

# Summit Scientific

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July 05, 2018

Brent Everett  
Tasman Geosciences  
6899 Pecos St, Unit C  
Denver, CO 80221  
RE: Hoffman Central

Enclosed are the results of analyses for samples received by Summit Scientific on 07/03/18 17:25. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS10@6' - 070318	1807019-01	Soil	07/03/18 09:30	07/03/18 17:25
SS11@6' - 070318	1807019-02	Soil	07/03/18 09:33	07/03/18 17:25
SS12@6' - 070318	1807019-03	Soil	07/03/18 09:40	07/03/18 17:25
SS13@6' - 070318	1807019-04	Soil	07/03/18 10:02	07/03/18 17:25
SS14@2' - 070318	1807019-05	Soil	07/03/18 10:23	07/03/18 17:25
SS15@12' - 070318	1807019-06	Soil	07/03/18 12:12	07/03/18 17:25

Summit Scientific

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1807019

## Sample Receipt Checklist

S2 Work Order: \_\_\_\_\_

Client: Tasman FoundationClient Project ID: Hoffman CentralShipped Via: Pickup  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

Matrix (check all that apply):    Air    ☒ Soil/Solid    Water    Other: \_\_\_\_\_  
(Describe)

Temp (°C)

12.0

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name or Initials

Signature or Initials of Custodian

Date/Time

7.3.18 1630



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

**SS10@6' - 070318**  
**1807019-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/03/18 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/03/18 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		140 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/03/18 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/03/18	EPA 8015M	

Date Sampled: **07/03/18 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		82.5 %	30-150		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

**SS11@6' - 070318**  
**1807019-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/03/18 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **07/03/18 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		135 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		105 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/03/18 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/03/18	EPA 8015M	

Date Sampled: **07/03/18 09:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.1 %	30-150		"	"	"	"	

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

Reported:  
07/05/18 06:25

SS12@6' - 070318  
1807019-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/03/18 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/03/18 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		150 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/03/18 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/03/18	EPA 8015M	

Date Sampled: 07/03/18 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		83.5 %	30-150		"	"	"	"	

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

Reported:  
07/05/18 06:25

SS13@6' - 070318  
1807019-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/03/18 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/03/18 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		138 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		106 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/03/18 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/04/18	EPA 8015M	

Date Sampled: 07/03/18 10:02

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		85.6 %	30-150		"	"	"	"	

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

Reported:  
07/05/18 06:25

SS14@2' - 070318  
1807019-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/03/18 10:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/03/18 10:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		142 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		104 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/03/18 10:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/04/18	EPA 8015M	

Date Sampled: 07/03/18 10:23

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		83.5 %	30-150		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

**SS15@12' - 070318**  
**1807019-06 (Soil)**

**Summit Scientific**

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

Date Sampled: **07/03/18 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>0.029</b>	0.0020	mg/kg	1	1807036	07/03/18	07/04/18	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>0.015</b>	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
<b>Gasoline Range Hydrocarbons</b>	<b>1.4</b>	0.50	"	"	"	"	"	"	

Date Sampled: **07/03/18 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		136 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		107 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		111 %	21-167		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **07/03/18 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1807037	"	07/04/18	EPA 8015M	

Date Sampled: **07/03/18 12:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		84.4 %	30-150		"	"	"	"	

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

Reported:  
07/05/18 06:25

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

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

**Batch 1807036 - EPA 5030 Soil MS**

**Blank (1807036-BLK1)**

Prepared & Analyzed: 07/03/18

Benzene	ND	0.0020	mg/kg
Toluene	ND	0.0050	"
Ethylbenzene	ND	0.0050	"
Xylenes (total)	ND	0.010	"
Gasoline Range Hydrocarbons	ND	0.50	"

Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0396	105	23-173
Surrogate: Toluene-d8	0.0370		"	0.0400	92.6	20-170
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400	100	21-167

**LCS (1807036-BS1)**

Prepared & Analyzed: 07/03/18

Benzene	0.0830	0.0020	mg/kg	0.100	83.0	70-130
Toluene	0.0920	0.0050	"	0.100	92.0	70-130
Ethylbenzene	0.104	0.0050	"	0.100	104	70-130
m,p-Xylene	0.194	0.010	"	0.200	96.9	70-130
o-Xylene	0.0915	0.0050	"	0.100	91.5	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0396	98.5	23-173
Surrogate: Toluene-d8	0.0383		"	0.0400	95.8	20-170
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400	98.2	21-167

**Matrix Spike (1807036-MS1)**

Source: 1807017-01

Prepared & Analyzed: 07/03/18

Benzene	0.0908	0.0020	mg/kg	0.100	ND	90.8	70-130
Toluene	0.0715	0.0050	"	0.100	ND	71.5	70-130
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130
m,p-Xylene	0.195	0.010	"	0.200	ND	97.4	70-130
o-Xylene	0.0969	0.0050	"	0.100	ND	96.9	70-130

Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0396	110	23-173
Surrogate: Toluene-d8	0.0303		"	0.0400	75.7	20-170
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400	94.4	21-167

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

Reported:  
07/05/18 06:25

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

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

**Batch 1807036 - EPA 5030 Soil MS**

Matrix Spike Dup (1807036-MSD1)	Source: 1807017-01			Prepared & Analyzed: 07/03/18						
Benzene	0.0848	0.0020	mg/kg	0.100	ND	84.8	70-130	6.84	30	
Toluene	0.0767	0.0050	"	0.100	ND	76.7	70-130	7.09	30	
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	2.63	30	
m,p-Xylene	0.198	0.010	"	0.200	ND	98.8	70-130	1.41	30	
o-Xylene	0.0986	0.0050	"	0.100	ND	98.6	70-130	1.75	30	
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0396		102	23-173			
Surrogate: Toluene-d8	0.0326		"	0.0400		81.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.3	21-167			

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central  
Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

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

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

**Batch 1807037 - EPA 3550A**

**Blank (1807037-BLK1)**

Prepared & Analyzed: 07/03/18

C10-C28 (DRO) ND 50 mg/kg

**LCS (1807037-BS1)**

Prepared & Analyzed: 07/03/18

C10-C28 (DRO) 466 50 mg/kg 70-130

**Matrix Spike (1807037-MS1)**

**Source: 1807017-01**

Prepared & Analyzed: 07/03/18

C10-C28 (DRO) 485 50 mg/kg 20.5 70-130

**Matrix Spike Dup (1807037-MSD1)**

**Source: 1807017-01**

Prepared & Analyzed: 07/03/18

C10-C28 (DRO) 487 50 mg/kg 20.5 70-130 0.539 20

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Hoffman Central

Project Number: [none]  
Project Manager: Brent Everett

**Reported:**  
07/05/18 06:25

### Notes and Definitions

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