



Davis 2-33 Water Vault Location

FSt

N 65th Ave

W 61st

©2010 Google

Imagery Date: Jun 20, 2014

lat 40.439023° lon -104.780137° elev 4706 ft

Eye alt 7644 ft

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 10, 2015

Dan Wade  
Tasman Geosciences  
6899 Pecos Street  
Denver, CO 80221  
RE: Davis 2-33

Enclosed are the results of analyses for samples received by Summit Scientific on 06/09/15 18:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@5'	1506086-01	Soil	06/09/15 14:00	06/09/15 18:15
SS02@3'	1506086-02	Soil	06/09/15 14:04	06/09/15 18:15

---

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*





Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

Reported:  
06/10/15 06:55

**SS01@5'**  
**1506086-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/09/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506103	06/09/15	06/10/15	8015M	

Date Sampled: **06/09/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **06/09/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1506102	06/09/15	06/09/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **06/09/15 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		95.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

**SS02@3'**  
**1506086-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/09/15 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506103	06/09/15	06/10/15	8015M	

Date Sampled: **06/09/15 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		106 %	30-150		"	"	"	"	

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **06/09/15 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1506102	06/09/15	06/09/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: **06/09/15 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		103 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %	21-167		"	"	"	"	

**Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis**

Date Sampled: **06/09/15 14:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
---------	--------	-----------------	-------	----------	-------	----------	----------	--------	-------

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

**SS02@3'**  
**1506086-02 (Soil)**

**Summit Scientific**

**Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis**

Analyte	Result	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	929	mg/kg dry	1	1506096	06/09/15	06/09/15	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	380	"	"	"	"	"	"	
Sodium	66.3	"	"	"	"	"	"	

Date Sampled: 06/09/15 14:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.460		units	"	1506110	06/10/15	06/10/15	"	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: 06/09/15 14:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.258	0.0100	mmhos/cm	1	1506109	06/09/15	06/09/15	SM 2510B	

Date Sampled: 06/09/15 14:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.32	0.100	pH Units	"	1506108	06/09/15	06/09/15	EPA 9045	

Date Sampled: 06/09/15 14:04

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.0		%	"	1506111	06/10/15	06/10/15	% calculation	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike Level	Source		%REC		RPD		Notes
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch 1506103 - EPA 3550A**

**Blank (1506103-BLK1)**

Prepared & Analyzed: 06/09/15

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.3		"	12.2		101	30-150				

**LCS (1506103-BS1)**

Prepared & Analyzed: 06/09/15

C10-C28 (DRO)	485	50	mg/kg	501		96.9	73-134				
<i>Surrogate: o-Terphenyl</i>	12.7		"	12.2		104	30-150				

**Matrix Spike (1506103-MS1)**

Source: 1506079-01

Prepared & Analyzed: 06/09/15

C10-C28 (DRO)	494	50	mg/kg	492	27.9	94.8	50-148				
<i>Surrogate: o-Terphenyl</i>	12.3		"	12.0		103	30-150				

**Matrix Spike Dup (1506103-MSD1)**

Source: 1506079-01

Prepared & Analyzed: 06/09/15

C10-C28 (DRO)	472	50	mg/kg	496	27.9	89.6	50-148	4.56		13	
<i>Surrogate: o-Terphenyl</i>	12.3		"	12.1		102	30-150				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

Reported:  
06/10/15 06:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 1506102 - EPA 5030 Soil MS**

**Blank (1506102-BLK1)**

Prepared & Analyzed: 06/09/15

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0374</i>		<i>"</i>	<i>0.0396</i>		<i>94.5</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.1</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>96.9</i>	<i>21-167</i>			

**LCS (1506102-BS1)**

Prepared & Analyzed: 06/09/15

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.108	0.0020	"	0.100		108	58-130			
Toluene	0.0995	0.0050	"	0.100		99.5	61-134			
Ethylbenzene	0.104	0.0050	"	0.0992		104	74-139			
m,p-Xylene	0.215	0.010	"	0.200		108	73-137			
o-Xylene	0.106	0.0050	"	0.0984		108	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0377</i>		<i>"</i>	<i>0.0396</i>		<i>95.3</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>96.1</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.4</i>	<i>21-167</i>			

**Matrix Spike (1506102-MS1)**

Source: 1506079-01

Prepared & Analyzed: 06/09/15

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.109	0.0020	"	0.100	ND	109	30-131			
Toluene	0.100	0.0050	"	0.100	ND	100	30-134			
Ethylbenzene	0.104	0.0050	"	0.0992	ND	105	22-153			
m,p-Xylene	0.214	0.010	"	0.200	0.00609	104	10-159			
o-Xylene	0.106	0.0050	"	0.0984	ND	107	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0399</i>		<i>"</i>	<i>0.0396</i>		<i>101</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.0</i>	<i>21-167</i>			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 1506102 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1506102-MSD1)</b>	<b>Source: 1506079-01</b>			<b>Prepared &amp; Analyzed: 06/09/15</b>						
Naphthalene	ND	0.010	mg/kg	ND	ND	107	10-158		42	
Benzene	0.107	0.0020	"	0.100	ND	107	30-131	1.83	34	
Toluene	0.0986	0.0050	"	0.100	ND	98.6	30-134	1.60	30	
Ethylbenzene	0.102	0.0050	"	0.0992	ND	103	22-153	2.18	24	
m,p-Xylene	0.212	0.010	"	0.200	0.00609	103	10-159	1.20	68	
o-Xylene	0.105	0.0050	"	0.0984	ND	107	31-151	0.626	38	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0395</i>		<i>"</i>	<i>0.0396</i>		<i>99.7</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0379</i>		<i>"</i>	<i>0.0400</i>		<i>94.7</i>	<i>21-167</i>			

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

Reported:  
06/10/15 06:55

**Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 1506096 - General Preparation**

**Blank (1506096-BLK1)**

Prepared & Analyzed: 06/09/15

Calcium	ND	10.0	mg/kg wet							
Magnesium	ND	5.00	"							
Sodium	ND	5.00	"							

**LCS (1506096-BS1)**

Prepared & Analyzed: 06/09/15

Calcium	528	10.0	mg/kg wet	500	2570	106	82.9-118			
Magnesium	515	5.00	"	500	789	103	77.1-123			
Sodium	512	5.00	"	500	1650	102	71-129			

**Duplicate (1506096-DUP1)**

Source: 1506073-01

Prepared & Analyzed: 06/09/15

Calcium	2820	10.0	mg/kg wet	500	2570			9.20	200	
Magnesium	616	5.00	"	500	789			24.6	200	
Sodium	1890	5.00	"	500	1650			13.5	200	

**Matrix Spike (1506096-MS1)**

Source: 1506073-01

Prepared & Analyzed: 06/09/15

Calcium	4220	10.0	mg/kg wet	500	2570	330	75-125			QM-07
Magnesium	1010	5.00	"	500	789	43.9	75-125			QM-07
Sodium	2240	5.00	"	500	1650	118	75-125			

**Matrix Spike Dup (1506096-MSD1)**

Source: 1506073-01

Prepared & Analyzed: 06/09/15

Calcium	4020	10.0	mg/kg wet	500	2570	289	75-125	4.92	25	QM-07
Magnesium	959	5.00	"	500	789	34.0	75-125	5.04	25	QM-07
Sodium	2240	5.00	"	500	1650	118	75-125	0.0458	25	

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch 1506108 - General Preparation**

<b>LCS (1506108-BS1)</b>					Prepared & Analyzed: 06/09/15					
pH	6.05	0.100	pH Units	6.00	101	95-105				
<b>Duplicate (1506108-DUP1)</b>					Source: 1506086-02 Prepared & Analyzed: 06/09/15					
pH	8.40	0.100	pH Units	8.32	0.957	20				

**Batch 1506109 - General Preparation**

<b>Blank (1506109-BLK1)</b>					Prepared & Analyzed: 06/09/15					
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
<b>LCS (1506109-BS1)</b>					Prepared & Analyzed: 06/09/15					
Specific Conductance (EC)	1.03	0.00200	mmhos/cm	1.00	103	90-110				
<b>Duplicate (1506109-DUP1)</b>					Source: 1506086-02 Prepared & Analyzed: 06/09/15					
Specific Conductance (EC)	0.235	0.0100	mmhos/cm	0.258	9.24	20				

**Batch 1506111 - General Preparation**

<b>Duplicate (1506111-DUP1)</b>					Source: 1506086-02 Prepared & Analyzed: 06/10/15					
% Solids	91.0		%	90.0	1.10	20				

Summit Scientific

*The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.*



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Davis 2-33

Project Number: [none]  
Project Manager: Dan Wade

**Reported:**  
06/10/15 06:55

### Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference