christine Wasko									
Phone/Email: 720-409-8791 / cwasko@tasman-geo.com									
Address: 6899 Pecos Street, Unit C Denver, CO 80221									
Lab ID	Sample Name	Sampling Date/Time	Number of Containers	Matrix: (S) Soil (W) Water (V) Vapor (O) Other	BTEX (EPA 8260)	BTEX/GRO (EPA 8260)	DRO/ORO (EPA 8015)	TPH-GRO/DRO/ORO (EPA 8260/8015)	SAR (US Dept of Ag Method 20B) EC (US Dept of Ag Method 3) pH (EPA 9045D)
1	GWOI	8/25/14	3	N	X				
2	EOI@1'		1	S		X	X		
3	NOI@1'		1	S		X	X		
4	SOI@1'		1	S		X	X		
5	WOI@1'		1	S		X	X		
<p>Comments: <u>By 7am 8/26/14 Please</u></p> <p>Turnaround Time (Business Days)  <input checked="" type="checkbox"/> Normal (5-10 Days) TAT begins when sample is received by eANALYTICS  <input type="checkbox"/> 3 Day (1.25x) Rush analysis requires an extra charge. If possible please inform eANALYTICS in advance  <input type="checkbox"/> 1 Day (2x)  <input type="checkbox"/> Same Day (3x)  <input checked="" type="checkbox"/> Next Bus. Morning (APC Pricing) for rush analysis.</p> <p>For eANALYTICS Use          Samples Received Intact <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No          Received Within Temperature Range (2-6°C) <input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No          Sample Preservative <input checked="" type="checkbox"/> None / <input type="checkbox"/> Acid / <input type="checkbox"/> Other</p> <p>Relinquished by: <u>[Signature]</u> Date: <u>8/25/14</u>          Company: <u>[Signature]</u>          Received by: <u>[Signature]</u> Date: <u>8/25/14</u>          Company: <u>eANALYTICS</u> Date: <u>6:00 PM</u></p>									

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**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics  
TPHMethod: EPA8260  
EPA8260/8015

Sample Name	Benzene	Toluene	Ethyl- benzene	Total Xylenes	TPH GRO C6-C10	TPH DRO C10-C28	TPH ORO C28-C36	Date Sampled	Date Analyzed	Lab ID	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				
N01 @ 1'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	08/25/14	08/26/14	2026	3
S01 @ 1'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	08/25/14	08/26/14	2026	4
W01 @ 1'	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	08/25/14	08/26/14	2026	5

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**e**ANALYTICS  
LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

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
N01 @ 1'	102	100	102	89	08/25/14	08/26/14	2026 3
S01 @ 1'	111	104	108	90	08/25/14	08/26/14	2026 4
W01 @ 1'	94	88	100	110	08/25/14	08/26/14	2026 5

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## LABORATORY

Client: Tasman Geosciences / Anadarko

Lab ID: 2026

Project: UPRC 15-3K &amp; 6K

Analysis: Volatile Organics  
TPHMethod: EPA8260  
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 Sample (70-130%)	89	94	102	95	95	89	94	08/26/14	LCS	2026	1
Method Blank	< 0.01	< 0.01	< 0.01	< 0.01	< 50	< 50	< 50	08/26/14	MB	2026	1
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				

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