



July 14, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - Civitas - Miller 4-20J

Project Number - AFE#22066

Attached are your analytical results for Civitas - Miller 4-20J received by Origins Laboratory, Inc. June 29, 2022. This project is associated with Origins project number Y206752-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL-B02@4'	Y206752-01	Soil	June 29, 2022 13:30	06/29/2022 16:10

Origins Laboratory, Inc.



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Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

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LABORATORY, INC

www.originslaboratory.com

page 1 of 1

Client: CIVITAS/Tasman

Address: 6855 W 114th St

Broomfield CO

Telephone Number: 303-507-8869

Email Address: wayne.tasman@geo.com

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Y206752

Project Manager:

Mike Jahn

Project Name:





Miller 4-205

Project Number:

AFE # 22066

Samples Collected By:

SL

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis 915 Table	Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summ #		
FL-B0204	6-29-22	1330	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	On hold for metals 915 table
												2
												3
												4
												5
												6
												7
												8
												9
												10
Relinquished By: 	Date: 6-29-22	Time: 1610										Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>
Relinquished By: 	Date: 	Time: 										

Temp Received: 10.7°

Date Results Needed

Origins Laboratory, Inc.

Byron

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Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

Origins Laboratory

Origins Work Order: Y206 751

Checklist Completed by: MS

Date/time completed: 6/30/22

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____

Cooler Number/Temperature: 1, 10.7°C _____ °C (Describe) _____ °C

Thermometer ID: T004

Sample Receipt Checklist

Client: Tasman

Client Project ID: Miller 420J

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: NA

F-012207-01-R1
Effective Date: 01/09/12

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity) (pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager): JD Date/Time Reviewed: 7/1/22

Origins Laboratory, Inc.

J. Bynon

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Broomfield CO 80020

Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

FL-B02@4'
6/29/2022 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y206752-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.282	0.100	mg/L	1	B2G0112	07/01/2022	07/05/2022	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B2G0103	07/01/2022	07/09/2022	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	U

Surrogate: o-Terphenyl	67.5 %	50-150			"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	3.00	0.0500	mg/kg	25	B2G0109	07/01/2022	07/07/2022
1,3,5-Trimethylbenzene	0.0772	0.00200	"	1	"	"	07/02/2022
Benzene	0.00972	0.00200	"	"	"	"	"
Ethylbenzene	0.0733	0.00200	"	"	"	"	"
Toluene	0.00222	0.00200	"	"	"	"	"
Xylenes, total	0.0264	0.00200	"	"	"	"	"
Gasoline Range Hydrocarbons	15.3	0.200	"	"	"	"	"

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	141 %	70-130			"	"	S-GC
Surrogate: 4-Bromofluorobenzene	93.0 %	70-130			"	"	"

Origins Laboratory, Inc.



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FL-B02@4'

6/29/2022 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y206752-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	2.00	0.499	meq/L	10	[CALC]	07/01/2022	07/05/2022
Magnesium	1.68	0.823	"	"	"	"	"
Sodium	2.14	0.435	"	"	"	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.0306	0.00728	0.0134	mg/Kg	20	L625680	07/08/2022	07/08/2022
2-Methylnaphthalene	0.0725	0.0129	0.0134	"	"	"	"	"
Acenaphthene	ND	0.00608	0.0134	"	"	"	"	"
Anthracene	ND	0.00668	0.0134	"	"	"	"	"
Benzo(a)anthracene	ND	0.00986	0.0134	"	"	"	"	"
Benzo(a)pyrene	ND	0.00936	0.0134	"	"	"	"	"
Benzo(b)fluoranthene	ND	0.0117	0.0134	"	"	"	"	"
Benzo(k)fluoranthene	ND	0.00874	0.0134	"	"	"	"	"
Chrysene	ND	0.0125	0.0134	"	"	"	"	"
Dibenz(a,h)anthracene	ND	0.0123	0.0134	"	"	"	"	"
Fluoranthene	ND	0.00788	0.0134	"	"	"	"	"
Fluorene	ND	0.00572	0.0134	"	"	"	"	"
Indeno(1,2,3-cd)pyrene	ND	0.0125	0.0134	"	"	"	"	"
Naphthalene	0.0315	0.00968	0.0134	"	"	"	"	"
Pyrene	ND	0.0129	0.0134	"	"	"	"	"
Surrogate: 2-Fluorobiphenyl	68.2 %		33-115			"	"	"

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FL-B02@4'

6/29/2022 1:30:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Waypoint Analytical, Inc.
Y206752-01 (Soil)

PAH by 8270D SIM

Surrogate: 4-Terphenyl-d14	78.4 %		33-122			L6256 80	07/08/2022	07/08/2022	
Surrogate: Nitrobenzene-d5	86.8 %		29-110			"	"	"	

pH in Soil by 9045D

pH	7.75			pH Units	1	B2G0113	07/01/2022	07/02/2022	
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SAR by 20B Saturated Paste

SAR	1.58			SAR	1	B2G0111	07/01/2022	07/05/2022	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.671		0.00500	mmhos/cm	1	B2G0113	07/01/2022	07/02/2022	
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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2G0103 - EPA 3580										
Blank (B2G0103-BLK1)					Prepared: 07/01/2022 Analyzed: 07/09/2022					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	22		"	24.9		86.8	50-150			

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Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B2G0103 - EPA 3580

LCS (B2G0103-BS1)

Prepared: 07/01/2022 Analyzed: 07/09/2022

Diesel (C10-C28)	891	50.0	mg/kg	1000		89.1	70-130			
Residual Range Organics (C28-C40)	778	200	"	1000		77.8	70-130			
Surrogate: o-Terphenyl	37		"	49.8		74.6	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B2G0103 - EPA 3580

Matrix Spike (B2G0103-MS1)		Source: Y206752-01			Prepared: 07/01/2022 Analyzed: 07/09/2022					
Diesel (C10-C28)	999	50.0	mg/kg	1000	ND	99.9	70-130			
Residual Range Organics (C28-C40)	844	200	"	1000	ND	84.4	70-130			
Surrogate: o-Terphenyl	39		"	49.8		78.4	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B2G0103 - EPA 3580

Matrix Spike Dup (B2G0103-MSD1)		Source: Y206752-01			Prepared: 07/01/2022 Analyzed: 07/09/2022					
Diesel (C10-C28)	1020	50.0	mg/kg	1000	ND	102	70-130	1.67	35	
Residual Range Organics (C28-C40)	872	200	"	1000	ND	87.2	70-130	3.27	35	
Surrogate: o-Terphenyl	36		"	49.8		71.8	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2G0109 - EPA 5030 (soil)										
Blank (B2G0109-BLK1)					Prepared: 07/01/2022 Analyzed: 07/02/2022					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.0100	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.4	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2G0109 - EPA 5030 (soil)										
LCS (B2G0109-BS1)					Prepared: 07/01/2022 Analyzed: 07/02/2022					
1,2,4-Trimethylbenzene	0.115	0.00200	mg/kg	0.100		115	70-130			
1,3,5-Trimethylbenzene	0.117	0.00200	"	0.100		117	70-130			
Benzene	0.100	0.00200	"	0.100		100	70-130			
Ethylbenzene	0.118	0.00200	"	0.100		118	70-130			
Naphthalene	0.110	0.0100	"	0.100		110	70-130			
Toluene	0.107	0.00200	"	0.100		107	70-130			
o-Xylene	0.114	0.00200	"	0.100		114	70-130			
m,p-Xylene	0.241	0.00400	"	0.200		121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.9	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2G0109 - EPA 5030 (soil)										
Matrix Spike (B2G0109-MS1)		Source: Y206706-01			Prepared: 07/01/2022 Analyzed: 07/02/2022					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.114	0.00200	"	0.100	ND	114	70-130			
Benzene	0.0939	0.00200	"	0.100	ND	93.9	70-130			
Ethylbenzene	0.119	0.00200	"	0.100	ND	119	70-130			
Naphthalene	0.110	0.0100	"	0.100	ND	110	70-130			
Toluene	0.0989	0.00200	"	0.100	ND	98.9	70-130			
o-Xylene	0.118	0.00200	"	0.100	ND	118	70-130			
m,p-Xylene	0.243	0.00400	"	0.200	ND	122	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.0	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		112	70-130			

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Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2G0109 - EPA 5030 (soil)										
Matrix Spike Dup (B2G0109-MSD1)		Source: Y206706-01			Prepared: 07/01/2022 Analyzed: 07/02/2022					
1,2,4-Trimethylbenzene	0.0957	0.00200	mg/kg	0.100	ND	95.7	70-130	12.4	20	
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130	12.1	20	
Benzene	0.0892	0.00200	"	0.100	ND	89.2	70-130	5.13	20	
Ethylbenzene	0.109	0.00200	"	0.100	ND	109	70-130	9.31	20	
Naphthalene	0.104	0.0100	"	0.100	ND	104	70-130	5.49	20	
Toluene	0.0899	0.00200	"	0.100	ND	89.9	70-130	9.52	20	
o-Xylene	0.109	0.00200	"	0.100	ND	109	70-130	8.21	20	
m,p-Xylene	0.219	0.00400	"	0.200	ND	109	70-130	10.6	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		113	70-130			

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Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Saturated Paste - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B2G0113 - NO PREP

Blank (B2G0113-BLK1)

Prepared: 07/01/2022 Analyzed: 07/02/2022

pH	0.00		pH Units
Specific Conductance (EC)	0.00340	0.00500	mmhos/cm

Duplicate (B2G0113-DUP1)

Source: Y206718-03

Prepared: 07/01/2022 Analyzed: 07/02/2022

pH	7.63		pH Units	7.79	2.08	25
Specific Conductance (EC)	0.253	0.00500	mmhos/cm	0.221	13.3	25

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PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L625680 - 3550B

MSD (L 87564-MSD-L625680)		Source: 87564			Prepared: 07/08/2022 Analyzed: 07/08/2022					
1-Methylnaphthalene	0.0892	0.000364	mg/Kg	0.165	<0.000364	54	30-130	5.5	30	
Benzo(a)anthracene	0.111	0.000493	"	0.165	<0.000493	67.2	30-130	2.7	30	
Anthracene	0.102	0.000334	"	0.165	<0.000334	61.8	30-130	1.9	30	
Acenaphthene	0.0953	0.000304	"	0.165	<0.000304	57.7	30-130	5.8	30	
Chrysene	0.107	0.000624	"	0.165	<0.000624	64.8	30-130	1.8	30	
2-Methylnaphthalene	0.0892	0.000645	"	0.165	<0.000645	54	30-130	5.2	30	
Pyrene	0.103	0.000643	"	0.165	<0.000643	62.4	30-130	0	30	
Benzo(b)fluoranthene	0.0783	0.000585	"	0.165	<0.000585	47.4	30-130	6.8	30	
Naphthalene	0.0866	0.000484	"	0.165	<0.000484	52.4	30-130	3.9	30	
Indeno(1,2,3-cd)pyrene	0.0768	0.000627	"	0.165	<0.000627	46.5	30-130	7.7	30	
Fluorene	0.0998	0.000286	"	0.165	<0.000286	60.4	30-130	3.1	30	
Fluoranthene	0.104	0.000394	"	0.165	<0.000394	63	30-130	0.9	30	
Dibenz(a,h)anthracene	0.1	0.000614	"	0.165	<0.000614	60.6	30-130	7.6	30	
Benzo(k)fluoranthene	0.0833	0.000437	"	0.165	0.000437	50.2	30-130	15	30	
Benzo(a)pyrene	0.116	0.000468	"	0.165	<0.000468	70.3	30-130	4.4	30	
Surrogate: 4-Terphenyl-d14	65.7		"	0.33	207	65.7	33-122			
Surrogate: 2-Fluorobiphenyl	53.3		"	0.33	157	53.3	33-115			
Surrogate: Nitrobenzene-d5	66.6		"	0.33	195	66.6	29-110			

MS (L 87564-MS-L625680)		Source: 87564			Prepared: 07/08/2022 Analyzed: 07/08/2022					
Benzo(b)fluoranthene	0.0731	0.000585	mg/Kg	0.166	<0.000585	44	30-130			
Dibenz(a,h)anthracene	0.108	0.000614	"	0.166	<0.000614	65	30-130			
Pyrene	0.103	0.000643	"	0.166	<0.000643	62	30-130			
Naphthalene	0.0901	0.000484	"	0.166	<0.000484	54.2	30-130			
Indeno(1,2,3-cd)pyrene	0.083	0.000627	"	0.166	<0.000627	50	30-130			
Fluorene	0.103	0.000286	"	0.166	<0.000286	62	30-130			
Fluoranthene	0.103	0.000394	"	0.166	<0.000394	62	30-130			

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Tasman Geosciences
6855 West 119th Avenue
Broomfield CO 80020

Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L625680 - 3550B

MS (L 87564-MS-L625680)		Source: 87564			Prepared: 07/08/2022 Analyzed: 07/08/2022					
2-Methylnaphthalene	0.094	0.000645	mg/Kg	0.166	<0.000645	56.6	30-130			
Benzo(a)pyrene	0.111	0.000468	"	0.166	<0.000468	66.8	30-130			
Benzo(a)anthracene	0.108	0.000493	"	0.166	<0.000493	65	30-130			
Anthracene	0.104	0.000334	"	0.166	<0.000334	62.6	30-130			
Acenaphthene	0.101	0.000304	"	0.166	<0.000304	60.8	30-130			
Benzo(k)fluoranthene	0.0969	0.000437	"	0.166	0.000437	58.1	30-130			
1-Methylnaphthalene	0.0943	0.000364	"	0.166	<0.000364	56.8	30-130			
Chrysene	0.105	0.000624	"	0.166	<0.000624	63.2	30-130			
Surrogate: Nitrobenzene-d5	70.4		"	0.332	195	70.4	29-110			
Surrogate: 4-Terphenyl-d14	66.8		"	0.332	207	66.8	33-122			
Surrogate: 2-Fluorobiphenyl	58.1		"	0.332	157	58.1	33-115			

LCS (LCS-L625680)		Prepared: 07/08/2022 Analyzed: 07/08/2022								
Dibenz(a,h)anthracene	0.0996	0.000614	mg/Kg	0.167		59.6	30-130			
Fluoranthene	0.102	0.000394	"	0.167		61	30-130			
Fluorene	0.088	0.000286	"	0.167		52.6	30-130			
Indeno(1,2,3-cd)pyrene	0.0726	0.000627	"	0.167		43.4	30-130			
Naphthalene	0.0748	0.000484	"	0.167		44.7	30-130			
Pyrene	0.102	0.000643	"	0.167		61	30-130			
Acenaphthene	0.083	0.000304	"	0.167		49.7	30-130			
Chrysene	0.114	0.000624	"	0.167		68.2	30-130			
Benzo(b)fluoranthene	0.0745	0.000585	"	0.167		44.6	30-130			
Benzo(a)pyrene	0.122	0.000468	"	0.167		73	30-130			
Anthracene	0.0958	0.000334	"	0.167		57.3	30-130			
2-Methylnaphthalene	0.0767	0.000645	"	0.167		45.9	30-130			
1-Methylnaphthalene	0.0773	0.000364	"	0.167		46.2	30-130			
Benzo(a)anthracene	0.117	0.000493	"	0.167		70	30-130			

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Broomfield CO 80020

Mike Jahn
Project Number: AFE#22066
Project: Civitas - Miller 4-20J

PAH by 8270D SIM - Quality Control
Waypoint Analytical, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L625680 - 3550B

LCS (LCS-L625680)

Prepared: 07/08/2022 Analyzed: 07/08/2022

Benzo(k)fluoranthene	0.0818	0.000437	mg/Kg	0.167		48.9	30-130			
Surrogate: Nitrobenzene-d5	69		"	0.333		69	29-110			
Surrogate: 4-Terphenyl-d14	78.3		"	0.333		78.3	33-122			
Surrogate: 2-Fluorobiphenyl	54.3		"	0.333		54.3	33-115			

LRB (LRB-L625680)

Prepared: 07/08/2022 Analyzed: 07/08/2022

Pyrene	ND	0.00067	mg/Kg				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Fluoranthene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
Naphthalene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Anthracene	ND	0.00067	"				-			
2-Methylnaphthalene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	70.5		"	0.333		70.5	29-110			
Surrogate: 4-Terphenyl-d14	74.1		"	0.333		74.1	33-122			
Surrogate: 2-Fluorobiphenyl	59.7		"	0.333		59.7	33-115			

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Notes and Definitions

U Sample is Non-Detect.

S-GC Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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