



January 04, 2022

Tasman Geosciences

Mike Jahn

6855 West 119th Avenue

Broomfield CO 80020

Project Name - PDC - Table 915-1 Metals

Project Number - [none]

Attached are your analytical results for PDC - Table 915-1 Metals received by Origins Laboratory, Inc. September 22, 2021. This project is associated with Origins project number Y109477-05.

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
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Project Number: [none]

Project: PDC - Table 915-1 Metals

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
512337684-092221-01	Y109477-05	Water	September 22, 2021 12:08	09/22/2021 17:46

Origins Laboratory, Inc.



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Mike Jahn
Project Number: [none]
Project: PDC - Table 915-1 Metals

Origins Laboratory

Origins Work Order: Y109477

Checklist Completed by: Jm

Date/time completed: 9-23-21

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

Cooler Number/Temperature: 1 / 29 °C

Thermometer ID: T603

Sample Receipt Checklist

Client: Eagle

Client Project ID: 915 Metals

Shipped Via: HD

Airbill #: Y109477

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"/>			<u>hex chrome</u>
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 Na ₂ CO ₃ +NaOH, ZnAc+NaOH)	<input checked="" type="checkbox"/>			<u>HNO₃ - not checked</u>
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): Jm

Date/Time Reviewed: 9-23-21

Origins Laboratory, Inc.

Jm

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Mike Jahn
Project Number: [none]
Project: PDC - Table 915-1 Metals

512337684-092221-01
9/22/2021 12:08:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y109477-05 (Water)

Total Metals by 3500CrB-2011

Chromium, Hexavalent	ND	11	µg/L	1.11	L576302	09/22/2021	09/28/2021
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Total Metals by 6020B

Arsenic	133	20	µg/L	20	L576529	09/29/2021	09/30/2021
Barium	54400	20	"	"	"	"	"
Cadmium	ND	20	"	"	"	"	"
Copper	14	20	"	"	"	"	" J
Lead	ND	20	"	"	"	"	"
Nickel	3.9	20	"	"	"	"	" J
Selenium	ND	20	"	"	"	"	"
Silver	ND	20	"	"	"	"	"
Zinc	ND	200	"	"	"	"	"

Origins Laboratory, Inc.



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Project: PDC - Table 915-1 Metals

Total Metals by 3500CrB-2011 - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L576302 -

LCS (LCS)

Prepared: Analyzed: 09/28/2021

Chromium, Hexavalent	119	3	µg/L	125	95	90-110
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LRB (LRB)

Prepared: Analyzed: 09/28/2021

Chromium, Hexavalent	ND	10	µg/L	-
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Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L576529 - 3005A										
MSD (L 92366-MSD-L576529)			Source: 92366		Prepared: 09/29/2021 Analyzed: 10/01/2021					
Selenium	55.1	3.52	µg/L	100	5.44	50	75-125	8.5	20	*
Silver	8.13	0.285	"	10	<0.285	81	75-125	6	20	
Nickel	47.9	0.91	"	50	3.7	96	75-125	2.4	20	
Lead	50.6	1.32	"	50	<1.32	101	75-125	5.7	20	
Copper	135	2.45	"	50	92.3	85	75-125	5	20	
Cadmium	8.9	1.75	"	10	<1.75	89	75-125	1.7	20	
Barium	32200	4.53	"	100	30600	NR	75-125	2.5	20	*
Arsenic	119	1.49	"	50	99.8	38	75-125	9.6	20	*
Zinc	485	23.4	"	500	79.6	81	75-125	16.4	20	
MS (L 92366-MS-L576529)			Source: 92366		Prepared: 09/29/2021 Analyzed: 10/01/2021					
Zinc	572	23.4	µg/L	500	79.6	98	75-125			
Silver	8.64	0.285	"	10	<0.285	86	75-125			
Arsenic	131	1.49	"	50	99.8	62	75-125			*
Barium	31400	4.53	"	100	30600	800	75-125			*
Cadmium	9.06	1.75	"	10	<1.75	91	75-125			
Copper	142	2.45	"	50	92.3	99	75-125			
Lead	53.6	1.32	"	50	<1.32	107	75-125			
Nickel	49.1	0.91	"	50	3.7	98	75-125			
Selenium	60	3.52	"	100	5.44	55	75-125			*
LCS (LCS-L576529)			Prepared: 09/29/2021 Analyzed: 09/30/2021							
Silver	10.2	0.057	µg/L	10		102	80-120			
Zinc	512	4.67	"	500		102	80-120			
Selenium	104	0.703	"	100		104	80-120			
Nickel	50.4	0.182	"	50		101	80-120			
Lead	51.1	0.264	"	50		102	80-120			

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Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L576529 - 3005A

LCS (LCS-L576529)

Prepared: 09/29/2021 Analyzed: 09/30/2021

Copper	51.8	0.489	µg/L	50	104	80-120
Cadmium	10.5	0.35	"	10	105	80-120
Barium	102	0.453	"	100	102	80-120
Arsenic	50.8	0.297	"	50	102	80-120

LRB (LRB-L576529)

Prepared: 09/29/2021 Analyzed: 09/30/2021

Zinc	ND	10	µg/L	-
Barium	ND	1	"	-
Cadmium	ND	1	"	-
Copper	ND	1	"	-
Lead	ND	1	"	-
Nickel	ND	1	"	-
Selenium	ND	1	"	-
Silver	ND	1	"	-
Arsenic	ND	1	"	-

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Notes and Definitions

J Estimated Value. Analyte below reported quantitation limit.

* QC Failure

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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