



February 04, 2021

Sheena Leon
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

Work Order No.: 21A0553

RE: Storm Water

Dear Sheena Leon,

Turner Laboratories, Inc. received 2 sample(s) on 01/25/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Kevin Brim
Project Manager

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Date Received: 01/25/2021

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21A0553-01	Out Fall 1 - 01212021	Storm Water	01/21/2021 0826
21A0553-02	Out Fall 2 - 01212021	Storm Water	01/21/2021 0910

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Date Received: 01/25/2021

Case Narrative

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Turner Laboratories, Inc.

Date: 02/04/2021

Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 21A0553
 Lab Sample ID: 21A0553-01

Client Sample ID: Out Fall 1 - 01212021
 Collection Date/Time: 01/21/2021 0826
 Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Ca-Calculation									
Hardness, Calcium (As CaCO3)	1200				mg/L	1	01/27/2021 1020	01/29/2021 1309	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0030		0.00050		mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
Cadmium	0.00033		0.00025		mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
Copper	0.054		0.00050		mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
Lead	0.000092	0.000057	0.00050	E4	mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
Silver	ND	0.000021	0.00050	E8	mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
Zinc	0.070		0.040		mg/L	1	01/27/2021 1200	01/29/2021 1605	CR
ICP Total Metals-E200.7 (4.4)									
Calcium	460		4.0		mg/L	1	01/27/2021 1020	01/29/2021 1309	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.0024		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Cadmium	0.00030		0.00025		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Copper	0.0059		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Lead	0.0065		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Silver	ND		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Zinc	0.089		0.040		mg/L	1	01/29/2021 1200	02/02/2021 1104	CR
Specific Conductance-SM2510 B									
Conductivity	4800		5.0		µmhos/cm	50	01/26/2021 1428	01/26/2021 1628	LB
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8	mg/L	1	01/26/2021 0810	01/27/2021 1600	JG
pH-SM4500-H+ B									
pH (pH Units)	7.2			H5	-	1	01/25/2021 1619	01/25/2021 1621	LB
Temperature (°C)	20			H5	-	1	01/25/2021 1619	01/25/2021 1621	LB

Turner Laboratories, Inc.

Date: 02/04/2021

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Lab Sample ID: 21A0553-02

Client Sample ID: Out Fall 2 - 01212021
Collection Date/Time: 01/21/2021 0910
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Ca-Calculation									
Hardness, Calcium (As CaCO3)	760				mg/L	1	01/27/2021 1020	01/29/2021 1313	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.015		0.00050		mg/L	1	01/27/2021 1200	01/29/2021 1611	CR
Lead	0.00010	0.000057	0.00050	E4	mg/L	1	01/27/2021 1200	01/29/2021 1611	CR
Silver	ND	0.000021	0.00050	E8	mg/L	1	01/27/2021 1200	01/29/2021 1611	CR
Zinc	0.23		0.040		mg/L	1	01/27/2021 1200	01/29/2021 1611	CR
ICP Total Metals-E200.7 (4.4)									
Calcium	300		4.0		mg/L	1	01/27/2021 1020	01/29/2021 1313	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.034		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1109	CR
Lead	0.053		0.00050		mg/L	1	01/29/2021 1200	02/02/2021 1109	CR
Silver	0.00043	0.000021	0.00050	E4	mg/L	1	01/29/2021 1200	02/02/2021 1109	CR
Zinc	0.47		0.040		mg/L	1	01/29/2021 1200	02/02/2021 1109	CR
Specific Conductance-SM2510 B									
Conductivity	3600		5.0		µmhos/cm	50	01/26/2021 1428	01/26/2021 1628	LB
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8	mg/L	1	02/03/2021 0820	02/04/2021 1650	JG
pH-SM4500-H+ B									
pH (pH Units)	6.8			H5	-	1	01/25/2021 1619	01/25/2021 1623	LB
Temperature (°C)	20			H5	-	1	01/25/2021 1619	01/25/2021 1623	LB

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Date Received: 01/25/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2101214 - E 200.8 (5.4)										
Blank (2101214-BLK1)				Prepared & Analyzed: 01/28/2021						
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2101214-BS1)				Prepared & Analyzed: 01/28/2021						
Arsenic	0.050	0.00050	mg/L	0.05000		101	85-115			
Cadmium	0.051	0.00025	mg/L	0.05000		103	85-115			
Copper	0.050	0.00050	mg/L	0.05000		100	85-115			
Lead	0.052	0.00050	mg/L	0.05000		104	85-115			
Silver	0.048	0.00050	mg/L	0.05000		97	85-115			
Zinc	0.11	0.040	mg/L	0.1000		109	85-115			
LCS Dup (2101214-BSD1)				Prepared & Analyzed: 01/28/2021						
Arsenic	0.050	0.00050	mg/L	0.05000	100	85-115	0.3	20		
Cadmium	0.051	0.00025	mg/L	0.05000	103	85-115	0.06	20		
Copper	0.050	0.00050	mg/L	0.05000	99	85-115	0.8	20		
Lead	0.051	0.00050	mg/L	0.05000	101	85-115	2	20		
Silver	0.048	0.00050	mg/L	0.05000	97	85-115	0.04	20		
Zinc	0.11	0.040	mg/L	0.1000	108	85-115	0.7	20		
Matrix Spike (2101214-MS1)				Source: 21A0477-01		Prepared & Analyzed: 01/28/2021				
Arsenic	0.052	0.00050	mg/L	0.05000	0.00051	102	70-130			
Cadmium	0.051	0.00025	mg/L	0.05000	0.00016	101	70-130			
Copper	0.051	0.00050	mg/L	0.05000	0.0049	92	70-130			
Lead	0.053	0.00050	mg/L	0.05000	0.00013	106	70-130			
Silver	0.046	0.00050	mg/L	0.05000	0.000063	92	70-130			
Zinc	1.1	0.20	mg/L	0.1000	0.98	94	70-130			
Matrix Spike (2101214-MS2)				Source: 21A0477-08		Prepared & Analyzed: 01/28/2021				
Arsenic	0.057	0.00050	mg/L	0.05000	0.00096	112	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	0.000082	97	70-130			
Copper	0.048	0.00050	mg/L	0.05000	0.0018	93	70-130			
Lead	0.053	0.00050	mg/L	0.05000	0.00024	105	70-130			
Silver	0.041	0.00050	mg/L	0.05000	0.000096	81	70-130			
Zinc	0.12	0.040	mg/L	0.1000	0.017	100	70-130			
Batch 2101289 - E200.7 (4.4)										
Blank (2101289-BLK1)				Prepared: 01/27/2021 Analyzed: 01/29/2021						
Calcium	ND	4.0	mg/L							
LCS (2101289-BS1)				Prepared: 01/27/2021 Analyzed: 01/29/2021						
Calcium	9.7	4.0	mg/L	10.00		97	85-115			
LCS Dup (2101289-BSD1)				Prepared: 01/27/2021 Analyzed: 01/29/2021						
Calcium	10	4.0	mg/L	10.00		102	85-115	5	20	

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Date Received: 01/25/2021

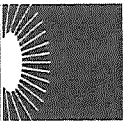
QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2101289 - E200.7 (4.4)										
Matrix Spike (2101289-MS1)		Source: 21A0514-02			Prepared: 01/27/2021 Analyzed: 01/29/2021					
Calcium	200	4.0	mg/L	10.00	190	102	70-130			
Matrix Spike (2101289-MS2)		Source: 21A0595-01			Prepared: 01/27/2021 Analyzed: 01/29/2021					
Calcium	64	4.0	mg/L	10.00	57	70	70-130			
Batch 2102010 - E200.8 (5.4)										
Blank (2102010-BLK1)				Prepared: 01/29/2021 Analyzed: 02/01/2021						
Arsenic	0.00027	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	0.00043	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2102010-BS1)				Prepared: 01/29/2021 Analyzed: 02/01/2021						
Arsenic	0.050	0.00050	mg/L	0.05000		99	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		99	85-115			
Copper	0.049	0.00050	mg/L	0.05000		97	85-115			
Lead	0.048	0.00050	mg/L	0.05000		97	85-115			
Silver	0.048	0.00050	mg/L	0.05000		97	85-115			
Zinc	0.097	0.040	mg/L	0.1000		97	85-115			
LCS Dup (2102010-BSD1)				Prepared: 01/29/2021 Analyzed: 02/01/2021						
Arsenic	0.051	0.00050	mg/L	0.05000		102	85-115	3	20	
Cadmium	0.051	0.00025	mg/L	0.05000		102	85-115	3	20	
Copper	0.050	0.00050	mg/L	0.05000		100	85-115	3	20	
Lead	0.051	0.00050	mg/L	0.05000		102	85-115	5	20	
Silver	0.050	0.00050	mg/L	0.05000		100	85-115	3	20	
Zinc	0.10	0.040	mg/L	0.1000		100	85-115	4	20	
Matrix Spike (2102010-MS1)		Source: 21A0623-01			Prepared: 01/29/2021 Analyzed: 02/01/2021					
Arsenic	0.053	0.00050	mg/L	0.05000	0.00063	104	70-130			
Cadmium	0.051	0.00025	mg/L	0.05000	0.00062	101	70-130			
Copper	0.061	0.00050	mg/L	0.05000	0.0036	114	70-130			
Lead	0.052	0.00050	mg/L	0.05000	0.00025	103	70-130			
Silver	0.046	0.00050	mg/L	0.05000	ND	93	70-130			
Zinc	0.15	0.040	mg/L	0.1000	0.057	96	70-130			
Matrix Spike (2102010-MS2)		Source: 21A0642-01			Prepared: 01/29/2021 Analyzed: 02/01/2021					
Arsenic	0.11	0.00050	mg/L	0.05000	0.058	96	70-130			
Cadmium	0.051	0.00025	mg/L	0.05000	0.00048	101	70-130			
Copper	0.055	0.00050	mg/L	0.05000	0.0064	97	70-130			
Lead	0.055	0.00050	mg/L	0.05000	0.0031	103	70-130			
Silver	0.045	0.00050	mg/L	0.05000	ND	91	70-130			
Zinc	0.14	0.040	mg/L	0.1000	0.030	114	70-130			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21A0553
Date Received: 01/25/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2101262 - SM4500-H+ B										
Duplicate (2101262-DUP1)		Source: 21A0553-01			Prepared & Analyzed: 01/25/2021					
pH (pH Units)	7.3		-		7.2			0.6	200	H5
Temperature (°C)	20		-		20			0	200	H5
Batch 2101270 - SM2510 B										
LCS (2101270-BS1)					Prepared & Analyzed: 01/26/2021					
Conductivity	150	0.10	µmhos/cm	141.2		105	0-200			
LCS Dup (2101270-BSD1)					Prepared & Analyzed: 01/26/2021					
Conductivity	150	0.10	µmhos/cm	141.2		106	0-200	0.7	200	
Duplicate (2101270-DUP1)		Source: 21A0398-01			Prepared & Analyzed: 01/26/2021					
Conductivity	630	0.10	µmhos/cm		630			0.2	10	
Duplicate (2101270-DUP2)		Source: 21A0479-01			Prepared & Analyzed: 01/26/2021					
Conductivity	8.0	0.10	µmhos/cm		8.0			0	10	
Batch 2101291 - SM4500-CN BE										
Blank (2101291-BLK1)					Prepared: 01/26/2021 Analyzed: 01/27/2021					
Cyanide	ND	0.10	mg/L							
LCS (2101291-BS1)					Prepared: 01/26/2021 Analyzed: 01/27/2021					
Cyanide	2.0	0.10	mg/L	2.000		102	85-115			
LCS Dup (2101291-BSD1)					Prepared: 01/26/2021 Analyzed: 01/27/2021					
Cyanide	2.0	0.10	mg/L	2.000		100	85-115	2	15	
Matrix Spike (2101291-MS1)		Source: 21A0423-01			Prepared: 01/26/2021 Analyzed: 01/27/2021					
Cyanide	2.0	0.10	mg/L	2.000	ND	100	80-120			
Matrix Spike Dup (2101291-MSD1)		Source: 21A0423-01			Prepared: 01/26/2021 Analyzed: 01/27/2021					
Cyanide	2.1	0.10	mg/L	2.000	ND	106	80-120	6	15	
Batch 2102064 - SM4500-CN BE										
Blank (2102064-BLK1)					Prepared: 02/03/2021 Analyzed: 02/04/2021					
Cyanide	ND	0.10	mg/L							
LCS (2102064-BS1)					Prepared: 02/03/2021 Analyzed: 02/04/2021					
Cyanide	2.3	0.10	mg/L	2.000		115	85-115			
LCS Dup (2102064-BSD1)					Prepared: 02/03/2021 Analyzed: 02/04/2021					
Cyanide	2.3	0.10	mg/L	2.000		114	85-115	0.8	15	
Matrix Spike (2102064-MS1)		Source: 21A0623-01			Prepared: 02/03/2021 Analyzed: 02/04/2021					
Cyanide	1.9	0.10	mg/L	2.000	ND	97	80-120			
Matrix Spike Dup (2102064-MSD1)		Source: 21A0623-01			Prepared: 02/03/2021 Analyzed: 02/04/2021					
Cyanide	2.2	0.10	mg/L	2.000	ND	112	80-120	14	15	



TURNER LABORATORIES INC.
 www.turnerlabs.com

2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 21A0553 DATE 1/25/21 PAGE 1 OF 3

PROJECT NAME _____ # _____

CONTACT NAME Sheena Leon & Kara Haas

COMPANY NAME South32

ADDRESS 2210 E Ft Lowell Rd

CITY Tucson STATE AZ ZIP CODE 85719

PHONE _____ FAX _____

SAMPLER'S SIGNATURE _____

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX*	SAMPLE
Outfall1-01212021		8:26		GW	
Outfall2-01212021		9:10		GW	

NUMBER OF CONTAINERS

*See attachment																					
-----------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TURNAROUND REQUIREMENTS:

Standard (approx. 10 days)

Next day 2 Day

5 Day*

Email Preliminary Results

REPORT REQUIREMENTS:

I. Routine Report

II. Report (includes DUP, MS, MSD, as required, may be charged as samples)

III. Date Validation Report (includes All Raw Data)

Add 10% to invoice

INVOICE INFORMATION:

Account Y N

P.O. # _____

Bill to: _____

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis: Yes No

ADEQ Forms: Yes No

Mail ADEQ Forms: Yes No

Custody Seals

Container Intact

COC/Labels Agree

Preservation Confirmation

Appropriate Head Space

Received Within Hold Time

SAMPLE RECEIPT:

Total Containers 6

Temperature 6.7

Wet Ice Blue Ice

1. RELINQUISHED BY:

Signature [Signature]

Printed Name Valerie Lopez

Firm South 32

Date/Time 1/25/21 12:00pm

2. RECEIVED BY:

Signature [Signature]

Printed Name Kelly Spencer

Firm WWS

Date/Time 1/25/21 9:205

3. RELINQUISHED BY:

Signature [Signature]

Printed Name Kelly Spencer

Firm WWS

Date/Time 1/25/21 13:21

4. RECEIVED BY:

Signature [Signature]

Printed Name [Signature]

Firm TURNER LABORATORIES, INC.

Date/Time 1/25/21 13:21

*LEGEND
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL

Outfall 1 (Trench) Stormwater

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Silver	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		
Other Parameters			
Free Cyanide	X	X	Free
pH			X
Specific Conductance			X

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

BOTTLE LIST		
Volume	Preservative	Parameter
250ml	HNO3	Metals
250ml	Non-Preserved	Hardness/pH/Conductivity
500ml	NaOH	Free Cyanide

Outfall 2 (Trench)

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X	X	
Lead	X	X	
Silver	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		
Other Parameters			
Free Cyanide	X	X	Free
pH			X
Specific Conductance			X

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

BOTTLE LIST		
Volume	Preservative	Parameter
250ml	HNO3	Metals
250ml	Non-Preserved	Hardness/pH/Conductivity
500ml	NaOH	Free Cyanide



August 24, 2021

Sheena Leon
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

Work Order No.: 21H0353

RE: Storm Water

Dear Sheena Leon,

Turner Laboratories, Inc. received 1 sample(s) on 08/11/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Elizabeth Kasik
Laboratory Director

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0353
Date Received: 08/11/2021

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21H0353-01	Outfall 3 - 08092021	Ground Water	08/09/2021 0814

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0353
Date Received: 08/11/2021

Case Narrative

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
 - E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
 - H3 Sample was received and/or analysis requested past holding time.
 - H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
 - M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
 - M3 The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated LCS/LCSD recovery was acceptable.
- All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.
- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0353
Lab Sample ID: 21H0353-01

Client Sample ID: Outfall 3 - 08092021
Collection Date/Time: 08/09/2021 0814
Matrix: Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	61				mg/L	1	08/16/2021 1235	08/17/2021 1015	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.0039		0.00050		mg/L	1	08/19/2021 0955	08/20/2021 1608	CR
Lead	0.00062		0.00050		mg/L	1	08/19/2021 0955	08/20/2021 1608	CR
Silver	0.0000820	0.000021	0.00050	E4	mg/L	1	08/19/2021 0955	08/20/2021 1608	CR
Zinc	0.015	0.0023	0.040	E4	mg/L	1	08/19/2021 0955	08/20/2021 1608	CR
Turbidity-E180.1									
Turbidity	130		10	H3	NTU	100	08/12/2021 1050	08/12/2021 1245	EJ
ICP Total Metals-E200.7 (4.4)									
Calcium	14		4.0		mg/L	1	08/16/2021 1235	08/17/2021 1014	MH
Magnesium	6.2		3.0		mg/L	1	08/16/2021 1235	08/17/2021 1015	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.019		0.00050		mg/L	1	08/12/2021 0940	08/13/2021 1118	CR
Lead	0.021		0.00050		mg/L	1	08/12/2021 0940	08/13/2021 1118	CR
Silver	0.00042	0.000021	0.00050	E4	mg/L	1	08/12/2021 0940	08/13/2021 1118	CR
Zinc	0.15		0.040		mg/L	1	08/12/2021 0940	08/13/2021 1118	CR
Specific Conductance-SM2510 B									
Conductivity	110		0.10		µmhos/cm	1	08/13/2021 1505	08/13/2021 1540	CR
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8	mg/L	1	08/23/2021 0800	08/24/2021 1630	JG
pH-SM4500-H+ B									
pH (pH Units)	7.1			H5	-	1	08/13/2021 1245	08/13/2021 1450	EJ
Temperature (°C)	22			H5	-	1	08/13/2021 1245	08/13/2021 1450	EJ

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0353
Lab Sample ID: 21H0353-01

Client Sample ID: Outfall 3 - 08092021
Collection Date/Time: 08/09/2021 0814
Matrix: Ground Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 21H0353
 Date Received: 08/11/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Qual
Batch 2108196 - E200.8 (5.4)										
Blank (2108196-BLK1)				Prepared: 08/12/2021 Analyzed: 08/13/2021						
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2108196-BS1)				Prepared: 08/12/2021 Analyzed: 08/13/2021						
Copper	0.051	0.00050	mg/L	0.05000		102	85-115			
Lead	0.051	0.00050	mg/L	0.05000		102	85-115			
Silver	0.052	0.00050	mg/L	0.05000		103	85-115			
Zinc	0.11	0.040	mg/L	0.1000		114	85-115			
LCS Dup (2108196-BSD1)				Prepared: 08/12/2021 Analyzed: 08/13/2021						
Copper	0.052	0.00050	mg/L	0.05000		103	85-115	0.9	20	
Lead	0.051	0.00050	mg/L	0.05000		102	85-115	0.4	20	
Silver	0.050	0.00050	mg/L	0.05000		101	85-115	2	20	
Zinc	0.11	0.040	mg/L	0.1000		113	85-115	1	20	
Matrix Spike (2108196-MS1)				Source: 21H0034-01		Prepared: 08/12/2021 Analyzed: 08/13/2021				
Copper	0.047	0.00050	mg/L	0.05000	0.0058	82	70-130			
Lead	0.048	0.00050	mg/L	0.05000	0.00045	96	70-130			
Silver	0.042	0.00050	mg/L	0.05000	ND	84	70-130			
Zinc	0.11	0.040	mg/L	0.1000	ND	108	70-130			
Matrix Spike (2108196-MS2)				Source: 21H0151-01		Prepared: 08/12/2021 Analyzed: 08/13/2021				
Copper	0.044	0.00050	mg/L	0.05000	0.0023	83	70-130			
Lead	0.050	0.00050	mg/L	0.05000	0.00028	99	70-130			
Silver	0.037	0.00050	mg/L	0.05000	ND	74	70-130			
Zinc	0.10	0.040	mg/L	0.1000	ND	100	70-130			
Batch 2108224 - E200.7 (4.4)										
Blank (2108224-BLK1)				Prepared: 08/16/2021 Analyzed: 08/17/2021						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (2108224-BS1)				Prepared: 08/16/2021 Analyzed: 08/17/2021						
Calcium	10	4.0	mg/L	10.00		100	85-115			
Magnesium	10	3.0	mg/L	10.00		101	85-115			
LCS Dup (2108224-BSD1)				Prepared: 08/16/2021 Analyzed: 08/17/2021						
Calcium	10	4.0	mg/L	10.00		103	85-115	2	20	
Magnesium	10	3.0	mg/L	10.00		103	85-115	1	20	
Matrix Spike (2108224-MS1)				Source: 21H0298-01		Prepared: 08/16/2021 Analyzed: 08/17/2021				
Calcium	56	4.0	mg/L	10.00	46	94	70-130			
Magnesium	12	3.0	mg/L	10.00	2.2	96	70-130			
Matrix Spike (2108224-MS2)				Source: 21H0237-02		Prepared: 08/16/2021 Analyzed: 08/17/2021				
Calcium	190	4.0	mg/L	10.00	190	32	70-130			M3
Magnesium	46	3.0	mg/L	10.00	37	84	70-130			
Batch 2108264 - E 200.8 (5.4)										

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0353
Date Received: 08/11/2021

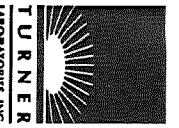
QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Blank (2108264-BLK1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2108264-BS1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Copper	0.046	0.00050	mg/L	0.05000		93	85-115			
Lead	0.046	0.00050	mg/L	0.05000		92	85-115			
Silver	0.043	0.00050	mg/L	0.05000		87	85-115			
Zinc	0.099	0.040	mg/L	0.1000		99	85-115			
LCS Dup (2108264-BSD1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Copper	0.046	0.00050	mg/L	0.05000		92	85-115	1	20	
Lead	0.046	0.00050	mg/L	0.05000		91	85-115	0.8	20	
Silver	0.043	0.00050	mg/L	0.05000		86	85-115	1	20	
Zinc	0.098	0.040	mg/L	0.1000		98	85-115	0.6	20	
Matrix Spike (2108264-MS1)				Source: 21H0424-01		Prepared: 08/19/2021 Analyzed: 08/20/2021				
Copper	29	0.050	mg/L	0.05000	31	NR	70-130			M2
Lead	0.046	0.00050	mg/L	0.05000	0.00085	90	70-130			
Silver	0.033	0.00050	mg/L	0.05000	0.00014	66	70-130			M2
Zinc	2.5	4.0	mg/L	0.1000	2.5	NR	70-130			M2

Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 21H0353
 Date Received: 08/11/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2108183 - E180.1										
Duplicate (2108183-DUP1)		Source: 21H0242-01			Prepared & Analyzed: 08/12/2021					
Turbidity	0.50	0.10	NTU		0.50			0	10	
Duplicate (2108183-DUP2)		Source: 21H0370-01			Prepared & Analyzed: 08/12/2021					
Turbidity	0.15	0.10	NTU		0.15			0	10	
Batch 2108204 - SM4500-H+ B										
Duplicate (2108204-DUP1)		Source: 21H0290-02			Prepared & Analyzed: 08/13/2021					
pH (pH Units)	7.7		-		7.6			0.9	200	H5
Temperature (°C)	23		-		22			2	200	H5
Duplicate (2108204-DUP2)		Source: 21H0330-01			Prepared & Analyzed: 08/13/2021					
pH (pH Units)	8.0		-		8.0			0.1	200	H5
Temperature (°C)	22		-		22			2	200	H5
Batch 2108206 - SM2510 B										
LCS (2108206-BS1)					Prepared & Analyzed: 08/13/2021					
Conductivity	150	0.10	µmhos/cm	141.2		103	0-200			
LCS Dup (2108206-BSD1)					Prepared & Analyzed: 08/13/2021					
Conductivity	150	0.10	µmhos/cm	141.2		103	0-200	0	200	
Duplicate (2108206-DUP1)		Source: 21H0020-03			Prepared & Analyzed: 08/13/2021					
Conductivity	1000	0.10	µmhos/cm		1000			1	10	
Batch 2108325 - SM4500-CN BE										
Blank (2108325-BLK1)					Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	ND	0.10	mg/L							
LCS (2108325-BS1)					Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	2.0	0.10	mg/L	2.000		101	85-115			
LCS Dup (2108325-BSD1)					Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	2.0	0.10	mg/L	2.000		99	85-115	2	15	
Matrix Spike (2108325-MS1)		Source: 21H0244-02			Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	1.7	0.10	mg/L	2.000	ND	85	80-120			
Matrix Spike Dup (2108325-MSD1)		Source: 21H0244-02			Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	1.9	0.10	mg/L	2.000	ND	94	80-120	10	15	



2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788
 www.turnerlabs.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

PROJECT NAME Hermosa # X
 CONTACT NAME Sheena Leon & Kara Haas
 COMPANY NAME South32
 ADDRESS 2210 E Ft Lowell Rd
 CITY Tucson STATE AZ ZIP CODE 85719
 PHONE _____ FAX _____
 SAMPLER'S SIGNATURE [Signature]
 SAMPLE I.D. _____ DATE 8.9.21 TIME 7:14 LAB I.D. turner APLE MAT 3
 NUMBER OF CONTAINERS See a Hochman X
 TURNER WORK ORDER # 2140353 DATE 8.11.21 PAGE 1

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

1. RELINQUISHED BY:	2. RECEIVED BY:	TURNAROUND REQUIREMENTS:	REPORT REQUIREMENTS:	INVOICE INFORMATION:	SAMPLE RECEIPT:
Signature: <u>[Signature]</u> Printed Name: <u>Kevin Lopez</u> Firm: <u>South32</u> Date/Time: <u>8.11.21 9:45</u>	Signature: <u>[Signature]</u> Printed Name: <u>Casey Spencer</u> Firm: <u>MWC</u> Date/Time: <u>12:00pm 8/11/21</u>	Standard (approx. 10 days) Next day <input type="checkbox"/> 2 Day 5 Day* <input type="checkbox"/> <input checked="" type="checkbox"/> Email Preliminary Results	<input type="checkbox"/> I. Routine Report <input type="checkbox"/> II. Report (includes DUP, MS, MSD, as required, may be charged as samples) <input type="checkbox"/> III. Date Validation Report (includes All Raw Data) Add 10% to Invoice	Account <u> </u> Y <u> </u> N P.O. # <u> </u> Bill to: <u> </u>	Total Containers <u>3</u> Temperature <u>4.8</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice

3. RELINQUISHED BY: [Signature]
 Signature: [Signature]
 Printed Name: Casey Spencer
 Firm: TURNER LABORATORIES, INC.
 Date/Time: 8/11/21 13:51

4. RECEIVED BY: [Signature]
 Signature: [Signature]
 Printed Name: Casey Spencer
 Firm: TURNER LABORATORIES, INC.
 Date/Time: 8/11/21 13:51

* LEGEND
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: Yes No
 ADEQ Forms: Yes No
 Mail ADEQ Forms: Yes No
 Custody Seals:
 Container Intact:
 COC/Labels Agree:
 Preservation Confirmation:
 Appropriate Head Space:
 Received Within Hold Time:

Outfall 3 (Alta) Stormwater			
LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X	X	
Lead	X	X	
Silver	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		
Other Parameters			
Free Cyanide	X	X	
pH			X
Specific Conductance			X

FIELD MEASUREMENTS	
pH	
Specific conductance	
Temperature	
Turbidity	
Flow	
Appearance	

BOTTLE LIST		
Volume	Preservative	Parameter
250ml	HNO3	Metals
250ml	Non-Preserved	Hardness/pH/Conductivity
500ml	NaOH	Free Cyanide



August 24, 2021

Sheena Leon
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

Work Order No.: 21H0414
Order Name: Hermosa

RE: Storm Water

Dear Sheena Leon,

Turner Laboratories, Inc. received 1 sample(s) on 08/13/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Elizabeth Kasik
Laboratory Director

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Date Received: 08/13/2021

Order: Hermosa

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21H0414-01	Outfall1-08122021	Ground Water	08/12/2021 0821

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Date Received: 08/13/2021

Case Narrative

- E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.
 - E8 Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
 - H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
 - M2 Matrix spike recovery was low; the associated LCS/LCSD was acceptable.
- All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.
- ND Not Detected at or above the PQL
 - PQL Practical Quantitation Limit
 - DF Dilution Factor

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Lab Sample ID: 21H0414-01

Client Sample ID: Outfall1-08122021
Collection Date/Time: 08/12/2021 0821
Matrix: Ground Water
Order Name: Hermosa

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	300				mg/L	1	08/19/2021 0955	08/19/2021 1303	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0024		0.00050		mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Cadmium	0.0000890	0.000050	0.00025	E4	mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Copper	0.0036		0.00050		mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Lead	0.00015	0.000057	0.00050	E4	mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Silver	0.0000540	0.000021	0.00050	E4	mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Zinc	0.015	0.0023	0.040	E4	mg/L	1	08/19/2021 0955	08/20/2021 1611	CR
Turbidity-E180.1									
Turbidity	4200		20		NTU	200	08/13/2021 1657	08/13/2021 1730	CR
ICP Total Metals-E200.7 (4.4)									
Calcium	74		4.0		mg/L	1	08/19/2021 0955	08/19/2021 1303	MH
Magnesium	27		3.0		mg/L	1	08/19/2021 0955	08/19/2021 1303	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.033		0.00050		mg/L	1	08/17/2021 1220	08/20/2021 1112	CR
Cadmium	0.0030		0.00025		mg/L	1	08/17/2021 1220	08/20/2021 1112	CR
Copper	0.085		0.00050		mg/L	1	08/17/2021 1220	08/20/2021 1112	CR
Lead	0.21		0.00050		mg/L	1	08/17/2021 1220	08/20/2021 1112	CR
Silver	0.0012		0.00050		mg/L	1	08/17/2021 1220	08/20/2021 1112	CR
Zinc	0.97		0.20		mg/L	5	08/17/2021 1220	08/20/2021 1200	CR
Specific Conductance-SM2510 B									
Conductivity	510		0.10		µmhos/cm	1	08/19/2021 1405	08/19/2021 1445	CWB
Cyanide-SM4500-CN BE									
Cyanide	ND	0.067	0.10	E8	mg/L	1	08/23/2021 0800	08/24/2021 1630	JG

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Lab Sample ID: 21H0414-01

Client Sample ID: Outfall1-08122021
Collection Date/Time: 08/12/2021 0821
Matrix: Ground Water
Order Name: Hermosa

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
pH-SW9045D									
pH (pH Units)	7.8			H5	-	1	08/16/2021 1455	08/16/2021 1504	CWB
Temperature (°C)	24			H5	-	1	08/16/2021 1455	08/16/2021 1504	CWB

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Date Received: 08/13/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2108244 - E200.8 (5.4)										
Blank (2108244-BLK1) Prepared: 08/17/2021 Analyzed: 08/20/2021										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2108244-BS1) Prepared: 08/17/2021 Analyzed: 08/20/2021										
Arsenic	0.050	0.00050	mg/L	0.05000		101	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		99	85-115			
Copper	0.049	0.00050	mg/L	0.05000		98	85-115			
Lead	0.048	0.00050	mg/L	0.05000		96	85-115			
Silver	0.048	0.00050	mg/L	0.05000		97	85-115			
Zinc	0.11	0.040	mg/L	0.1000		110	85-115			
LCS Dup (2108244-BSD1) Prepared: 08/17/2021 Analyzed: 08/20/2021										
Arsenic	0.049	0.00050	mg/L	0.05000		97	85-115	3	20	
Cadmium	0.049	0.00025	mg/L	0.05000		97	85-115	2	20	
Copper	0.047	0.00050	mg/L	0.05000		94	85-115	4	20	
Lead	0.046	0.00050	mg/L	0.05000		93	85-115	3	20	
Silver	0.048	0.00050	mg/L	0.05000		95	85-115	2	20	
Zinc	0.11	0.040	mg/L	0.1000		105	85-115	4	20	
Matrix Spike (2108244-MS1) Source: 21H0447-06 Prepared: 08/17/2021 Analyzed: 08/20/2021										
Arsenic	0.051	0.00050	mg/L	0.05000	0.0022	98	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	0.00057	95	70-130			
Copper	0.37	0.00050	mg/L	0.05000	0.35	46	70-130			M2
Lead	0.058	0.00050	mg/L	0.05000	0.010	96	70-130			
Silver	0.044	0.00050	mg/L	0.05000	0.00048	87	70-130			
Zinc	0.18	0.040	mg/L	0.1000	0.074	108	70-130			
Matrix Spike (2108244-MS2) Source: 21H0447-07 Prepared: 08/17/2021 Analyzed: 08/20/2021										
Arsenic	0.053	0.00050	mg/L	0.05000	0.0027	100	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	0.00021	95	70-130			
Copper	0.092	0.00050	mg/L	0.05000	0.050	85	70-130			
Lead	0.054	0.00050	mg/L	0.05000	0.0066	96	70-130			
Silver	0.043	0.00050	mg/L	0.05000	0.000089	86	70-130			
Zinc	0.15	0.040	mg/L	0.1000	0.046	108	70-130			
Batch 2108263 - E200.7 (4.4)										
Blank (2108263-BLK1) Prepared: 08/18/2021 Analyzed: 08/19/2021										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (2108263-BS1) Prepared: 08/18/2021 Analyzed: 08/19/2021										
Calcium	10	4.0	mg/L	10.00		102	85-115			
Magnesium	9.9	3.0	mg/L	10.00		99	85-115			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Date Received: 08/13/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2108263 - E200.7 (4.4)										
LCS Dup (2108263-BSD1)				Prepared: 08/18/2021 Analyzed: 08/19/2021						
Calcium	10	4.0	mg/L	10.00		102	85-115	0.1	20	
Magnesium	10	3.0	mg/L	10.00		100	85-115	0.1	20	
Matrix Spike (2108263-MS1)				Source: 21H0253-01		Prepared: 08/18/2021 Analyzed: 08/19/2021				
Calcium	86	4.0	mg/L	10.00	78	76	70-130			
Magnesium	18	3.0	mg/L	10.00	8.6	93	70-130			
Matrix Spike (2108263-MS2)				Source: 21H0460-01		Prepared: 08/18/2021 Analyzed: 08/19/2021				
Calcium	68	4.0	mg/L	10.00	60	81	70-130			
Magnesium	12	3.0	mg/L	10.00	2.3	92	70-130			
Batch 2108264 - E 200.8 (5.4)										
Blank (2108264-BLK1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2108264-BS1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Arsenic	0.048	0.00050	mg/L	0.05000		96	85-115			
Cadmium	0.049	0.00025	mg/L	0.05000		98	85-115			
Copper	0.046	0.00050	mg/L	0.05000		93	85-115			
Lead	0.046	0.00050	mg/L	0.05000		92	85-115			
Silver	0.043	0.00050	mg/L	0.05000		87	85-115			
Zinc	0.099	0.040	mg/L	0.1000		99	85-115			
LCS Dup (2108264-BSD1)				Prepared: 08/19/2021 Analyzed: 08/20/2021						
Arsenic	0.048	0.00050	mg/L	0.05000	0.0053	130	85-115	0.5	20	
Cadmium	0.048	0.00025	mg/L	0.05000	0.019	97	85-115	1	20	
Copper	0.046	0.00050	mg/L	0.05000	31	NR	85-115	1	20	
Lead	0.046	0.00050	mg/L	0.05000	0.00085	90	85-115	0.8	20	
Silver	0.043	0.00050	mg/L	0.05000	0.00014	66	85-115	1	20	M2
Zinc	0.098	0.040	mg/L	0.1000	2.5	NR	85-115	0.6	20	M2
Matrix Spike (2108264-MS1)				Source: 21H0424-01		Prepared: 08/19/2021 Analyzed: 08/20/2021				
Arsenic	0.070	0.00050	mg/L	0.05000	0.0053	130	70-130			
Cadmium	0.067	0.00025	mg/L	0.05000	0.019	97	70-130			
Copper	29	0.050	mg/L	0.05000	31	NR	70-130			M2
Lead	0.046	0.00050	mg/L	0.05000	0.00085	90	70-130			
Silver	0.033	0.00050	mg/L	0.05000	0.00014	66	70-130			M2
Zinc	2.5	4.0	mg/L	0.1000	2.5	NR	70-130			M2

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 21H0414
Date Received: 08/13/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2108213 - E180.1										
Duplicate (2108213-DUP1)		Source: 21H0420-02			Prepared & Analyzed: 08/13/2021					
Turbidity	2000	10	NTU		2000			0	10	
Batch 2108245 - SW9045D										
Duplicate (2108245-DUP1)		Source: 21H0423-01			Prepared & Analyzed: 08/16/2021					
pH (pH Units)	8.1		-		8.1			0.2	200	H5
Temperature (°C)	24		-		24			0	200	H5
Batch 2108273 - SM2510 B										
LCS (2108273-BS1)		Prepared & Analyzed: 08/19/2021								
Conductivity	150	0.10	µmhos/cm	141.2		103	0-200			
LCS Dup (2108273-BSD1)		Prepared & Analyzed: 08/19/2021								
Conductivity	150	0.10	µmhos/cm	141.2		106	0-200	3	200	
Duplicate (2108273-DUP1)		Source: 21H0424-01			Prepared & Analyzed: 08/19/2021					
Conductivity	6700	5.0	µmhos/cm		6400			5	10	
Duplicate (2108273-DUP2)		Source: 21H0458-02			Prepared & Analyzed: 08/19/2021					
Conductivity	880	0.10	µmhos/cm		910			3	10	
Batch 2108325 - SM4500-CN BE										
Blank (2108325-BLK1)		Prepared: 08/23/2021 Analyzed: 08/24/2021								
Cyanide	ND	0.10	mg/L							
LCS (2108325-BS1)		Prepared: 08/23/2021 Analyzed: 08/24/2021								
Cyanide	2.0	0.10	mg/L	2.000		101	85-115			
LCS Dup (2108325-BSD1)		Prepared: 08/23/2021 Analyzed: 08/24/2021								
Cyanide	2.0	0.10	mg/L	2.000		99	85-115	2	15	
Matrix Spike (2108325-MS1)		Source: 21H0244-02			Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	1.7	0.10	mg/L	2.000	ND	85	80-120			
Matrix Spike Dup (2108325-MSD1)		Source: 21H0244-02			Prepared: 08/23/2021 Analyzed: 08/24/2021					
Cyanide	1.9	0.10	mg/L	2.000	ND	94	80-120	10	15	

2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788
 www.turnerlabs.com



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

PROJECT NAME Herme SA # 8-12-21

CONTACT NAME Sheena Leon & Kara Haas

COMPANY NAME South32

ADDRESS 2210 E Ft Lowell Rd

CITY Tucson STATE AZ ZIP CODE 85719

PHONE (505) 947-1738 FAX 8-12-21

SAMPLER'S SIGNATURE [Signature]

SAMPLE I.D. _____ DATE _____ TIME _____ LAB I.D. _____ SAMPLE MATRIX* _____

Outfall 1 - 08122021 8-12-21 8:21 _____ GW

<u>8-12-21</u>	<u>8:21</u>	<u>GW</u>	<u>3</u>	<u>X</u>	<u>See attachment</u>
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TURNER WORK ORDER # 210211 DATE 8-12-21 PAGE 1 OF 0

1. RELINQUISHED BY: [Signature]
 Signature Jaime Lopez
 Printed Name Herme SA
 Firm Herme SA
 Date/Time 8-12-21

3. RELINQUISHED BY: [Signature]
 Signature [Signature]
 Printed Name [Signature]
 Firm TURNER LABORATORIES, INC.
 Date/Time 8/13/21 11:20

2. RECEIVED BY: [Signature]
 Signature [Signature]
 Printed Name [Signature]
 Firm TURNER LABORATORIES, INC.
 Date/Time 8/13/21 11:20

4. RECEIVED BY: [Signature]
 Signature [Signature]
 Printed Name [Signature]
 Firm TURNER LABORATORIES, INC.
 Date/Time 8/13/21 11:20

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)*
 Next day - 2 Day
 5 Day*

*LEGEND
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL

REPORT REQUIREMENTS:
 I. Routine Report
 II. Report (includes DUP, MS, MSD, as required, may be charged as samples)
 III. Date Validation Report (includes All Raw Data)
 Add 10% to invoice

INVOICE INFORMATION:
 Account _____ Y _____ N
 P.O. # _____
 Bill to: _____

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: Yes No
 ADEQ Forms: Yes No
 Mail ADEQ Forms: Yes No

SAMPLE RECEIPT:
 Total Containers 3
 Temperature 4.7
 Wet Ice Blue Ice

Container Intact
 Preservation Confirmation
 Appropriate Head Space
 Received Within Hold Time

Outfall 1 (Trench) Stormwater			
LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Silver	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		
Other Parameters			
Free Cyanide	X	X	Free
pH			X
Specific Conductance			X

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

BOTTLE LIST		
Volume	Preservative	Parameter
250ml	HNO3	Metals
250ml	Non-Preserved	Hardness/pH/Conductivity
500ml	NaOH	Free Cyanide



September 16, 2021

Sheena Leon
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (802) 235-5563
FAX

Work Order No.: 21I0086
Order Name: Groundwater

RE: Groundwater

Dear Sheena Leon,

Turner Laboratories, Inc. received 1 sample(s) on 09/02/2021 for the analyses presented in the following report.

All results are intended to be considered in their entirety, and Turner Laboratories, Inc. is not responsible for use of less than the complete report. Results apply only to the samples analyzed. Samples will be disposed of 30 days after issue of our report unless special arrangements are made.

The pages that follow may contain sensitive, privileged or confidential information intended solely for the addressee named above. If you receive this message and are not the agent or employee of the addressee, this communication has been sent in error. Please do not disseminate or copy any of the attached and notify the sender immediately by telephone. Please also return the attached sheet(s) to the sender by mail.

Please call if you have any questions.

Respectfully submitted,

Turner Laboratories, Inc.
ADHS License AZ0066

Elizabeth Kasik
Laboratory Director

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Date Received: 09/02/2021

Order: Groundwater

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
21I0086-01	Outfall 2 - 09012021	Ground Water	09/01/2021 1100

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Date Received: 09/02/2021

Case Narrative

E4 Concentration estimated. Analyte was detected below laboratory Minimum Reporting Limit (MRL) but above MDL.

H1 Sample analysis was performed past holding time.

H5 This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

M1 Matrix spike recovery was high; the associated LCS/LCSD was acceptable.

All soil, sludge, and solid matrix determinations are reported on a wet weight basis unless otherwise noted.

ND Not Detected at or above the PQL

PQL Practical Quantitation Limit

DF Dilution Factor

Turner Laboratories, Inc.

Date: 09/16/2021

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Lab Sample ID: 21I0086-01

Client Sample ID: Outfall 2 - 09012021
Collection Date/Time: 09/01/2021 1100
Matrix: Ground Water
Order Name: Groundwater

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	890				mg/L	1	09/06/2021 0735	09/07/2021 1359	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.20		0.00050	M1	mg/L	1	09/10/2021 1135	09/10/2021 1158	CR
Lead	0.0000850	0.000057	0.00050	E4, M1	mg/L	1	09/10/2021 1135	09/10/2021 1158	CR
Silver	0.0000480	0.000021	0.00050	E4	mg/L	1	09/10/2021 1135	09/10/2021 1158	CR
Zinc	0.49		0.040	M1	mg/L	1	09/10/2021 1135	09/10/2021 1158	CR
Turbidity-E180.1									
Turbidity	13		0.10	H1	NTU	1	09/08/2021 1421	09/08/2021 1510	CWB
ICP Total Metals-E200.7 (4.4)									
Calcium	200		4.0		mg/L	1	09/06/2021 0735	09/07/2021 1359	MH
Magnesium	96		3.0		mg/L	1	09/06/2021 0735	09/07/2021 1359	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.033		0.00050		mg/L	1	09/03/2021 1200	09/07/2021 1139	CR
Lead	0.019		0.00050		mg/L	1	09/03/2021 1200	09/07/2021 1139	CR
Silver	0.00016	0.000021	0.00050	E4	mg/L	1	09/03/2021 1200	09/08/2021 1157	CR
Zinc	0.55		0.040		mg/L	1	09/03/2021 1200	09/07/2021 1139	CR
Specific Conductance-SM2510 B									
Conductivity	270		0.10		µmhos/cm	1	09/13/2021 1600	09/13/2021 1630	CWB
Cyanide-SM4500-CN BE									
Cyanide	ND		0.10		mg/L	1	09/14/2021 0800	09/15/2021 1130	JG
pH-SW9045D									
pH (pH Units)	7.0			H5	-	1	09/07/2021 1609	09/07/2021 1703	CWB

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Lab Sample ID: 21I0086-01

Client Sample ID: Outfall 2 - 09012021
Collection Date/Time: 09/01/2021 1100
Matrix: Ground Water
Order Name: Groundwater

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Temperature (°C)	22			H5		- 1	09/07/2021 1609	09/07/2021 1703	CWB

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Date Received: 09/02/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109054 - E200.7 (4.4)										
Blank (2109054-BLK1) Prepared: 09/06/2021 Analyzed: 09/07/2021										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (2109054-BS1) Prepared: 09/06/2021 Analyzed: 09/07/2021										
Calcium	11	4.0	mg/L	10.00		105	85-115			
Magnesium	10	3.0	mg/L	10.00		103	85-115			
LCS Dup (2109054-BSD1) Prepared: 09/06/2021 Analyzed: 09/07/2021										
Calcium	11	4.0	mg/L	10.00		110	85-115	5	20	
Magnesium	11	3.0	mg/L	10.00		108	85-115	4	20	
Matrix Spike (2109054-MS1) Source: 2110015-01 Prepared: 09/06/2021 Analyzed: 09/07/2021										
Calcium	91	4.0	mg/L	10.00	83	90	70-130			
Magnesium	24	3.0	mg/L	10.00	14	97	70-130			
Matrix Spike (2109054-MS2) Source: 2110015-02 Prepared: 09/06/2021 Analyzed: 09/07/2021										
Calcium	92	4.0	mg/L	10.00	85	71	70-130			
Magnesium	24	3.0	mg/L	10.00	14	95	70-130			
Batch 2109065 - E200.8 (5.4)										
Blank (2109065-BLK1) Prepared: 09/03/2021 Analyzed: 09/07/2021										
Copper	ND	0.00050	mg/L							
Lead	0.000070	0.00050	mg/L							
Silver	0.000049	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2109065-BS1) Prepared: 09/03/2021 Analyzed: 09/07/2021										
Copper	0.050	0.00050	mg/L	0.05000		101	85-115			
Lead	0.050	0.00050	mg/L	0.05000		100	85-115			
Silver	0.046	0.00050	mg/L	0.05000		93	85-115			
Zinc	0.11	0.040	mg/L	0.1000		106	85-115			
LCS Dup (2109065-BSD1) Prepared: 09/03/2021 Analyzed: 09/07/2021										
Copper	0.048	0.00050	mg/L	0.05000		96	85-115	4	20	
Lead	0.050	0.00050	mg/L	0.05000		99	85-115	0.2	20	
Silver	0.047	0.00050	mg/L	0.05000		94	85-115	0.9	20	
Zinc	0.10	0.040	mg/L	0.1000		101	85-115	5	20	
Matrix Spike (2109065-MS1) Source: 2110086-01 Prepared: 09/03/2021 Analyzed: 09/07/2021										
Copper	0.076	0.00050	mg/L	0.05000	0.033	84	70-130			
Lead	0.071	0.00050	mg/L	0.05000	0.019	105	70-130			
Silver	0.041	0.00050	mg/L	0.05000	0.00016	81	70-130			
Zinc	0.65	0.040	mg/L	0.1000	0.55	102	70-130			
Matrix Spike (2109065-MS2) Source: 2110087-01 Prepared: 09/03/2021 Analyzed: 09/07/2021										
Copper	0.047	0.00050	mg/L	0.05000	0.0080	78	70-130			
Lead	0.058	0.00050	mg/L	0.05000	0.0075	101	70-130			
Silver	0.042	0.025	mg/L	0.05000	ND	85	70-130			
Zinc	3.7	2.0	mg/L	0.1000	3.6	99	70-130			

Batch 2109130 - E 200.8 (5.4)

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Date Received: 09/02/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Blank (2109130-BLK1)				Prepared & Analyzed: 09/10/2021						
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Silver	0.000026	0.00050	mg/L							
Zinc	0.022	0.040	mg/L							
LCS (2109130-BS1)				Prepared & Analyzed: 09/10/2021						
Copper	0.051	0.00050	mg/L	0.05000		103	85-115			
Lead	0.052	0.00050	mg/L	0.05000		103	85-115			
Silver	0.048	0.00050	mg/L	0.05000		95	85-115			
Zinc	0.11	0.040	mg/L	0.1000		110	85-115			
LCS Dup (2109130-BSD1)				Prepared & Analyzed: 09/10/2021						
Copper	0.050	0.00050	mg/L	0.05000		100	85-115	3	20	
Lead	0.051	0.00050	mg/L	0.05000		102	85-115	1	20	
Silver	0.047	0.00050	mg/L	0.05000		95	85-115	0.08	20	
Zinc	0.11	0.040	mg/L	0.1000		108	85-115	2	20	
Matrix Spike (2109130-MS1)				Source: 21I0086-01		Prepared & Analyzed: 09/10/2021				
Copper	0.27	0.00050	mg/L	0.05000	0.20	133	70-130			M1
Lead	0.070	0.00050	mg/L	0.05000	0.000085	139	70-130			M1
Silver	0.044	0.00050	mg/L	0.05000	0.000048	88	70-130			
Zinc	0.62	0.040	mg/L	0.1000	0.49	130	70-130			M1

Client: Arizona Minerals Inc.
Project: Groundwater
Work Order: 21I0086
Date Received: 09/02/2021

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2109094 - SW9045D										
Duplicate (2109094-DUP1)		Source: 21H0758-03			Prepared & Analyzed: 09/07/2021					
pH (pH Units)	6.7		-		6.7			0.1	200	H5
Temperature (°C)	22		-		22			0.5	200	H5
Duplicate (2109094-DUP2)		Source: 21H0806-04			Prepared & Analyzed: 09/07/2021					
pH (pH Units)	8.0		-		7.9			0.4	200	H5
Temperature (°C)	21		-		21			0	200	H5
Batch 2109096 - E180.1										
Duplicate (2109096-DUP1)		Source: 2110012-01			Prepared & Analyzed: 09/08/2021					
Turbidity	1.2	0.10	NTU		1.3			8	10	
Duplicate (2109096-DUP2)		Source: 2110210-01			Prepared & Analyzed: 09/08/2021					
Turbidity	1.3	0.10	NTU		1.2			8	10	
Batch 2109153 - SM2510 B										
LCS (2109153-BS1)					Prepared & Analyzed: 09/13/2021					
Conductivity	150	0.10	µmhos/cm	141.2		108	0-200			
LCS Dup (2109153-BSD1)					Prepared & Analyzed: 09/13/2021					
Conductivity	150	0.10	µmhos/cm	141.2		107	0-200	1	200	
Duplicate (2109153-DUP1)		Source: 2110262-04			Prepared & Analyzed: 09/13/2021					
Conductivity	180	0.10	µmhos/cm		190			7	10	
Duplicate (2109153-DUP2)		Source: 2110231-01			Prepared & Analyzed: 09/13/2021					
Conductivity	550	0.10	µmhos/cm		540			2	10	
Batch 2109198 - SM4500-CN BE										
Blank (2109198-BLK1)					Prepared: 09/14/2021 Analyzed: 09/15/2021					
Cyanide	ND	0.10	mg/L							
LCS (2109198-BS1)					Prepared: 09/14/2021 Analyzed: 09/15/2021					
Cyanide	1.8	0.10	mg/L	2.000		90	85-115			
LCS Dup (2109198-BSD1)					Prepared: 09/14/2021 Analyzed: 09/15/2021					
Cyanide	1.8	0.10	mg/L	2.000		92	85-115	2	15	
Matrix Spike (2109198-MS1)		Source: 2110001-02			Prepared: 09/14/2021 Analyzed: 09/15/2021					
Cyanide	1.6	0.10	mg/L	2.000	ND	81	80-120			
Matrix Spike Dup (2109198-MSD1)		Source: 2110001-02			Prepared: 09/14/2021 Analyzed: 09/15/2021					
Cyanide	1.8	0.10	mg/L	2.000	ND	92	80-120	13	15	



2445 N. Coyote Drive, Suite 104
 Tucson, Arizona 85745
 (520) 882-5880
 Fax: (520) 882-9788
 www.turnerlabs.com

PROJECT NAME Hurms Co # 9-1-21

CONTACT NAME Sheena Leon & Kara Haas

COMPANY NAME South32

ADDRESS 2210 E Ft Lowell Rd

CITY Tucson STATE AZ ZIP CODE 85719

PHONE _____ FAX _____

SAMPLER'S SIGNATURE _____

SAMPLE I.D. _____ DATE _____ TIME _____ LAB I.D. _____

Duffall 2 - 09012021 9-1-21 11:00am water

JK 9-1-21

1. RELINQUISHED BY: _____
 Signature Jaime Lopez
 Printed Name _____

2. RECEIVED BY: _____
 Signature Colleen Briggs
 Printed Name _____

3. RELINQUISHED BY: _____
 Signature Sheena Leon
 Printed Name _____

4. RECEIVED BY: _____
 Signature Colleen Briggs
 Printed Name _____

Date/Time 9/2/21
 Firm TURNER LABORATORIES, INC.
 Date/Time 9/2/21 1645

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

NUMBER OF CONTAINERS	ANALYSIS REQUESTED
<u>See attachment</u>	<input checked="" type="checkbox"/> <u>JK</u> <u>9-1-21</u>

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM
 TURNER WORK ORDER # _____ DATE 9-1-21 PAGE 1

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)*
 Next day 2 Day
 5 Day*

REPORT REQUIREMENTS:
 I. Routine Report
 II. Report (Includes DUP, MS, MSD, as required, may be changed as samples)
 III. Date Validation Report (Includes All Raw Data)
 Add 10% to Invoice

INVOICE INFORMATION:
 Account _____ Y _____ N
 P.O. # _____
 Bill to: _____

SAMPLE RECEIPT:
 Total Containers 3
 Temperature 4.1
 Wet Ice Blue Ice

* LEGEND
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: YES NO
 ADEQ Forms: YES NO
 Mail ADEQ Forms: YES NO
 Custody Seals
 Container Intact
 Preservation Confirmation
 Appropriate Head Space
 Received Within Hold Time

BOTTLE LIST		
Volume	Preservative	Parameter
250ml	HNO3	Metals
250ml	Non-Preserved	Hardness/pH/Conductivity
500ml	NaOH	Free Cyanide

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

Outfall 2 (Trench)			
LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X	X	
Lead	X	X	
Silver	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		
Other Parameters			
Free Cyanide	X	X	
pH			X
Specific Conductance			X