



July 17, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19G0289

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 1 sample(s) on 07/09/2019 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: 19G0289
Date Received: 07/09/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19G0289-01	Outfall#1 1-070819 1013	Storm Water	07/07/2019 1013

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0289
Date Received: 07/09/2019

Case Narrative

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: 19G0289
Lab Sample ID: 19G0289-01

Client Sample ID: Outfall#1 1-070819 1013
Collection Date/Time: 07/07/2019 1013
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	510		22		mg/L	1	07/12/2019 0915	07/16/2019 1035	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	550				mg/L	1	07/10/2019 1140	07/13/2019 1402	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	130		4.0		mg/L	1	07/12/2019 0915	07/16/2019 1035	MH
Magnesium	46		3.0		mg/L	1	07/12/2019 0915	07/16/2019 1035	MH
Zinc	0.069		0.040		mg/L	1	07/12/2019 0915	07/16/2019 1036	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0065		0.00050		mg/L	1	07/12/2019 0915	07/15/2019 1310	MH
Cadmium	0.0012		0.00025		mg/L	1	07/12/2019 0915	07/15/2019 1310	MH
Copper	0.036		0.00050		mg/L	1	07/12/2019 0915	07/15/2019 1310	MH
Lead	ND		0.00050		mg/L	1	07/12/2019 0915	07/15/2019 1310	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	140		4.0		mg/L	1	07/10/2019 1140	07/13/2019 1402	MH
Magnesium	49		3.0		mg/L	1	07/10/2019 1140	07/13/2019 1402	MH
Zinc	0.12		0.040		mg/L	1	07/10/2019 1140	07/13/2019 1403	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.0056		0.00050		mg/L	1	07/11/2019 1025	07/12/2019 1840	MH
Cadmium	0.0014		0.00025		mg/L	1	07/11/2019 1025	07/12/2019 1840	MH
Copper	0.045		0.00050		mg/L	1	07/11/2019 1025	07/12/2019 1840	MH
Lead	0.0048		0.00050		mg/L	1	07/11/2019 1025	07/12/2019 1840	MH

Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 19G0289
 Date Received: 07/09/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Qual
Batch 1907108 - E200.7 (4.4)										
Blank (1907108-BLK1) Prepared: 07/10/2019 Analyzed: 07/11/2019										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1907108-BS1) Prepared: 07/10/2019 Analyzed: 07/11/2019										
Calcium	10	4.0	mg/L	10.00		102	85-115			
Magnesium	10	3.0	mg/L	10.00		102	85-115			
Zinc	0.48	0.040	mg/L	0.5000		96	85-115			
LCS Dup (1907108-BSD1) Prepared: 07/10/2019 Analyzed: 07/11/2019										
Calcium	10	4.0	mg/L	10.00		101	85-115	0.7	20	
Magnesium	10	3.0	mg/L	10.00		101	85-115	0.6	20	
Zinc	0.48	0.040	mg/L	0.5000		96	85-115	0.02	20	
Matrix Spike (1907108-MS1) Source: 19G0005-01 Prepared: 07/10/2019 Analyzed: 07/11/2019										
Calcium	92	4.0	mg/L	10.00	87	56	70-130			M3
Magnesium	17	3.0	mg/L	10.00	7.8	96	70-130			
Zinc	0.56	0.040	mg/L	0.5000	0.093	94	70-130			
Matrix Spike (1907108-MS2) Source: 19G0294-01 Prepared: 07/10/2019 Analyzed: 07/11/2019										
Calcium	120	4.0	mg/L	10.00	120	74	70-130			
Magnesium	1200	30	mg/L	10.00	990	NR	70-130			M3
Zinc	0.47	0.040	mg/L	0.5000	ND	95	70-130			
Batch 1907129 - E200.8 (5.4)										
Blank (1907129-BLK1) Prepared: 07/11/2019 Analyzed: 07/12/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (1907129-BS1) Prepared: 07/11/2019 Analyzed: 07/12/2019										
Arsenic	0.047	0.00050	mg/L	0.05000		94	85-115			
Cadmium	0.048	0.00025	mg/L	0.05000		95	85-115			
Copper	0.048	0.00050	mg/L	0.05000		95	85-115			
Lead	0.048	0.00050	mg/L	0.05000		96	85-115			
LCS Dup (1907129-BSD1) Prepared: 07/11/2019 Analyzed: 07/12/2019										
Arsenic	0.048	0.00050	mg/L	0.05000		96	85-115	2	20	
Cadmium	0.048	0.00025	mg/L	0.05000		96	85-115	1	20	
Copper	0.049	0.00050	mg/L	0.05000		98	85-115	3	20	
Lead	0.048	0.00050	mg/L	0.05000		97	85-115	1	20	
Matrix Spike (1907129-MS1) Source: 19G0100-02 Prepared: 07/11/2019 Analyzed: 07/12/2019										
Arsenic	0.055	0.00050	mg/L	0.05000	0.0040	101	70-130			
Cadmium	0.049	0.00025	mg/L	0.05000	0.00023	97	70-130			
Copper	0.054	0.00050	mg/L	0.05000	0.0099	88	70-130			
Lead	0.049	0.00050	mg/L	0.05000	0.00054	97	70-130			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0289
Date Received: 07/09/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
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Batch 1907129 - E200.8 (5.4)

Matrix Spike (1907129-MS2)		Source: 19G0290-01		Prepared: 07/11/2019		Analyzed: 07/12/2019	
Arsenic	0.063	0.00050	mg/L	0.05000	0.0042	117	70-130
Cadmium	0.050	0.00025	mg/L	0.05000	0.00084	98	70-130
Copper	0.054	0.00050	mg/L	0.05000	0.011	86	70-130
Lead	0.053	0.00050	mg/L	0.05000	0.0026	101	70-130

Batch 1907143 - E 200.8 (5.4)

Blank (1907143-BLK1)				Prepared & Analyzed: 07/15/2019	
Arsenic	ND	0.00050	mg/L		
Cadmium	ND	0.00025	mg/L		
Copper	ND	0.00050	mg/L		
Lead	ND	0.00050	mg/L		

LCS (1907143-BS1)				Prepared & Analyzed: 07/15/2019	
Arsenic	0.049	0.00050	mg/L	0.05000	97 85-115
Cadmium	0.050	0.00025	mg/L	0.05000	100 85-115
Copper	0.050	0.00050	mg/L	0.05000	100 85-115
Lead	0.049	0.00050	mg/L	0.05000	97 85-115

LCS Dup (1907143-BSD1)				Prepared & Analyzed: 07/15/2019	
Arsenic	0.048	0.00050	mg/L	0.05000	97 85-115 0.3 20
Cadmium	0.050	0.00025	mg/L	0.05000	99 85-115 0.6 20
Copper	0.050	0.00050	mg/L	0.05000	101 85-115 0.8 20
Lead	0.050	0.00050	mg/L	0.05000	99 85-115 2 20

Matrix Spike (1907143-MS1)		Source: 19G0289-01		Prepared & Analyzed: 07/15/2019	
Arsenic	0.067	0.00050	mg/L	0.05000	0.0065 121 70-130
Cadmium	0.051	0.00025	mg/L	0.05000	0.0012 99 70-130
Copper	0.083	0.00050	mg/L	0.05000	0.036 92 70-130
Lead	0.051	0.00050	mg/L	0.05000	0.00023 102 70-130

Batch 1907162 - E 200.7 (4.4)

Blank (1907162-BLK1)				Prepared & Analyzed: 07/16/2019	
Calcium	ND	4.0	mg/L		
Magnesium	ND	3.0	mg/L		
Zinc	ND	0.040	mg/L		

LCS (1907162-BS1)				Prepared & Analyzed: 07/16/2019	
Calcium	10	4.0	mg/L	10.00	103 85-115
Magnesium	10	3.0	mg/L	10.00	101 85-115
Zinc	0.50	0.040	mg/L	0.5000	101 85-115

LCS Dup (1907162-BSD1)				Prepared & Analyzed: 07/16/2019	
Calcium	11	4.0	mg/L	10.00	107 85-115 4 20
Magnesium	10	3.0	mg/L	10.00	104 85-115 3 20
Zinc	0.50	0.040	mg/L	0.5000	101 85-115 0.2 20

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0289
Date Received: 07/09/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1907162 - E 200.7 (4.4)										
Matrix Spike (1907162-MS1)		Source: 19G0289-01			Prepared & Analyzed: 07/16/2019					
Calcium	140	4.0	mg/L	10.00	130	117	70-130			
Magnesium	57	3.0	mg/L	10.00	46	114	70-130			
Zinc	0.55	0.040	mg/L	0.5000	0.069	95	70-130			



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

TURNER WORK ORDER # 1950289 DATE _____ PAGE _____ OF _____

PROJECT NAME _____ # _____ CONTACT NAME <u>Sarah Richman, Sheera Leon</u> COMPANY NAME <u>South 32</u> ADDRESS <u>2210 East Fort Lowell Road</u> CITY <u>Tucson</u> STATE <u>AZ</u> ZIP CODE <u>85719</u> PHONE _____ FAX _____ SAMPLER'S SIGNATURE <u>[Signature]</u>				NUMBER OF CONTAINERS <u>2</u> <i>See Attached</i>	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX																																																																																																																																																						
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;">SAMPLE I.D.</th> <th style="width:10%;">DATE</th> <th style="width:10%;">TIME</th> <th style="width:15%;">LAB I.D.</th> <th style="width:10%;">SAMPLE MATRIX*</th> <th style="width:10%;">2</th> <th style="width:10%;">3</th> <th style="width:10%;">4</th> <th style="width:10%;">5</th> <th style="width:10%;">6</th> <th style="width:10%;">7</th> <th style="width:10%;">8</th> <th style="width:10%;">9</th> <th style="width:10%;">10</th> <th style="width:10%;">11</th> <th style="width:10%;">12</th> </tr> </thead> <tbody> <tr> <td><u>Outfall#1-070819-10:13</u></td> <td><u>7/8/19</u></td> <td><u>10:13</u></td> <td><u>ST</u></td> <td><u>ST</u></td> <td style="text-align: center;">2</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>					SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	2	3	4	5	6	7	8	9	10	11	12	<u>Outfall#1-070819-10:13</u>	<u>7/8/19</u>	<u>10:13</u>	<u>ST</u>	<u>ST</u>	2																																																																																																																																	
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1. RELINQUISHED BY: <u>[Signature]</u> Signature <u>Luis Lagunas</u> Printed Name <u>South 32</u> Firm <u>7/9/19 7:00 AM</u> Date/Time				2. RECEIVED BY: <u>[Signature]</u> Signature <u>WFO Gilmore</u> Printed Name <u>WFO West Courier</u> Firm <u>7/9/19 3:08</u> Date/Time				TURNAROUND REQUIREMENTS: _____ Standard (approx. 10 days)* _____ Next day _____ 2 Day _____ 5 Day* _____ Email Preliminary Results To: _____ * Working Days				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: _____ <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice				SAMPLE RECEIPT: Total Containers <u>2</u> Temperature <u>5.7</u> <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Blue Ice																																																																																																																																							
3. RELINQUISHED BY: <u>[Signature]</u> Signature <u>WFO Gilmore</u> Printed Name <u>WFO West Courier</u> Firm <u>7/9/19 16:54</u> Date/Time				4. RECEIVED BY: <u>[Signature]</u> Signature <u>Joseph [Name]</u> Printed Name TURNER LABORATORIES, INC. Firm <u>7/9/19 16:54</u> Date/Time				* LEGEND DW = DRINKING WATER GW = GROUNDWATER SD = SOLID SG = SLUDGE SL = SOIL ST = STORMWATER WW = WASTEWATER				SPECIAL INSTRUCTIONS/COMMENTS: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;">Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td style="width:33%;">Custody Seals <input type="checkbox"/></td> <td style="width:33%;">Preservation Confirmation <input checked="" type="checkbox"/></td> </tr> <tr> <td>ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>Container Intact <input checked="" type="checkbox"/></td> <td>Appropriate Head Space <input checked="" type="checkbox"/></td> </tr> <tr> <td>Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No</td> <td>COC/Labels Agree <input checked="" type="checkbox"/></td> <td>Received Within Hold Time <input checked="" type="checkbox"/></td> </tr> </table>												Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seals <input type="checkbox"/>	Preservation Confirmation <input checked="" type="checkbox"/>	ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	Container Intact <input checked="" type="checkbox"/>	Appropriate Head Space <input checked="" type="checkbox"/>	Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	COC/Labels Agree <input checked="" type="checkbox"/>	Received Within Hold Time <input checked="" type="checkbox"/>																																																																																																																											
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Outfall 1 (Trench) Stormwater

LABORATORY

Analyte	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Zinc	X	X	
Major Cations			
Hardness	X	X	

FIELD MEASUREMENTS

pH
Specific conductance
Temperature
Turbidity
Flow
Appearance



August 02, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19G0547

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 2 sample(s) on 07/18/2019 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: 19G0547
Date Received: 07/18/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19G0547-01	Outfall#1-071819-7:27	Storm Water	07/18/2019 0727
19G0547-02	Outfall#2-071819-9:57	Storm Water	07/18/2019 0957

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0547
Date Received: 07/18/2019

Case Narrative

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: 19G0547
Lab Sample ID: 19G0547-01

Client Sample ID: Outfall#1-071819-7:27
Collection Date/Time: 07/18/2019 0727
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	1500		22		mg/L	1	07/29/2019 1335	07/30/2019 1249	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	1500				mg/L	1	07/26/2019 1220	07/29/2019 1949	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	400		4.0	M3	mg/L	1	07/29/2019 1335	07/30/2019 1249	MH
Magnesium	110		3.0		mg/L	1	07/29/2019 1335	07/30/2019 1249	MH
Zinc	ND		0.040		mg/L	1	07/29/2019 1335	07/30/2019 1250	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0066		0.00050		mg/L	1	07/29/2019 1335	07/29/2019 1607	MH
Cadmium	0.0012		0.00025		mg/L	1	07/29/2019 1335	07/29/2019 1607	MH
Copper	0.0048		0.00050		mg/L	1	07/29/2019 1335	07/29/2019 1607	MH
Lead	0.00071		0.00050		mg/L	1	07/29/2019 1335	07/29/2019 1607	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	420		4.0		mg/L	1	07/26/2019 1220	07/29/2019 1949	MH
Magnesium	110		3.0		mg/L	1	07/26/2019 1220	07/29/2019 1949	MH
Zinc	0.24		0.040		mg/L	1	07/26/2019 1220	07/29/2019 1950	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.0071		0.0050		mg/L	10	07/29/2019 1140	07/30/2019 1602	MH
Cadmium	0.0016		0.00025		mg/L	1	07/29/2019 1140	07/30/2019 1715	MH
Copper	0.027		0.0050		mg/L	10	07/29/2019 1140	07/30/2019 1602	MH
Lead	0.056		0.0050		mg/L	10	07/29/2019 1140	07/30/2019 1602	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0547
Lab Sample ID: 19G0547-02

Client Sample ID: Outfall#2-071819-9:57
Collection Date/Time: 07/18/2019 0957
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	2100		22		mg/L	1	07/29/2019 1335	07/30/2019 1301	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	2200				mg/L	1	07/26/2019 1220	07/29/2019 1953	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	440		4.0		mg/L	1	07/29/2019 1335	07/30/2019 1301	MH
Magnesium	240		3.0		mg/L	1	07/29/2019 1335	07/30/2019 1301	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.012		0.00050		mg/L	1	07/29/2019 1335	07/29/2019 1612	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	470		4.0		mg/L	1	07/26/2019 1220	07/29/2019 1953	MH
Magnesium	250		3.0		mg/L	1	07/26/2019 1220	07/29/2019 1953	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.015		0.0050		mg/L	10	07/29/2019 1140	07/30/2019 1608	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0547
Date Received: 07/18/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1907298 - E 200.7 (4.4)										
Blank (1907298-BLK1) Prepared & Analyzed: 07/30/2019										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1907298-BS1) Prepared & Analyzed: 07/30/2019										
Calcium	10	4.0	mg/L	10.00		100	85-115			
Magnesium	9.6	3.0	mg/L	10.00		96	85-115			
Zinc	0.44	0.040	mg/L	0.5000		89	85-115			
LCS Dup (1907298-BSD1) Prepared & Analyzed: 07/30/2019										
Calcium	10	4.0	mg/L	10.00		104	85-115	3	20	
Magnesium	10	3.0	mg/L	10.00		100	85-115	4	20	
Zinc	0.45	0.040	mg/L	0.5000		89	85-115	0.5	20	
Matrix Spike (1907298-MS1) Source: 19G0477-01 Prepared & Analyzed: 07/30/2019										
Calcium	330	4.0	mg/L	10.00	350	NR	70-130			M3
Magnesium	59	3.0	mg/L	10.00	52	72	70-130			
Zinc	0.55	0.040	mg/L	0.5000	ND	110	70-130			
Matrix Spike (1907298-MS2) Source: 19G0547-01 Prepared & Analyzed: 07/30/2019										
Calcium	430	4.0	mg/L	10.00	400	223	70-130			M3
Magnesium	120	3.0	mg/L	10.00	110	98	70-130			
Zinc	0.53	0.040	mg/L	0.5000	0.010	104	70-130			
Batch 1907333 - E 200.8 (5.4)										
Blank (1907333-BLK1) Prepared & Analyzed: 07/29/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (1907333-BS1) Prepared & Analyzed: 07/29/2019										
Arsenic	0.051	0.00050	mg/L	0.05000		102	85-115			
Cadmium	0.051	0.00025	mg/L	0.05000		101	85-115			
Copper	0.050	0.00050	mg/L	0.05000		100	85-115			
Lead	0.049	0.00050	mg/L	0.05000		98	85-115			
LCS Dup (1907333-BSD1) Prepared & Analyzed: 07/29/2019										
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115	4	20	
Cadmium	0.051	0.00025	mg/L	0.05000		103	85-115	1	20	
Copper	0.050	0.00050	mg/L	0.05000		100	85-115	0.1	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	0.1	20	
Matrix Spike (1907333-MS1) Source: 19G0681-08 Prepared & Analyzed: 07/29/2019										
Arsenic	0.075	0.00050	mg/L	0.05000	0.0099	129	70-130			
Cadmium	0.045	0.00025	mg/L	0.05000	ND	91	70-130			
Copper	0.054	0.00050	mg/L	0.05000	0.012	84	70-130			
Lead	0.050	0.00050	mg/L	0.05000	0.00046	99	70-130			
Batch 1907346 - E200.7 (4.4)										

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19G0547
Date Received: 07/18/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 1907346 - E200.7 (4.4)										
Blank (1907346-BLK1) Prepared: 07/26/2019 Analyzed: 07/29/2019										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1907346-BS1) Prepared: 07/26/2019 Analyzed: 07/29/2019										
Calcium	10	4.0	mg/L	10.00		102	85-115			
Magnesium	10	3.0	mg/L	10.00		101	85-115			
Zinc	0.48	0.040	mg/L	0.5000		97	85-115			
LCS Dup (1907346-BSD1) Prepared: 07/26/2019 Analyzed: 07/29/2019										
Calcium	10	4.0	mg/L	10.00		100	85-115	2	20	
Magnesium	10	3.0	mg/L	10.00		100	85-115	0.8	20	
Zinc	0.48	0.040	mg/L	0.5000		96	85-115	0.7	20	
Matrix Spike (1907346-MS1) Source: 19G0516-39 Prepared: 07/26/2019 Analyzed: 07/29/2019										
Calcium	540	4.0	mg/L	10.00	550	NR	70-130			M3
Magnesium	180	3.0	mg/L	10.00	180	39	70-130			M3
Zinc	0.49	0.040	mg/L	0.5000	0.014	95	70-130			
Matrix Spike (1907346-MS2) Source: 19G0516-40 Prepared: 07/26/2019 Analyzed: 07/29/2019										
Calcium	470	4.0	mg/L	10.00	510	NR	70-130			M3
Magnesium	190	3.0	mg/L	10.00	200	NR	70-130			M3
Zinc	0.52	0.040	mg/L	0.5000	0.050	94	70-130			
Batch 1907357 - E200.8 (5.4)										
Blank (1907357-BLK1) Prepared: 07/29/2019 Analyzed: 07/30/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (1907357-BS1) Prepared: 07/29/2019 Analyzed: 07/30/2019										
Arsenic	0.043	0.00050	mg/L	0.05000		86	85-115			
Cadmium	0.045	0.00025	mg/L	0.05000		90	85-115			
Copper	0.046	0.00050	mg/L	0.05000		92	85-115			
Lead	0.046	0.00050	mg/L	0.05000		93	85-115			
LCS Dup (1907357-BSD1) Prepared: 07/29/2019 Analyzed: 07/30/2019										
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115	13	20	
Cadmium	0.048	0.00025	mg/L	0.05000		95	85-115	6	20	
Copper	0.048	0.00050	mg/L	0.05000		97	85-115	5	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	6	20	
Matrix Spike (1907357-MS1) Source: 19G0579-01 Prepared: 07/29/2019 Analyzed: 07/30/2019										
Arsenic	0.050	0.00050	mg/L	0.05000	0.0014	98	70-130			
Cadmium	0.046	0.00025	mg/L	0.05000	ND	91	70-130			
Copper	0.045	0.00050	mg/L	0.05000	0.0010	87	70-130			
Lead	0.051	0.00050	mg/L	0.05000	0.00056	101	70-130			

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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

TURNER WORK ORDER # 1960547 DATE _____ PAGE _____ OF _____

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

PROJECT NAME _____ # _____
 CONTACT NAME Sarah Richman, Sheena Lean
 COMPANY NAME South 32
 ADDRESS 2210 East Fort Lowell Road
 CITY Tucson STATE AZ ZIP CODE 85719
 PHONE _____ FAX _____

NUMBER OF CONTAINERS

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED	ANALYSIS REQUESTED
<u>Duffell#1-071819-7:27</u>	<u>7/18/19</u>	<u>7:27</u>		<u>ST</u>														
<u>Duffell#2-071819-9:57</u>	<u>7/18/19</u>	<u>9:57</u>		<u>ST</u>														

See Attached

SAMPLER'S SIGNATURE [Signature]

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: _____

SAMPLE RECEIPT:
 Total Containers 4
 Temperature 21.2
 Wet Ice Blue Ice

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)*
 Next day _____ 2 Day _____ 5 Day* _____
 Email Preliminary Results To: _____

2. RECEIVED BY:
[Signature]
 Signature Sam Hannah
 Printed Name
 Firm 7/18/19
 Date/Time

1. RELINQUISHED BY:
[Signature]
 Signature Sarah Richman
 Printed Name South 32
 Firm 7/18/19 10:20
 Date/Time

4. RECEIVED BY:
[Signature]
 Signature Joseph [unclear]
 Printed Name TURNER LABORATORIES, INC.
 Firm 7/18/19 15:00
 Date/Time

3. RELINQUISHED BY:
[Signature]
 Signature Sam Hannah
 Printed Name Sam Hannah
 Firm 7/18/19
 Date/Time

1. RECEIVED BY:
[Signature]
 Signature [unclear]
 Printed Name [unclear]
 Firm 7/18/19
 Date/Time

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

Outfall 2 (Trench) and Outfall 3 (Alta) Stormwater

Analyte	LABORATORY		
	Total	Dissolved	Other
Metals			
Copper	X	X	
Major Cations			
Hardness	X	X	

FIELD MEASUREMENTS	
	pH
	Specific conductance
	Temperature
	Turbidity
	Flow
	Appearance

Outfall 1 (Trench) Stormwater

Analyte	LABORATORY		
	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Zinc	X	X	
Major Cations			
Hardness	X	X	

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance



September 09, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19H0625

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 1 sample(s) on 08/26/2019 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: 19H0625
Date Received: 08/26/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19H0625-01	Outfall # 1 -082319-742	Storm Water	08/23/2019 0742

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0625
Date Received: 08/26/2019

Case Narrative

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: 19H0625
Lab Sample ID: 19H0625-01

Client Sample ID: Outfall # 1 -082319-742
Collection Date/Time: 08/23/2019 0742
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
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Hardness-Calculation

Hardness, Calcium/Magnesium (As CaCO3)	1600				mg/L	1	09/03/2019 1140	09/06/2019 1411	MH
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ICP/MS Dissolved Metals-E 200.8 (5.4)

Arsenic	0.0048		0.00050		mg/L	1	09/05/2019 1350	09/06/2019 1144	MH
Cadmium	0.0011		0.00025		mg/L	1	09/05/2019 1350	09/06/2019 1144	MH
Copper	0.0045		0.00050		mg/L	1	09/05/2019 1350	09/06/2019 1144	MH
Lead	0.00056		0.00050		mg/L	1	09/05/2019 1350	09/06/2019 1144	MH
Zinc	ND		0.040		mg/L	1	09/05/2019 1350	09/06/2019 1144	MH

ICP Total Metals-E200.7 (4.4)

Calcium	440		4.0		mg/L	1	09/03/2019 1140	09/06/2019 1411	MH
Magnesium	130		3.0		mg/L	1	09/03/2019 1140	09/06/2019 1411	MH

ICP/MS Total Metals-E200.8 (5.4)

Arsenic	0.0029		0.00050		mg/L	1	08/28/2019 1200	08/29/2019 1304	MH
Cadmium	0.0013		0.00025		mg/L	1	08/28/2019 1200	08/29/2019 1304	MH
Copper	0.0079		0.00050		mg/L	1	08/28/2019 1200	08/29/2019 1304	MH
Lead	0.0039		0.00050		mg/L	1	08/28/2019 1200	08/29/2019 1304	MH
Zinc	0.051		0.040		mg/L	1	08/28/2019 1200	08/29/2019 1304	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0625
Date Received: 08/26/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908370 - E200.8 (5.4)										
Blank (1908370-BLK1) Prepared: 08/28/2019 Analyzed: 08/29/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1908370-BS1) Prepared: 08/28/2019 Analyzed: 08/29/2019										
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	0.051	0.00050	mg/L	0.05000		103	85-115			
Lead	0.049	0.00050	mg/L	0.05000		98	85-115			
Zinc	0.10	0.040	mg/L	0.1000		103	85-115			
LCS Dup (1908370-BSD1) Prepared: 08/28/2019 Analyzed: 08/29/2019										
Arsenic	0.050	0.00050	mg/L	0.05000		100	85-115	1	20	
Cadmium	0.050	0.00025	mg/L	0.05000		99	85-115	0.1	20	
Copper	0.050	0.00050	mg/L	0.05000		101	85-115	2	20	
Lead	0.050	0.00050	mg/L	0.05000		100	85-115	2	20	
Zinc	0.10	0.040	mg/L	0.1000		102	85-115	0.6	20	
Matrix Spike (1908370-MS1) Source: 19H0568-01 Prepared: 08/28/2019 Analyzed: 08/29/2019										
Arsenic	0.13	0.00050	mg/L	0.05000	0.076	105	70-130			
Cadmium	0.047	0.00025	mg/L	0.05000	ND	94	70-130			
Copper	0.050	0.00050	mg/L	0.05000	0.0059	89	70-130			
Lead	0.057	0.00050	mg/L	0.05000	0.0084	96	70-130			
Zinc	0.12	0.040	mg/L	0.1000	0.035	89	70-130			
Batch 1909028 - E200.7 (4.4)										
Blank (1909028-BLK1) Prepared: 09/03/2019 Analyzed: 09/06/2019										
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (1909028-BS1) Prepared: 09/03/2019 Analyzed: 09/06/2019										
Calcium	10	4.0	mg/L	10.00		101	85-115			
Magnesium	10	3.0	mg/L	10.00		100	85-115			
LCS Dup (1909028-BSD1) Prepared: 09/03/2019 Analyzed: 09/06/2019										
Calcium	9.8	4.0	mg/L	10.00		98	85-115	3	20	
Magnesium	9.8	3.0	mg/L	10.00		98	85-115	2	20	
Matrix Spike (1909028-MS1) Source: 19H0455-02 Prepared: 09/03/2019 Analyzed: 09/06/2019										
Calcium	230	4.0	mg/L	10.00	230	NR	70-130			M3
Magnesium	54	3.0	mg/L	10.00	48	63	70-130			M3
Matrix Spike (1909028-MS2) Source: 19H0516-02 Prepared: 09/03/2019 Analyzed: 09/06/2019										
Calcium	12	4.0	mg/L	10.00	1.9	103	70-130			
Magnesium	10	3.0	mg/L	10.00	0.55	99	70-130			
Batch 1909053 - E 200.8 (5.4)										

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0625
Date Received: 08/26/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 1909053 - E 200.8 (5.4)										
Blank (1909053-BLK1) Prepared & Analyzed: 09/06/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1909053-BS1) Prepared & Analyzed: 09/06/2019										
Arsenic	0.051	0.00050	mg/L	0.05000		101	85-115			
Cadmium	0.051	0.00025	mg/L	0.05000		101	85-115			
Copper	0.051	0.00050	mg/L	0.05000		101	85-115			
Lead	0.049	0.00050	mg/L	0.05000		97	85-115			
Zinc	0.10	0.040	mg/L	0.1000		105	85-115			
LCS Dup (1909053-BSD1) Prepared & Analyzed: 09/06/2019										
Arsenic	0.049	0.00050	mg/L	0.05000		99	85-115	2	20	
Cadmium	0.051	0.00025	mg/L	0.05000		102	85-115	0.3	20	
Copper	0.050	0.00050	mg/L	0.05000		99	85-115	2	20	
Lead	0.050	0.00050	mg/L	0.05000		100	85-115	3	20	
Zinc	0.10	0.040	mg/L	0.1000		104	85-115	1	20	
Matrix Spike (1909053-MS1) Source: 1910118-01 Prepared & Analyzed: 09/06/2019										
Arsenic	0.062	0.00050	mg/L	0.05000	0.0083	108	70-130			
Cadmium	0.050	0.00025	mg/L	0.05000	ND	100	70-130			
Copper	0.052	0.00050	mg/L	0.05000	0.0042	95	70-130			
Lead	0.048	0.00050	mg/L	0.05000	0.00013	97	70-130			
Zinc	0.10	0.040	mg/L	0.1000	ND	103	70-130			

Outfall 1 (Trench) Stormwater

LABORATORY

Analyte	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Zinc	X	X	
Major Cations			
Hardness	X	X	

FIELD MEASUREMENTS

pH
Specific conductance
Temperature
Turbidity
Flow
Appearance



August 29, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19H0361

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 2 sample(s) on 08/13/2019 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.

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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: 19H0361
Date Received: 08/13/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19H0361-01	Outfall#1-081219-910	Storm Water	08/12/2019 0910
19H0361-02	Outfall#2-081219-820	Storm Water	08/12/2019 0820

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0361
Date Received: 08/13/2019

Case Narrative

This report has been revised to correct the sampling date for sample -02.

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: 19H0361
Lab Sample ID: 19H0361-01

Client Sample ID: Outfall#1-081219-910
Collection Date/Time: 08/12/2019 0910
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	860		22		mg/L	1	08/21/2019 1640	08/22/2019 1242	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	840				mg/L	1	08/21/2019 1115	08/22/2019 1446	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	200		4.0		mg/L	1	08/21/2019 1640	08/22/2019 1242	MH
Magnesium	90		3.0		mg/L	1	08/21/2019 1640	08/22/2019 1242	MH
Zinc	ND		0.040		mg/L	1	08/21/2019 1640	08/22/2019 1243	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0057		0.00050		mg/L	1	08/21/2019 1640	08/22/2019 1640	MH
Cadmium	0.00085		0.00025		mg/L	1	08/21/2019 1640	08/22/2019 1640	MH
Copper	0.0051		0.00050		mg/L	1	08/21/2019 1640	08/22/2019 1640	MH
Lead	ND		0.00050		mg/L	1	08/21/2019 1640	08/22/2019 1640	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	190		4.0		mg/L	1	08/21/2019 1115	08/22/2019 1446	MH
Magnesium	88		3.0		mg/L	1	08/21/2019 1115	08/22/2019 1446	MH
Zinc	0.22		0.040		mg/L	1	08/21/2019 1115	08/22/2019 1447	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.011		0.00050		mg/L	1	08/19/2019 1010	08/20/2019 1613	MH
Cadmium	0.0011		0.00025		mg/L	1	08/19/2019 1010	08/20/2019 1613	MH
Copper	0.025		0.00050		mg/L	1	08/19/2019 1010	08/20/2019 1613	MH
Lead	0.044		0.00050		mg/L	1	08/19/2019 1010	08/20/2019 1613	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0361
Lab Sample ID: 19H0361-02

Client Sample ID: Outfall#2-081219-820
Collection Date/Time: 08/12/2019 0820
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness, Dissolved-[CALC]									
Hardness, Calcium/Magnesium (As CaCO3) Dissolved	940		22		mg/L	1	08/21/2019 1640	08/22/2019 1246	MH
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	1200				mg/L	1	08/21/2019 1115	08/22/2019 1450	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Calcium	260		4.0		mg/L	1	08/21/2019 1640	08/22/2019 1246	MH
Magnesium	74		3.0		mg/L	1	08/21/2019 1640	08/22/2019 1246	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.0087		0.0025		mg/L	5	08/21/2019 1640	08/22/2019 1645	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	290		4.0		mg/L	1	08/21/2019 1115	08/22/2019 1450	MH
Magnesium	100		3.0		mg/L	1	08/21/2019 1115	08/22/2019 1450	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.15		0.0025		mg/L	5	08/19/2019 1010	08/20/2019 1618	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0361
Date Received: 08/13/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 1908243 - E200.8 (5.4)										
Blank (1908243-BLK1) Prepared: 08/19/2019 Analyzed: 08/20/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (1908243-BS1) Prepared: 08/19/2019 Analyzed: 08/20/2019										
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115			
Cadmium	0.048	0.00025	mg/L	0.05000		96	85-115			
Copper	0.048	0.00050	mg/L	0.05000		95	85-115			
Lead	0.046	0.00050	mg/L	0.05000		92	85-115			
LCS Dup (1908243-BSD1) Prepared: 08/19/2019 Analyzed: 08/20/2019										
Arsenic	0.051	0.00050	mg/L	0.05000		101	85-115	3	20	
Cadmium	0.050	0.00025	mg/L	0.05000		99	85-115	3	20	
Copper	0.051	0.00050	mg/L	0.05000		101	85-115	6	20	
Lead	0.049	0.00050	mg/L	0.05000		97	85-115	5	20	
Matrix Spike (1908243-MS1) Source: 19H0359-01 Prepared: 08/19/2019 Analyzed: 08/20/2019										
Arsenic	0.13	0.00050	mg/L	0.05000	0.075	115	70-130			
Cadmium	0.043	0.00025	mg/L	0.05000	0.00025	85	70-130			
Copper	0.049	0.00050	mg/L	0.05000	0.0095	79	70-130			
Lead	0.068	0.00050	mg/L	0.05000	0.016	104	70-130			
Matrix Spike (1908243-MS2) Source: 19H0399-01 Prepared: 08/19/2019 Analyzed: 08/20/2019										
Arsenic	0.055	0.00050	mg/L	0.05000	0.0070	96	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	ND	97	70-130			
Copper	0.066	0.00050	mg/L	0.05000	0.020	92	70-130			
Lead	0.058	0.00050	mg/L	0.05000	0.010	96	70-130			
Batch 1908273 - E 200.8 (5.4)										
Blank (1908273-BLK1) Prepared & Analyzed: 08/22/2019										
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (1908273-BS1) Prepared & Analyzed: 08/22/2019										
Arsenic	0.048	0.00050	mg/L	0.05000		96	85-115			
Cadmium	0.047	0.00025	mg/L	0.05000		94	85-115			
Copper	0.048	0.00050	mg/L	0.05000		97	85-115			
Lead	0.048	0.00050	mg/L	0.05000		95	85-115			
LCS Dup (1908273-BSD1) Prepared & Analyzed: 08/22/2019										
Arsenic	0.048	0.00050	mg/L	0.05000		96	85-115	0.2	20	
Cadmium	0.047	0.00025	mg/L	0.05000		94	85-115	0.2	20	
Copper	0.049	0.00050	mg/L	0.05000		99	85-115	2	20	
Lead	0.047	0.00050	mg/L	0.05000		95	85-115	0.4	20	

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0361
Date Received: 08/13/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908273 - E 200.8 (5.4)										
Matrix Spike (1908273-MS1)		Source: 19H0495-01			Prepared & Analyzed: 08/22/2019					
Arsenic	0.11	0.00050	mg/L	0.05000	0.049	122	70-130			
Cadmium	0.043	0.00025	mg/L	0.05000	0.000095	86	70-130			
Copper	0.046	0.00050	mg/L	0.05000	0.00080	91	70-130			
Lead	0.046	0.0025	mg/L	0.05000	ND	93	70-130			
Batch 1908274 - E 200.7 (4.4)										
Blank (1908274-BLK1)		Prepared & Analyzed: 08/22/2019								
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1908274-BS1)		Prepared & Analyzed: 08/22/2019								
Calcium	9.9	4.0	mg/L	10.00		99	85-115			
Magnesium	9.8	3.0	mg/L	10.00		98	85-115			
Zinc	0.49	0.040	mg/L	0.5000		98	85-115			
LCS Dup (1908274-BSD1)		Prepared & Analyzed: 08/22/2019								
Calcium	11	4.0	mg/L	10.00		115	85-115	15	20	
Magnesium	11	3.0	mg/L	10.00		113	85-115	14	20	
Zinc	0.48	0.040	mg/L	0.5000		97	85-115	1	20	
Matrix Spike (1908274-MS1)		Source: 19H0495-01			Prepared & Analyzed: 08/22/2019					
Calcium	370	4.0	mg/L	10.00	440	NR	70-130			M3
Magnesium	230	3.0	mg/L	10.00	270	NR	70-130			M3
Zinc	0.50	0.040	mg/L	0.5000	ND	101	70-130			
Batch 1908282 - E200.7 (4.4)										
Blank (1908282-BLK1)		Prepared: 08/21/2019 Analyzed: 08/22/2019								
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (1908282-BS1)		Prepared: 08/21/2019 Analyzed: 08/22/2019								
Calcium	10	4.0	mg/L	10.00		104	85-115			
Magnesium	10	3.0	mg/L	10.00		102	85-115			
Zinc	0.51	0.040	mg/L	0.5000		101	85-115			
LCS Dup (1908282-BSD1)		Prepared: 08/21/2019 Analyzed: 08/22/2019								
Calcium	10	4.0	mg/L	10.00		103	85-115	0.8	20	
Magnesium	10	3.0	mg/L	10.00		103	85-115	0.5	20	
Zinc	0.51	0.040	mg/L	0.5000		102	85-115	0.9	20	
Matrix Spike (1908282-MS1)		Source: 19H0300-01			Prepared: 08/21/2019 Analyzed: 08/22/2019					
Calcium	39	4.0	mg/L	10.00	31	85	70-130			
Magnesium	13	3.0	mg/L	10.00	3.8	89	70-130			
Zinc	0.78	0.040	mg/L	0.5000	0.36	84	70-130			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19H0361
Date Received: 08/13/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1908282 - E200.7 (4.4)										
Matrix Spike (1908282-MS2)		Source: 19H0304-01			Prepared: 08/21/2019 Analyzed: 08/22/2019					
Calcium	130	4.0	mg/L	10.00	130	54	70-130			M3
Magnesium	35	3.0	mg/L	10.00	27	81	70-130			
Zinc	0.46	0.040	mg/L	0.5000	0.029	87	70-130			



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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 1940361 DATE _____ PAGE _____ OF _____

PROJECT NAME _____ # _____
 CONTACT NAME Sarah Richman, Sheera Leon
 COMPANY NAME South 32
 ADDRESS 2210 East Fort Lowell Road
 CITY Tucson STATE AZ ZIP CODE 85719
 PHONE _____ FAX _____
 SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX															
See Attached																

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX*		
<u>Wt Fall #1-081217-910</u>	<u>8/12/19</u>	<u>9:10</u>		<u>ST</u>	<u>2</u>	<input checked="" type="checkbox"/>
<u>Wt Fall #2-081219-820</u>	<u>8/12/19</u>	<u>8:20</u>		<u>ST</u>	<u>2</u>	<input checked="" type="checkbox"/>

1. RELINQUISHED BY:
 Signature [Signature]
 Printed Name Luis Logros
 Firm South 32
 Date/Time 8/12/19 1:25

2. RECEIVED BY:
 Signature [Signature]
 Printed Name Steven Metz
 Firm W W
 Date/Time 12-13-19 4:00

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)*
 Next day ___ 2 Day ___ 5 Day ___
 Email Preliminary Results To: _____
 * Working Days

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: _____

SAMPLE RECEIPT:
 Total Containers 4
 Temperature 3-5
 Wet Ice Blue Ice

3. RELINQUISHED BY:
 Signature [Signature]
 Printed Name Steven Metz
 Firm W W
 Date/Time 12-13-19 12:50

4. RECEIVED BY:
 Signature [Signature]
 Printed Name Joseph Chato
 Firm TURNER LABORATORIES, INC.
 Date/Time 12/13/19 12:50

*LEGEND
 DW = DRINKING WATER
 GW = GROUNDWATER
 SD = SOLID
 SG = SLUDGE
 SL = SOIL
 ST = STORMWATER
 WW = WASTEWATER

SPECIAL INSTRUCTIONS/COMMENTS:
 Compliance Analysis: Yes No
 Custody Seals
 ADEQ Forms: Yes No
 Container Intact
 Mail ADEQ Forms: Yes No
 COC/Labels Agree
 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	
Zinc	X	X	
Major Cations			
Hardness	X	X	

FIELD MEASUREMENTS	
	pH
	Specific conductance
	Temperature
	Turbidity
	Flow
	Appearance

Outfall 2 (Trench) and Outfall 3 (Alta) Stormwater

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X		
Major Cations			
Hardness	X		

FIELD MEASUREMENTS	
	pH
	Specific conductance
	Temperature
	Turbidity
	Flow
	Appearance



October 08, 2019

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 19I0666

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 1 sample(s) on 09/26/2019 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: 19I0666
Date Received: 09/26/2019

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
19I0666-01	Outfall #3 092519-1200	Storm Water	09/25/2019 1200

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19I0666
Date Received: 09/26/2019

Case Narrative

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.

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: 19I0666
Lab Sample ID: 19I0666-01

Client Sample ID: Outfall #3 092519-1200
Collection Date/Time: 09/25/2019 1200
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	71				mg/L	1	10/01/2019 0930	10/07/2019 1350	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.0056		0.00050		mg/L	1	09/30/2019 0915	10/04/2019 1701	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	15		4.0		mg/L	1	10/01/2019 0930	10/07/2019 1350	MH
Magnesium	8.1		3.0		mg/L	1	10/01/2019 0930	10/07/2019 1350	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.027		0.00050		mg/L	1	09/30/2019 1025	10/02/2019 1931	MH
Specific Conductance-SM2510 B									
Conductivity	210		0.10		µmhos/cm	1	09/27/2019 1600	09/27/2019 1630	CR
pH-SM4500-H+ B									
pH (pH Units)	7.2			H5	-	1	09/26/2019 1611	09/26/2019 1616	CR
Temperature (°C)	20			H5	-	1	09/26/2019 1611	09/26/2019 1616	CR

Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 19I0666
 Date Received: 09/26/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1909365 - E 200.8 (5.4)										
Blank (1909365-BLK1)				Prepared & Analyzed: 10/04/2019						
Copper	ND	0.00050	mg/L							
LCS (1909365-BS1)				Prepared & Analyzed: 10/04/2019						
Copper	0.048	0.00050	mg/L	0.05000		97	85-115			
LCS Dup (1909365-BSD1)				Prepared & Analyzed: 10/04/2019						
Copper	0.048	0.00050	mg/L	0.05000		96	85-115	0.9	20	
Matrix Spike (1909365-MS1)				Source: 19I0638-01		Prepared & Analyzed: 10/04/2019				
Copper	0.052	0.00050	mg/L	0.05000	0.0060	91	70-130			
Batch 1910014 - E200.8 (5.4)										
Blank (1910014-BLK1)				Prepared: 09/30/2019 Analyzed: 10/02/2019						
Copper	ND	0.00050	mg/L							
LCS (1910014-BS1)				Prepared: 09/30/2019 Analyzed: 10/02/2019						
Copper	0.049	0.00050	mg/L	0.05000		97	85-115			
LCS Dup (1910014-BSD1)				Prepared: 09/30/2019 Analyzed: 10/02/2019						
Copper	0.046	0.00050	mg/L	0.05000		92	85-115	5	20	
Matrix Spike (1910014-MS1)				Source: 19I0371-04		Prepared: 09/30/2019 Analyzed: 10/02/2019				
Copper	0.051	0.00050	mg/L	0.05000	0.0083	86	70-130			
Matrix Spike (1910014-MS2)				Source: 19I0657-07		Prepared: 09/30/2019 Analyzed: 10/02/2019				
Copper	0.076	0.00050	mg/L	0.05000	0.033	85	70-130			
Batch 1910016 - E200.7 (4.4)										
Blank (1910016-BLK1)				Prepared: 10/01/2019 Analyzed: 10/07/2019						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (1910016-BS1)				Prepared: 10/01/2019 Analyzed: 10/07/2019						
Calcium	9.7	4.0	mg/L	10.00		97	85-115			
Magnesium	9.6	3.0	mg/L	10.00		96	85-115			
LCS Dup (1910016-BSD1)				Prepared: 10/01/2019 Analyzed: 10/07/2019						
Calcium	9.7	4.0	mg/L	10.00		97	85-115	0.7	20	
Magnesium	9.6	3.0	mg/L	10.00		96	85-115	0.4	20	
Matrix Spike (1910016-MS1)				Source: 19I0560-01		Prepared: 10/01/2019 Analyzed: 10/07/2019				
Calcium	9.8	4.0	mg/L	10.00	0.13	97	70-130			
Magnesium	9.5	3.0	mg/L	10.00	ND	95	70-130			
Matrix Spike (1910016-MS2)				Source: 19I0642-01		Prepared: 10/01/2019 Analyzed: 10/07/2019				
Calcium	100	4.0	mg/L	10.00	98	59	70-130			M3
Magnesium	38	3.0	mg/L	10.00	29	91	70-130			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 19I0666
Date Received: 09/26/2019

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 1909327 - SM4500-H+ B										
Duplicate (1909327-DUP1)		Source: 19I0663-01			Prepared & Analyzed: 09/26/2019					
pH (pH Units)	8.2		-		8.2			0.5	200	H5
Temperature (°C)	19		-		19			2	200	H5
Batch 1909348 - SM2510 B										
LCS (1909348-BS1)		Prepared & Analyzed: 09/27/2019								
Conductivity	150	0.10	µmhos/cm	141.2		106	0-200			
LCS Dup (1909348-BSD1)		Prepared & Analyzed: 09/27/2019								
Conductivity	150	0.10	µmhos/cm	141.2		105	0-200	1	200	
Duplicate (1909348-DUP1)		Source: 19I0633-02			Prepared & Analyzed: 09/27/2019					
Conductivity	350	0.10	µmhos/cm		350			0.3	10	
Duplicate (1909348-DUP2)		Source: 19I0663-01			Prepared & Analyzed: 09/27/2019					
Conductivity	1100	0.10	µmhos/cm		1100			0.5	10	



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 Fax: (520) 882-9788
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

TURNER WORK ORDER # 19T0666 DATE 9/26/19 PAGE 1 OF 1

PROJECT NAME _____ # _____

CONTACT NAME Sarah Richman, Sheera Leon

COMPANY NAME South 32

ADDRESS 2210 East Fort Lowell Road

CITY Tucson STATE AZ ZIP CODE 85719

PHONE _____ FAX _____

SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX											
See Attached												
2	<input checked="" type="checkbox"/>											

SAMPLE I.D.	DATE	TIME	LAB I.D.	AMPLE MAT
<u>Outfall #3-092519-1200</u>	<u>9-25-19</u>	<u>12:00</u>		<u>ST</u>

1. RELINQUISHED BY:
 Signature [Signature]
 Printed Name Luis Lagunas
 Firm South 32
 Date/Time 9-25-19 1:56

2. RECEIVED BY:
 Signature _____
 Printed Name wild west
 Firm _____
 Date/Time _____

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: _____

SAMPLE RECEIPT:
 Total Containers 2
 Temperature 9.7
 Wet Ice Blue Ice

3. RELINQUISHED BY:
 Signature _____
 Printed Name wild west
 Firm _____
 Date/Time _____

4. RECEIVED BY:
 Signature [Signature]
 Printed Name _____
 Firm TURNER LABORATORIES, INC.
 Date/Time 9/26/19 12:00

*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 2 (Trench) and Outfall 3 (Alta) Stormwater

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X	X	
Major Cations			
Hardness	X		
Other Parameters			
pH	X		
Specific Conductivity	X		

FIELD MEASUREMENTS	
	pH
	Specific conductance
	Temperature
	Turbidity
	Flow
	Appearance



January 31, 2020

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 20A0528

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 2 sample(s) on 01/22/2020 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: 20A0528
Date Received: 01/22/2020

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
20A0528-01	Outfall 1	Storm Water	01/21/2020 1040
20A0528-02	Outfall 2	Storm Water	01/21/2020 1115

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Date Received: 01/22/2020

Case Narrative

- B1 Target analyte detected in the method blank at or above the method reporting limit.
 - B7 Target analyte detected in method blank at or above the method reporting limit. Concentration found in the sample was 10 times above the concentration found in the method blank.
 - 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

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Lab Sample ID: 20A0528-01

Client Sample ID: Outfall 1
Collection Date/Time: 01/21/2020 1040
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	250				mg/L	1	01/27/2020 0930	01/28/2020 0919	MH
ICP Dissolved Metals-E 200.7 (4.4)									
Zinc	ND		0.040		mg/L	1	01/24/2020 1100	01/28/2020 1710	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	0.0016		0.00050		mg/L	1	01/24/2020 1100	01/28/2020 1428	MH
Cadmium	0.00031		0.00025		mg/L	1	01/24/2020 1100	01/28/2020 1428	MH
Copper	0.0018		0.00050		mg/L	1	01/24/2020 1100	01/28/2020 1428	MH
Lead	ND		0.00050		mg/L	1	01/24/2020 1100	01/28/2020 1428	MH
ICP Total Metals-E200.7 (4.4)									
Arsenic	ND		0.040		mg/L	1	01/27/2020 0930	01/28/2020 0920	MH
Cadmium	ND		0.0020		mg/L	1	01/27/2020 0930	01/28/2020 0920	MH
Calcium	58		4.0		mg/L	1	01/27/2020 0930	01/28/2020 0919	MH
Lead	ND		0.040		mg/L	1	01/27/2020 0930	01/28/2020 0920	MH
Magnesium	25		3.0		mg/L	1	01/27/2020 0930	01/28/2020 0919	MH
Zinc	0.045		0.040		mg/L	1	01/27/2020 0930	01/28/2020 0920	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.0051		0.0010	B7	mg/L	2	01/29/2020 1100	01/30/2020 1217	MH

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Lab Sample ID: 20A0528-02

Client Sample ID: Outfall 2
Collection Date/Time: 01/21/2020 1115
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	2100				mg/L	1	01/27/2020 0930	01/28/2020 0923	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.0037		0.00050		mg/L	1	01/24/2020 1100	01/28/2020 1828	MH
ICP Total Metals-E200.7 (4.4)									
Calcium	370		4.0		mg/L	1	01/27/2020 0930	01/28/2020 0923	MH
Magnesium	280		3.0		mg/L	1	01/27/2020 0930	01/28/2020 0923	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.023		0.0025	B7	mg/L	5	01/29/2020 1100	01/30/2020 1222	MH
Specific Conductance-SM2510 B									
Conductivity	4400		0.50		µmhos/cm	5	01/31/2020 1053	01/31/2020 1148	EJ
pH-SM4500-H+ B									
pH (pH Units)	7.2			H5	-	1	01/30/2020 1359	01/30/2020 1417	EJ
Temperature (°C)	25			H5	-	1	01/30/2020 1359	01/30/2020 1417	EJ

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Date Received: 01/22/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2001181 - E 200.7 (4.4)										
Blank (2001181-BLK1)				Prepared & Analyzed: 01/28/2020						
Zinc	ND	0.040	mg/L							
LCS (2001181-BS1)				Prepared & Analyzed: 01/28/2020						
Zinc	0.44	0.040	mg/L	0.5000		89	85-115			
LCS Dup (2001181-BSD1)				Prepared & Analyzed: 01/28/2020						
Zinc	0.45	0.040	mg/L	0.5000		90	85-115	2	20	
Matrix Spike (2001181-MS1)				Source: 20A0433-01		Prepared & Analyzed: 01/28/2020				
Zinc	0.47	0.040	mg/L	0.5000	ND	94	70-130			
Batch 2001289 - E 200.8 (5.4)										
Blank (2001289-BLK1)				Prepared: 01/24/2020 Analyzed: 01/28/2020						
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	ND	0.00050	mg/L							
Lead	ND	0.00050	mg/L							
LCS (2001289-BS1)				Prepared: 01/24/2020 Analyzed: 01/28/2020						
Arsenic	0.048	0.00050	mg/L	0.05000		95	85-115			
Cadmium	0.047	0.00025	mg/L	0.05000		94	85-115			
Copper	0.048	0.00050	mg/L	0.05000		97	85-115			
Lead	0.046	0.00050	mg/L	0.05000		92	85-115			
LCS Dup (2001289-BSD1)				Prepared: 01/24/2020 Analyzed: 01/28/2020						
Arsenic	0.047	0.00050	mg/L	0.05000		94	85-115	1	20	
Cadmium	0.047	0.00025	mg/L	0.05000		95	85-115	1	20	
Copper	0.048	0.00050	mg/L	0.05000		96	85-115	0.7	20	
Lead	0.047	0.00050	mg/L	0.05000		93	85-115	1	20	
Matrix Spike (2001289-MS1)				Source: 20A0528-01		Prepared: 01/24/2020 Analyzed: 01/28/2020				
Arsenic	0.049	0.00050	mg/L	0.05000	0.0016	94	70-130			
Cadmium	0.044	0.00025	mg/L	0.05000	0.00031	88	70-130			
Copper	0.043	0.00050	mg/L	0.05000	0.0018	82	70-130			
Lead	0.046	0.00050	mg/L	0.05000	0.00024	91	70-130			
Matrix Spike (2001289-MS2)				Source: 20A0454-01		Prepared: 01/24/2020 Analyzed: 01/28/2020				
Arsenic	0.052	0.0010	mg/L	0.05000	0.00082	102	70-130			
Cadmium	0.053	0.00025	mg/L	0.05000	0.0011	103	70-130			
Copper	0.047	0.0010	mg/L	0.05000	0.0020	91	70-130			
Lead	0.053	0.00050	mg/L	0.05000	0.00010	106	70-130			
Batch 2001301 - E200.7 (4.4)										

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Date Received: 01/22/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2001301 - E200.7 (4.4)										
Blank (2001301-BLK1) Prepared & Analyzed: 01/27/2020										
Arsenic	ND	0.040	mg/L							
Cadmium	ND	0.0020	mg/L							
Calcium	ND	4.0	mg/L							
Lead	ND	0.040	mg/L							
Magnesium	ND	3.0	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2001301-BS1) Prepared & Analyzed: 01/27/2020										
Arsenic	2.03	0.040	mg/L	2.000		102	85-115			
Cadmium	0.050	0.0020	mg/L	0.05000		100	85-115			
Calcium	9.8	4.0	mg/L	10.00		98	85-115			
Lead	0.49	0.040	mg/L	0.5000		99	85-115			
Magnesium	9.7	3.0	mg/L	10.00		97	85-115			
Zinc	0.50	0.040	mg/L	0.5000		99	85-115			
LCS Dup (2001301-BSD1) Prepared & Analyzed: 01/27/2020										
Arsenic	2.08	0.040	mg/L	2.000		104	85-115	2	20	
Cadmium	0.051	0.0020	mg/L	0.05000		102	85-115	2	20	
Calcium	10	4.0	mg/L	10.00		100	85-115	2	20	
Lead	0.50	0.040	mg/L	0.5000		101	85-115	2	20	
Magnesium	10	3.0	mg/L	10.00		100	85-115	3	20	
Zinc	0.50	0.040	mg/L	0.5000		101	85-115	2	20	
Matrix Spike (2001301-MS1) Source: 20A0248-01 Prepared & Analyzed: 01/27/2020										
Arsenic	2.16	0.040	mg/L	2.000	0.0249	107	70-130			
Cadmium	0.049	0.0020	mg/L	0.05000	ND	97	70-130			
Calcium	93	4.0	mg/L	10.00		82	70-130			
Lead	0.53	0.040	mg/L	0.5000	ND	107	70-130			
Magnesium	20	3.0	mg/L	10.00	10	100	70-130			
Zinc	0.72	0.040	mg/L	0.5000	0.21	103	70-130			
Matrix Spike (2001301-MS2) Source: 20A0251-01 Prepared: 01/27/2020 Analyzed: 01/28/2020										
Arsenic	2.00	0.040	mg/L	2.000	0.0242	99	70-130			
Cadmium	0.044	0.0020	mg/L	0.05000	ND	88	70-130			
Calcium	100	4.0	mg/L	10.00	90	96	70-130			
Lead	0.48	0.040	mg/L	0.5000	ND	97	70-130			
Magnesium	20	3.0	mg/L	10.00	11	96	70-130			
Zinc	0.74	0.040	mg/L	0.5000	0.26	96	70-130			
Batch 2001331 - E200.8 (5.4)										
Blank (2001331-BLK1) Prepared & Analyzed: 01/29/2020										
Copper	0.00067	0.00050	mg/L							B1
LCS (2001331-BS1) Prepared & Analyzed: 01/29/2020										
Copper	0.050	0.00050	mg/L	0.05000		100	85-115			
LCS Dup (2001331-BSD1) Prepared & Analyzed: 01/29/2020										
Copper	0.052	0.00050	mg/L	0.05000		104	85-115	4	20	

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Date Received: 01/22/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2001331 - E200.8 (5.4)										
Matrix Spike (2001331-MS1)		Source: 20A0504-02			Prepared & Analyzed: 01/29/2020					
Copper	0.066	0.00050	mg/L	0.05000	0.012	108	70-130			

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20A0528
Date Received: 01/22/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2001354 - SM4500-H+ B										
Duplicate (2001354-DUP1)		Source: 20A0632-01			Prepared & Analyzed: 01/30/2020					
pH (pH Units)	7.9		-		7.9			0	200	H5
Temperature (°C)	23		-		22			1	200	H5
Batch 2001367 - SM2510 B										
LCS (2001367-BS1)		Prepared & Analyzed: 01/31/2020								
Conductivity	150	0.10	µmhos/cm	141.2		103	0-200			
LCS Dup (2001367-BSD1)		Prepared & Analyzed: 01/31/2020								
Conductivity	150	0.10	µmhos/cm	141.2		103	0-200	0	200	
Duplicate (2001367-DUP1)		Source: 20A0493-01			Prepared & Analyzed: 01/31/2020					
Conductivity	2000	0.50	µmhos/cm		2000			1	10	
Duplicate (2001367-DUP2)		Source: 20A0518-05			Prepared & Analyzed: 01/31/2020					
Conductivity	2000	0.50	µmhos/cm		2000			1	10	



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

TURNER WORK ORDER # 20AD0524 DATE 1/22 PAGE 1 OF 1

PROJECT NAME _____ # _____
 CONTACT NAME Sarah Richman & Sheena Leon
 COMPANY NAME South 32
 ADDRESS 2210 E Fort Lowell
 CITY Tucson STATE AZ ZIP CODE 85719
 PHONE _____ FAX _____
 SAMPLER'S SIGNATURE [Signature]

NUMBER OF CONTAINERS	CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX												
2	✓	See attached											
2													

SAMPLE I.D.	DATE	TIME	LAB I.D.	AMPLE MAT
<u>Outfall 1</u>	<u>1/21/20</u>	<u>10:40</u>		<u>Water</u>
<u>Outfall 2</u>	<u>1/21/20</u>	<u>11:15</u>		<u>Water</u>

1. RELINQUISHED BY:
[Signature]
 Signature
Lidia Mortensen
 Printed Name
South 32
 Firm
1/22/20 8:20
 Date/Time

2. RECEIVED BY:
[Signature]
 Signature
Jessica
 Printed Name
 Firm
1/22 820
 Date/Time

TURNAROUND REQUIREMENTS:
 Standard (approx. 10 days)*
 Next day ___ 2 Day
 ___ 5 Day*
 Email Preliminary Results
 For South 32

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: _____

SAMPLE RECEIPT:
 Total Containers 2
 Temperature 1.6
 Wet Ice Blue Ice

3. RELINQUISHED BY:
[Signature]
 Signature
Jessica
 Printed Name
 Firm
1/22 1205
 Date/Time

4. RECEIVED BY:
[Signature]
 Signature
Casper Blake
 Printed Name
 TURNER LABORATORIES, INC.
 Firm
1/22 1205
 Date/Time

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

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

4/3

Outfall 1 (Trench) Stormwater

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Arsenic	X	X	
Cadmium	X	X	
Copper	X	X	
Lead	X	X	
Zinc	X	X	
Major Cations			
Hardness	X		

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

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

Outfall 2 (Trench) and Outfall 3 (Alta) Stormwater

LABORATORY			
Analyte	Total	Dissolved	Other
Metals			
Copper	X		
Major Cations			
Hardness		X	
Other Parameters			
pH	X		
Specific Conductivity	X		

FIELD MEASUREMENTS
pH
Specific conductance
Temperature
Turbidity
Flow
Appearance

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

Field Staff Lydia Mortensen

STORMWATER SAMPLE FORM

Company South 32

Notes _____

Weather Rainy

Rainfall (inches) _____

Sample Location	Sample ID	Flow (gpm)	Sample Date	Time Sampled	Temp °C	pH	Specific Conductivity (µs/cm)	Turbidity (NTU)	Appearance of Water (color, odor, etc) or other notes
Outfall 1		2	1/21/20	10:40	13.9	7.05	354.5	11.2	Clear light Brown
Outfall 2		2	1/21/20	10:40 11:15	13.3	6.99	357.2	151	

Sample Laboratory Information

Container Volume	No of Containers	Filtered Y/N	Preservative	Lab Analysis	Water Quality Meter
250 ml	2	n	HNO3	metals hardness TSS	Meter: pH: <u>YSI Pro</u> Turbidity: <u>Exotech</u> Calibration Date: <u>1/21/20</u>
250 ml	2	n	non		
250 ml	2	n	non		

Dissolved Metals - Filter (0.45 micron filter) prior to placing into 250 ml container with nitric acid preservative.
 Total Metals - 250 ml container with nitric acid preservative.
 TSS, Hardness (Calcium, Magnesium) - 250 ml container with NO preservative.



April 27, 2020

Sarah Richman
Arizona Minerals Inc.
2210 E. Fort Lowell Rd
Tucson, AZ 85719

TEL (805) 617-9300
FAX

Work Order No.: 20C0501

RE: Storm Water

Dear Sarah Richman,

Turner Laboratories, Inc. received 2 sample(s) on 03/19/2020 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: 20C0501
Date Received: 03/19/2020

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date/Time
20C0501-01	OutFall # 1 - 3192020	Storm Water	03/19/2020 0935
20C0501-02	OutFall # 2 - 3192020	Storm Water	03/19/2020 0945

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Date Received: 03/19/2020

Case Narrative

This report has been revised to report a correct result for 20C0501-01 for Dissolved Copper. It is thought that there may have been cross-contamination during the filtration process due to a previously filtered sample that contained high amounts of compound.

This report has been revised to report re-analyses for Dissolved and Total Copper and Zinc.

- B7 Target analyte detected in method blank at or above the method reporting limit. Concentration found in the sample was 10 times above the concentration found in the method blank.
 - D1 Sample required dilution due to matrix.
 - D5 Minimum Reporting Limit (MRL) is adjusted due to sample dilution; analyte was non-detect in the sample.
 - H4 Sample was extracted past required holding time, but analyzed within analysis 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.
 - 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

Turner Laboratories, Inc.

Date: 04/27/2020

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Lab Sample ID: 20C0501-01

Client Sample ID: OutFall # 1 - 3192020
Collection Date/Time: 03/19/2020 0935
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	1900				mg/L	2	03/20/2020 0935	03/29/2020 1150	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Arsenic	ND		0.0050	D5	mg/L	10	03/31/2020 0845	03/31/2020 1142	MH
Cadmium	ND		0.0025	D5	mg/L	10	03/31/2020 0845	03/31/2020 1142	MH
Copper	0.012		0.0050	H4	mg/L	10	04/21/2020 0835	04/22/2020 1717	MH
Lead	ND		0.0050	D5	mg/L	10	03/31/2020 0845	03/31/2020 1142	MH
Silver	ND		0.0050	D5	mg/L	10	03/31/2020 0845	03/31/2020 1142	MH
Zinc	2.5		0.40		mg/L	10	03/31/2020 0845	04/22/2020 1717	MH
pH-E150.1									
pH (pH Units)	6.1			H5	-	1	03/24/2020 1435	03/24/2020 1453	CR
Temperature (°C)	25			H5	-	1	03/24/2020 1435	03/24/2020 1453	CR
ICP Total Metals-E200.7 (4.4)									
Calcium	420		8.0		mg/L	2	03/20/2020 0935	03/29/2020 1150	MH
Magnesium	210		6.0		mg/L	2	03/20/2020 0935	03/29/2020 1150	MH
ICP/MS Total Metals-E200.8 (5.4)									
Arsenic	0.11		0.0050		mg/L	10	03/30/2020 1050	03/31/2020 1806	MH
Cadmium	ND		0.0025	D5	mg/L	10	03/30/2020 1050	03/31/2020 1806	MH
Copper	0.0064		0.0050		mg/L	10	03/30/2020 1050	04/24/2020 1131	MH
Lead	0.0061		0.0050		mg/L	10	03/30/2020 1050	03/31/2020 1806	MH
Silver	ND		0.0050	D5	mg/L	10	03/30/2020 1050	03/31/2020 1806	MH
Zinc	3.7		0.40		mg/L	10	04/24/2020 0900	04/24/2020 1814	MH
Specific Conductance-SM2510 B									
Conductivity	7600		5.0		µmhos/cm	50	03/25/2020 1120	03/25/2020 1220	CR
Cyanide-SM4500-CN BE									
Cyanide	ND		1.0	D1	mg/L	10	03/24/2020 0800	03/25/2020 1500	EJ

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Lab Sample ID: 20C0501-01

Client Sample ID: OutFall # 1 - 3192020
Collection Date/Time: 03/19/2020 0935
Matrix: Storm 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: 20C0501
Lab Sample ID: 20C0501-02

Client Sample ID: OutFall # 2 - 3192020
Collection Date/Time: 03/19/2020 0945
Matrix: Storm Water

Analyses	Result	MDL	PQL	Qual	Units	DF	Prep Date	Analysis Date	Analyst
Hardness-Calculation									
Hardness, Calcium/Magnesium (As CaCO3)	1500				mg/L	1	03/20/2020 1140	03/23/2020 1130	MH
ICP/MS Dissolved Metals-E 200.8 (5.4)									
Copper	0.039	0.0050			mg/L	10	03/31/2020 0845	03/31/2020 1135	MH
Lead	ND	0.0050	D5		mg/L	10	03/31/2020 0845	03/31/2020 1135	MH
Silver	ND	0.0050	D5		mg/L	10	03/31/2020 0845	03/31/2020 1135	MH
Zinc	0.12	0.040			mg/L	1	03/31/2020 0845	03/31/2020 1317	MH
pH-E150.1									
pH (pH Units)	7.6			H5	-	1	03/24/2020 1435	03/24/2020 1443	CR
Temperature (°C)	22			H5	-	1	03/24/2020 1435	03/24/2020 1443	CR
ICP Total Metals-E200.7 (4.4)									
Calcium	330		4.0		mg/L	1	03/20/2020 1140	03/23/2020 1130	MH
Magnesium	170		3.0		mg/L	1	03/20/2020 1140	03/23/2020 1130	MH
ICP/MS Total Metals-E200.8 (5.4)									
Copper	0.084	0.0050	B7		mg/L	10	03/30/2020 1050	03/31/2020 1811	MH
Lead	0.18	0.0050			mg/L	10	03/30/2020 1050	03/31/2020 1811	MH
Silver	ND	0.0050	D5		mg/L	10	03/30/2020 1050	03/31/2020 1811	MH
Zinc	0.98	0.40			mg/L	10	03/30/2020 1050	03/31/2020 1811	MH
Specific Conductance-SM2510 B									
Conductivity	2100		0.20		µmhos/cm	2	03/25/2020 1120	03/25/2020 1220	CR
Cyanide-SM4500-CN BE									
Cyanide	ND	0.10			mg/L	1	03/24/2020 0800	03/25/2020 1500	EJ

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Date Received: 03/19/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Qual
Batch 2003275 - E200.7 (4.4)										
Blank (2003275-BLK1)				Prepared & Analyzed: 03/29/2020						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (2003275-BS1)				Prepared & Analyzed: 03/29/2020						
Calcium	10	4.0	mg/L	10.00		102	85-115			
Magnesium	10	3.0	mg/L	10.00		103	85-115			
LCS Dup (2003275-BSD1)				Prepared & Analyzed: 03/29/2020						
Calcium	10	4.0	mg/L	10.00		101	85-115	0.8	20	
Magnesium	10	3.0	mg/L	10.00		103	85-115	0.05	20	
Matrix Spike (2003275-MS1)				Source: 20C0440-01		Prepared & Analyzed: 03/29/2020				
Calcium	100	4.0	mg/L	10.00	92	102	70-130			
Magnesium	28	3.0	mg/L	10.00	18	99	70-130			
Batch 2003287 - E200.7 (4.4)										
Blank (2003287-BLK1)				Prepared: 03/20/2020 Analyzed: 03/23/2020						
Calcium	ND	4.0	mg/L							
Magnesium	ND	3.0	mg/L							
LCS (2003287-BS1)				Prepared: 03/20/2020 Analyzed: 03/23/2020						
Calcium	9.9	4.0	mg/L	10.00		99	85-115			
Magnesium	10	3.0	mg/L	10.00		100	85-115			
LCS Dup (2003287-BSD1)				Prepared: 03/20/2020 Analyzed: 03/23/2020						
Calcium	10	4.0	mg/L	10.00		104	85-115	5	20	
Magnesium	10	3.0	mg/L	10.00		105	85-115	5	20	
Matrix Spike (2003287-MS1)				Source: 20C0371-02		Prepared: 03/20/2020 Analyzed: 03/23/2020				
Calcium	200	4.0	mg/L	10.00	190	139	70-130			M3
Magnesium	49	3.0	mg/L	10.00	38	115	70-130			
Matrix Spike (2003287-MS2)				Source: 20C0392-01		Prepared: 03/20/2020 Analyzed: 03/23/2020				
Calcium	60	4.0	mg/L	10.00	52	78	70-130			
Magnesium	19	3.0	mg/L	10.00	9.8	96	70-130			
Batch 2003434 - E200.8 (5.4)										
Blank (2003434-BLK1)				Prepared: 03/30/2020 Analyzed: 03/31/2020						
Arsenic	ND	0.00050	mg/L							
Cadmium	ND	0.00025	mg/L							
Copper	0.00085	0.00050	mg/L							B7
Lead	ND	0.00050	mg/L							
Silver	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							

Client: Arizona Minerals Inc.
 Project: Storm Water
 Work Order: 20C0501
 Date Received: 03/19/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2003434 - E200.8 (5.4)										
LCS (2003434-BS1)										
					Prepared: 03/30/2020 Analyzed: 03/31/2020					
Arsenic	0.049	0.00050	mg/L	0.05000		98	85-115			
Cadmium	0.048	0.00025	mg/L	0.05000		95	85-115			
Copper	0.049	0.00050	mg/L	0.05000		97	85-115			
Lead	0.047	0.00050	mg/L	0.05000		94	85-115			
Silver	0.047	0.00050	mg/L	0.05000		93	85-115			
Zinc	0.099	0.040	mg/L	0.1000		99	85-115			
LCS Dup (2003434-BSD1)										
					Prepared: 03/30/2020 Analyzed: 03/31/2020					
Arsenic	0.049	0.00050	mg/L	0.05000		99	85-115	0.7	20	
Cadmium	0.048	0.00025	mg/L	0.05000		95	85-115	0.1	20	
Copper	0.049	0.00050	mg/L	0.05000		97	85-115	0.04	20	
Lead	0.048	0.00050	mg/L	0.05000		96	85-115	1	20	
Silver	0.047	0.00050	mg/L	0.05000		93	85-115	0.002	20	
Zinc	0.099	0.040	mg/L	0.1000		99	85-115	0.5	20	
Matrix Spike (2003434-MS1)										
		Source: 20C0601-02		Prepared: 03/30/2020 Analyzed: 03/31/2020						
Arsenic	0.057	0.00050	mg/L	0.05000	0.0037	107	70-130			
Cadmium	0.048	0.00025	mg/L	0.05000	0.000057	96	70-130			
Copper	0.12	0.00050	mg/L	0.05000	0.072	88	70-130			
Lead	0.050	0.00050	mg/L	0.05000	0.00081	99	70-130			
Silver	0.075	0.00050	mg/L	0.05000	0.030	89	70-130			
Zinc	0.13	0.040	mg/L	0.1000	0.030	102	70-130			
Batch 2003436 - E 200.8 (5.4)										
Blank (2003436-BLK1)										
					Prepared & Analyzed: 03/31/2020					
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 (2003436-BS1)										
					Prepared & Analyzed: 03/31/2020					
Arsenic	0.050	0.00050	mg/L	0.05000		99	85-115			
Cadmium	0.051	0.00025	mg/L	0.05000		102	85-115			
Copper	0.048	0.00050	mg/L	0.05000		97	85-115			
Lead	0.049	0.00050	mg/L	0.05000		98	85-115			
Silver	0.051	0.00050	mg/L	0.05000		102	85-115			
Zinc	0.099	0.040	mg/L	0.1000		99	85-115			
LCS Dup (2003436-BSD1)										
					Prepared & Analyzed: 03/31/2020					
Arsenic	0.050	0.00050	mg/L	0.05000		100	85-115	0.7	20	
Cadmium	0.050	0.00025	mg/L	0.05000		100	85-115	1	20	
Copper	0.049	0.00050	mg/L	0.05000		97	85-115	0.5	20	
Lead	0.049	0.00050	mg/L	0.05000		98	85-115	0.4	20	
Silver	0.050	0.00050	mg/L	0.05000		99	85-115	2	20	
Zinc	0.10	0.040	mg/L	0.1000		100	85-115	2	20	

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Date Received: 03/19/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2003436 - E 200.8 (5.4)										
Matrix Spike (2003436-MS1)		Source: 20C0501-01			Prepared & Analyzed: 03/31/2020					
Arsenic	0.055	0.0050	mg/L	0.05000	0.0011	107	70-130			
Cadmium	0.050	0.0025	mg/L	0.05000	ND	100	70-130			
Copper	0.18	0.0050	mg/L	0.05000	0.13	88	70-130			
Lead	0.050	0.0050	mg/L	0.05000	ND	99	70-130			
Silver	0.041	0.0050	mg/L	0.05000	ND	82	70-130			
Zinc	4.0	0.40	mg/L	0.1000	3.7	240	70-130			M3
Batch 2004288 - E200.8 (5.4)										
Blank (2004288-BLK1)		Prepared & Analyzed: 04/24/2020								
Copper	ND	0.00050	mg/L							
Zinc	ND	0.040	mg/L							
LCS (2004288-BS1)		Prepared & Analyzed: 04/24/2020								
Copper	0.047	0.00050	mg/L	0.05000		94	85-115			
Zinc	0.11	0.040	mg/L	0.1000		108	85-115			
LCS Dup (2004288-BSD1)		Prepared & Analyzed: 04/24/2020								
Copper	0.047	0.00050	mg/L	0.05000		94	85-115	0.4	20	
Zinc	0.11	0.040	mg/L	0.1000		106	85-115	2	20	

Client: Arizona Minerals Inc.
Project: Storm Water
Work Order: 20C0501
Date Received: 03/19/2020

QC Summary

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch 2003319 - E150.1										
Duplicate (2003319-DUP1)		Source: 20C0501-01			Prepared & Analyzed: 03/24/2020					
pH (pH Units)	6.1		-		6.1			0.5	200	H5
Temperature (°C)	25		-		25			0	200	H5
Batch 2003331 - SM4500-CN BE										
Blank (2003331-BLK1)		Prepared: 03/24/2020 Analyzed: 03/25/2020								
Cyanide	ND	0.10	mg/L							
LCS (2003331-BS1)		Prepared: 03/24/2020 Analyzed: 03/25/2020								
Cyanide	1.9	0.10	mg/L	2.000		94	85-115			
LCS Dup (2003331-BSD1)		Prepared: 03/24/2020 Analyzed: 03/25/2020								
Cyanide	2.0	0.10	mg/L	2.000		99	85-115	6	15	
Matrix Spike (2003331-MS1)		Source: 20C0377-02			Prepared: 03/24/2020 Analyzed: 03/25/2020					
Cyanide	2.0	0.10	mg/L	2.000	0.040	97	80-120			
Matrix Spike Dup (2003331-MSD1)		Source: 20C0377-02			Prepared: 03/24/2020 Analyzed: 03/25/2020					
Cyanide	2.0	0.10	mg/L	2.000	0.040	100	80-120	3	15	
Batch 2003363 - SM2510 B										
LCS (2003363-BS1)		Prepared & Analyzed: 03/25/2020								
Conductivity	140	0.10	µmhos/cm	141.2		99	0-200			
LCS Dup (2003363-BSD1)		Prepared & Analyzed: 03/25/2020								
Conductivity	140	0.10	µmhos/cm	141.2		101	0-200	1	200	
Duplicate (2003363-DUP1)		Source: 20C0315-01			Prepared & Analyzed: 03/25/2020					
Conductivity	1100	0.10	µmhos/cm		1100			0.4	10	



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

TURNER WORK ORDER # 2000501 DATE 3/19/20 PAGE 1 OF 1

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 [Signature]

NUMBER OF CONTAINERS

See attachment

CIRCLE ANALYSIS REQUESTED AND/OR CHECK THE APPROPRIATE BOX

SAMPLE I.D.	DATE	TIME	LAB I.D.	AMPLE MAT	NUMBER OF CONTAINERS															
Outfall 1 - 3192020	3-19-20	9:35		water	3	✓														
Outfall 2 - 3192020	3-19-20	9:45		water	3	✓														

1. RELINQUISHED BY: [Signature]
 Signature Jaime Lopez
 Printed Name South32
 Firm 3-19-20 10:01
 Date/Time

2. RECEIVED BY: [Signature]
 Signature Steven M
 Printed Name WWS
 Firm 3-19-20
 Date/Time 10:45

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: _____

SAMPLE RECEIPT:
 Total Containers 6
 Temperature 6.2
 Wet Ice Blue Ice

3. RELINQUISHED BY: [Signature]
 Signature Steven M
 Printed Name WWS
 Firm 3-19-20
 Date/Time 12:45

4. RECEIVED BY: [Signature]
 Signature Jaime Winter
 Printed Name
 Firm 3/19/20 12:45
 Date/Time

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

SPECIAL INSTRUCTIONS/COMMENTS:

Compliance Analysis: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seals <input type="checkbox"/>	Preservation Confirmation <input checked="" type="checkbox"/>
ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	Container Intact <input checked="" type="checkbox"/>	Appropriate Head Space <input checked="" type="checkbox"/>
Mail ADEQ Forms: <input type="checkbox"/> Yes <input type="checkbox"/> No	COC/Labels Agree <input checked="" type="checkbox"/>	Received Within Hold Time <input checked="" type="checkbox"/>

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		Free
pH		X	X
Specific Conductance			X

FIELD MEASUREMENTS	
	pH
	Specific conductance
	Temperature
	Turbidity
	Flow
	Appearance

BOTTLE LIST			
Volume	Preservative	Parameter	Parameter
250ml	HNO3	Metals	
250ml	Non-Preserved	Hardness/pH/Conductivity	
500ml	H2SO4	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		Free 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	H2SO4	Free Cyanide