APPENDIX A ANNUAL CHANGES TO DUSTFALL PROGRAM

Appendix A: Annual Changes to Dustfall Program

2001

The 2001 dust monitoring program was based entirely upon snow survey samples collected along four radial transects emanating from the project footprint outward to a distance of approximately 1,000 metres. All sample locations were analyzed for dust deposition, while only those locations on Lac de Gras were analyzed for snow water chemistry.

2002

DDMI amended the dust monitoring program, in response to recommendations made by the Mackenzie Valley Land and Water Board, to include two snow survey control locations. In addition, five dust gauges (passive dust collectors) were deployed, one along each of the snow survey transects and one at a control location, in efforts to enhance the monitoring program.

2003

In response to further recommendations, the dust monitoring program was modified. All four snow survey transects were extended in length to a distance of approximately 2,000 metres from the project footprint. An additional five dust gauges, including a second control, were deployed.

2004

Increased construction activity necessitated further changes to the dust monitoring program. One dust gauge (Dust 02) was removed from its location to accommodate project footprint expansion, and subsequently relocated and redeployed (Dust 2A).

2005

Dust deposition monitoring was carried out with no modifications to either the snow survey or the dust gauge portion of the program.

2006

An additional dust gauge was deployed bringing the total to eleven (including two controls). Testing of Mini-Vol portable air samplers were conducted to determine feasibility of incorporation into the dust monitoring program. Preliminary findings proved the inclusion of the Mini-Vol samplers would be impractical.

2007

The snow survey portion of the program was amended with an additional snow survey transect being incorporated bringing the total number of transects to five. As well, snow water chemistry samples were collected adjacent to the pre-existing control locations as background references.

Two additional dust gauges (temporary) were deployed adjacent to two pre-existing dust gauges. The intent of the temporary gauges was to compare results from the same location when sample collection frequency is altered.

DDMI initiated contact with Environment Canada and Golder Associates with regards to remodeling dust deposition with the intent of revising predictions made in the 1998 environmental effects report.

In light of dust deposition monitoring results from previous years, several control measures were adopted to reduce dust generation on site, including the utilization of EK-35 (suppressant) on the airport apron, taxiway and helipad, and fitting a second 830E haul truck with tank for haul road watering.

2008

All of the dust gauges were modified to accommodate the replacement of the polyacrylic dust gauge inserts with brass Nipher gauge inserts, to minimize loss associated with damage during the collection and handling of the dust gauges.

An additional dust gauge was added to the program bringing the total to twelve permanently deployed (including two control), and two temporary (reference) dust gauges.

Three snow survey sample points were not sampled as they had become overtaken by construction activity and expansion of the project footprint.

Additional preparations for dust deposition modelling were completed including data collection, identification of point source inputs, selection of a modelling program and inputs (with regulator input) and discussion of cumulative effects.

2009

The two temporary dust gauges deployed in 2007 were decommissioned. All twelve permanent gauges were collected quarterly. An error in collection/deployment resulted in “No Data” being collected for Dust 03 between July 11 and September.

Snow survey sampling was conducted in April. An error in collection/analysis resulted in the Dust Deposition sample for SS2-1 being compromised; as such “No Dust Deposition Data” was available for this location.

2010

All twelve permanent dust gauges were collected quarterly during 2010. Overall, there was a reduction of observed dustfall deposition from 2009 to 2010, with the exception of Dust 1 and Dust 10.

Snow survey sampling was conducted throughout the month of April. An error in collection/ processing resulted in two missing stations for the water quality analysis. SS2-1 field results were collected; however, the sample was compromised during processing in the lab. An error also resulted with the collection of SS5-2; data collection for water quality analysis was missed in the field. No data for these two stations resulted in Zone 1 having no data for the various water chemistry results and SS5-2 was not represented in Zone 3 data for 2010.

2011

All twelve permanent dust gauges were collected quarterly during 2011. During collection and repair to station Dust 5 in September, the sample was compromised and therefore not processed, which resulted in data loss.

Snow survey sampling was conducted throughout the month of April. Due to an internal error shipping samples, water quality samples for stations SS1-4, SS1-5, SS2-1, SS2-2, SS2-3, SS2-4, and SSC-3 arrived at the Maxxam laboratory past the recommended holding time.

2012

All twelve permanent dust gauges were collected quarterly during 2012. During collection in June, repairs were conducted on Station Dust 9 as it was found on its side, the sample was compromised, which resulted in data loss. Overall in 2012, 8 of the 12 dust gauges reported lower deposition rates compared to 2011.

Snow survey sampling was conducted on April 30, and on May 4 and 5.

2013

All twelve permanent dust gauges were collected quarterly during 2013. Station Dust 5 was dismantled upon arrival in September and the sample was compromised, which resulted in data loss for that quarter.

Snow survey sampling was conducted at 24 locations from April 26 to 28.

2014

All twelve permanent dust gauges were collected quarterly during 2014.

Snow survey sampling was conducted at 24 locations from April 7 to May 12. Three additional sites, SS3-6, SS3-7, SS3-8, were installed.

2015

No changes were made to the dustfall program in 2015.

All twelve permanent dust gauges were collected quarterly during 2015.

Snow survey sampling was conducted at 24 locations from March 31 to April 10.

2016

Due to construction activities at A21, the distance to mining operations decreased for dustfall stations Dust 10, SS5-1, SS5-2, SS5-3, SS5-4, SS5-5, Dust C1, and Control 1. The new distances to mining operations are shown in Table 2-1. Dust 10 station was 670 m from mining operations and now is 46 metres from mining operations.

All twelve permanent dust gauges were collected quarterly during 2016.

Snow survey sampling was conducted at 27 locations from March 3 to April 7.

2017

All twelve permanent dust gauges were collected quarterly during 2017.

During collection of Stations Dust 3 Dust 4, Dust 8, and Dust 10 in July were compromised and an indeterminate amount of sample was lost.

Two new permanent dust gauges (Dust 11 and Dust 12) were deployed on 2017-Oct-05.

Dust 11 and 12 are 0.805 km and 2.58 km respectively from mining operations.

Snow survey sampling was conducted at 27 locations from April 1 to April 10.

2018

No changes to the dustfall program were made in 2018. All fourteen permanent dust gauges were collected quarterly during 2018.

2019

New four stations are added to the snow survey monitoring network to help assessing the efficiency of the existing control stations. The stations added include FF!-2, FFA-1, FFB-4, and LDS-1. All fourteen permanent dust gauges were collected quarterly during 2019.

Snow survey sampling was conducted at 31 locations from April 4 to May 8.

APPENDIX B DUSTFALL GAUGE ANALYTICAL RESULTS

Appendix B: Dustfall Gauge Analytical Results

Sample Date	Dust Gauge ID	Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Cumulative Weight of Residue (mg)	Dust Deposition (mg/dm^2)	Days Deployed	Dust Deposition ($mg/dm^2/d$)	Dust Deposition ($mg/dm^2/y$)
28-Dec-18	**Initial deployment date**								
8-Apr-19	Dust 1	1	122.3	166.6					
		2	126	169.4	87.7		101	0.7	
26-Jun-19		1	122.3	149.3					
		2	124.8	157.8					
		3	125.9	140.5	74.6		79	0.8	
30-Sep-19		1	114.2	119.4					
		2	114.2	137.1					
		3	114.2	161.1	75.0		96	0.6	
26-Dec-19		1	118.2	198			87	0.7	
					TOTALS	**258.5**	**363**	**0.7**	**260.0**
3-Jan-19	**Initial deployment date**								
7-Apr-19	Dust 2	1	125.4	212.8					
		2	125.6	196.7	158.5		94	1.4	
25-Jun-19		1	126.8	160.4					
		2	124.9	176.8					
		3	125.6	129.5	89.4		79	0.9	
29-Sep-19		1	114.9	174.9					
		2	116.1	148.6	92.5		96	0.8	
28-Dec-19		1	118.9	207.2	88.3		90	0.8	
					TOTALS	**349.5**	**359**	**1.0**	**355.4**
28-Dec-18	**Initial deployment date**								
3-Apr-19	Dust 3	1	27961.2	28070.7					
		2	37520	37646					
		3	38610.2	38740	365.3		96	3.1	
26-Jun-19		1	121.8	174.8					
		2	125.3	463.2					
		3	123.8	147	414.1		84	4.0	
30-Sep-19		1	116.3	321.8	205.5		96	1.7	
26-Dec-19		1	114.9	327.7	212.8		87	2.0	
					TOTALS	**976.5**	**363**	**2.7**	**981.8**
28-Dec-18	**Initial deployment date**								
6-Apr-19	Dust 4	1	125.7	155.2					
		2	124.7	144.4	49.2		99	0.4	
27-Jun-19		1	122.2	293.5					
		2	121.6	193.3					
		3	121.6	230	351.4		82	3.5	
28-Sep-19		1	113.3	131.2					
		2	114.4	117.7					
		3	114	139.4					
		4	114.5	120.4	52.5		93	0.5	
26-Dec-19		1	117.6	142.2	24.6		89	0.2	
					TOTALS	**389.5**	**363**	**1.1**	**391.6**

Appendix B: Dustfall Gauge Analytical Results

Sample Date	Dust Gauge ID	Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Cumulative Weight of Residue (mg)	Dust Deposition (mg/dm^2)	Days Deployed	Dust Deposition ($mg/dm^2/d$)	Dust Deposition ($mg/dm^2/y$)
2-Jan-19	**Initial deployment date**								
6-Apr-19	Dust 5	1	122.1	135.4					
		2	123.8	140.5	30		94	0.3	
25-Jun-19		1	122.4	129.9					
		2	117.4	131.5					
		3	116.5	117.1	22.2		80	0.2	
29-Sep-19		1	121.1	168.5	47.4		96	0.4	
28-Dec-19		1	117.8	152.5	34.7		90	0.3	
					TOTALS	**109.5**	**360**	**0.3**	**111.0**
28-Dec-18	**Initial deployment date**								
3-Apr-19	Dust 6	1	39421	39439.2					
		2	38954.8	38974.7					
		3	27114.7	27140.6	64		96	0.5	
26-Jun-19		1	125.1	181.5					
		2	125.4	175.7					
		3	122.1	130.9	115.5		84	1.1	
30-Sep-19		1	116.8	144.5					
		2	118.4	130.8					
		3	121	196.4	115.5		96	1.0	
26-Dec-19		1	117	146	29		87	0.3	
					TOTALS	**264.2**	**363**	**0.7**	**265.6**
3-Jan-19	**Initial deployment date**								
5-Apr-19	Dust 7	1	39067	39127.8					
		2	33186.1	33263.6	138.3		92	1.2	
25-Jun-19		1	122.2	140.5					
		2	124.5	174	67.8		81	0.7	
29-Sep-19		1	113.6	144.8					
		2	114.9	126.9	43.2		96	0.4	
27-Dec-19		1	118.3	227.7	109.4		89	1.0	
					TOTALS	**292.4**	**358**	**0.8**	**298.2**
2-Jan-19	**Initial deployment date**								
6-Apr-19	**Dust 8**	1	122.9	137.2					
		2	122.6	130.4	22.1		94	0.2	
25-Jun-19		1	126.3	167.9					
		2	121.8	148.2					
		3	125	125.2	68.2		80	0.7	
29-Sep-19		1	114.6	136.4					
		2	115.2	120.3					
		3	113.7	123.4					
		4	113.7	119	41.9		96	0.4	
28-Dec-19		1	118.2	195.7	77.5		90	0.7	
					TOTALS	**171.0**	**360**	**0.5**	**173.3**

Appendix B: Dustfall Gauge Analytical Results

Sample Date	Dust Gauge ID	Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Cumulative Weight of Residue (mg)	Dust Deposition (mg/dm^2)	Days Deployed	Dust Deposition ($mg/dm^2/d$)	Dust Deposition ($mg/dm^2/y$)
4-Jan-19	**Initial deployment date**								
4-Apr-19	Dust 9	1	38548.1	38566.4	18.3		90	0.2	
25-Jun-19		1	124.8	126.9					
		2	125.7	132.5					
		3	122.5	134.3					
		4	123.4	124.6	21.9		82	0.2	
29-Sep-19		1	113.8	123.8					
		2	113.6	124.2					
		3	115	126.4	32		96	0.3	
27-Dec-19		1	119	124.9	5.9		89	0.1	
					TOTALS	**63.7**	**357**	**0.4**	**65.1**
28-Dec-18	**Initial deployment date**								
5-Apr-19	Dust 10	1	124.3	171.5					
		2	122.2	206.8					
		3	122.1	173.2	182.9		98	1.5	
27-Jun-19		1	123.7	263.7					
		2	123	284					
		3	122.3	249.4	428.1		83	4.2	
30-Sep-19		1	117	175.8					
		2	121.7	175	112.1		95	1.0	
26-Dec-19		1	117.4	227.6	110.2		87	1.0	
					TOTALS	**679.4**	**363**	**1.9**	**683.1**
3-Jan-19	**Initial deployment date**								
5-Apr-19	Dust 11	1	31347.5	31402.6					
		2	29108.4	29160.1					
		3	39842.5	39903.9					
		4	30990.5	31047.6					
		5	40224.8	40224.8	225.3		92	2.0	
25-Jun-19		1	115.3	270.1					
		2	121.4	274.5					
		3	115.3	172.6					
		4	125.2	181.8					
		5	122.9	196.1					
		6	117	122.8	500.8		81	5.0	
29-Sep-19		1	114.8	153.1					
		2	115.4	125.9	48.8		96	0.4	
28-Dec-19		1	118.30	148.40	30.1		90	0.3	
					TOTALS	**656.3**	**359**	**1.9**	**667.3**

Appendix B: Dustfall Gauge Analytical Results

Sample Date	Dust Gauge ID	Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Cumulative Weight of Residue (mg)	Dust Deposition (mg/dm^2)	Days Deployed	Dust Deposition ($mg/dm^2/d$)	Dust Deposition ($mg/dm^2/y$)
3-Jan-19	**Initial deployment date**								
6-Apr-19	Dust 12	1	125.4	142.6					
		2	124.5	139.9	32.6		93	0.3	
25-Jun-19		1	123.5	124.9					
		2	122.3	136.6					
		3	122.7	157.3					
		4	125	171.5					
		5	124.9	164.1					
		6	117.9	164.3	182.4		80	1.9	
29-Sep-19		1	114.8	124.8					
		2	114.6	124.9					
		3	114.4	114.8					
		4	113.7	119	26		96	0.2	
28-Dec-19		1	116.20	131.10	14.9		90	0.1	
					TOTALS	**208.6**	**359**	**0.6**	**212.1**
4-Jan-19	**Initial deployment date**								
5-Apr-19	**Dust C1**	1	26485	26505.8					
		2	35602.6	35644	62.2		91	0.6	
25-Jun-19		1	124.9	132.6					
		2	126	140.1	21.8		81	0.2	
29-Sep-19		1	114.9	144.2	29.3		96	0.2	
27-Dec-19		1	118.30	143.30	25		89	0.2	
					TOTALS	**112.8**	**357**	**0.3**	**115.3**
3-Jan-19	**Initial deployment date**								
6-Apr-19	Dust C2	1	125.4	141.6					
		2	122.4	132.5	26.3		93	0.2	
26-Jun-19		1	126.2	132					
		2	126.2	159.6					
		3	115.4	116	39.8		81	0.4	
29-Sep-19		1	115.5	134.5	19		95	0.2	
28-Dec-19		1	118.3	132.1	13.8		90	0.1	
					TOTALS	**80.6**	**359**	**0.2**	**82.0**

APPENDIX C DUSTFALL SNOW SURVEY FIELD SHEETS AND ANALYTICAL RESULTS

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: Dust 01 **DATE (dd-mmm-yyyy):** 2019-04-08 **TIME (24:00):** 13:54

SAMPLED BY: SSZ LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 533964 **E** 7154321 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -11 -3 °C **Wind Direction:** SE S **Wind Speed (knots):** 12 14

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: (Visible) Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2018-12-28

Total Volume of Water After Melting : 325 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.3	166.6	43.3	
2	126.0	169.4	43.4	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	248.3	336.0	87.7	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: DUST 2A **DATE (dd-mmm-yyyy):** 07-04-2019 **TIME (24:00):** 1205

SAMPLED BY: LC SS2 **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 535678 **E** 7151339 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C **Wind Direction:** SE **Wind Speed (knots):** 12

Precipitation: rain / mist / (snow) / N/A **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-03

Total Volume of Water After Melting : 350 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	125.4	212.8	87.4	
2	125.6	196.7	71.1	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	251.0	409.5	158.5	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: Dust 3 **DATE (dd-mmm-yyyy):** 03-04-2019 **TIME (24:00):** 14:53

SAMPLED BY: SSZ **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 535024 **E** 7151872 **N (Zone)** ~~57A~~ 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -23 °C **Wind Direction:** NW **Wind Speed (knots):** 9

Precipitation: rain / mist / snow / N/A **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, 100% **Dust in area:** Visible, Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 25-12-2018

→ cloudy, visible dust

Total Volume of Water After Melting : 400 (mL)

Filter #	Weight of Filter + Crucible	Filter + Residue + Crucible	Residue Weight	Comments
1	126.1 + 27835.1	28070.7	109.5	
2	125.2 + 37394.8	37646.0	126.0	
3	121.6 + 38488.6	38740.0	129.8	
4				
5				
6				
7				
8				
9				
10				
11				
Totals	104091.4	104456.7	365.3	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: DUST 4 **DATE (dd-mmm-yyyy):** 06-04-2019 **TIME (24:00):** 1054

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 531397 **E** 7152127 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C **Wind Direction:** E **Wind Speed (knots):** 6

Precipitation: rain / mist / snow (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2018-12-28

- hair in sample

Total Volume of Water After Melting : 400 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	125.7	155.2	29.5	
2	124.7	144.4	19.7	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	250.4	299.6	49.2	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: DUST 5 **DATE (dd-mmm-yyyy):** 06-04-2019 **TIME (24:00):** 1440

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 535696 **E** 7155138 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C **Wind Direction:** E **Wind Speed (knots):** 6

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: (0%), 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-02

Total Volume of Water After Melting : 350 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.1	135.4	13.3	
2	123.8	140.5	16.7	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	245.9	275.9	30.0	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
		Page:	1 of 2

GENERAL

LOCATION NAME: Dust 6 **DATE (dd-mmm-yyyy):** 07-04-2019 **TIME (24:00):** 13:57

SAMPLED BY: SS2 **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 537502 **E** 7152934 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 25 °C **Wind Direction:** NW **Wind Speed (knots):** 7

Precipitation: rain / mist / snow / N/A **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, 100% **Dust in area:** Visible, Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 28-12-2018

→ Clear

→ layer of dust on bottom of beaker after settling occurred

Total Volume of Water After Melting : 250 (mL)

Filter #	Weight of Filter + Crucible	Filter + Residue + Crucible	Residue Weight	Comments
1	39421.0	39439.2	18.2	
2	38954.8	38974.7	19.9	
3	27114.7	27140.6	25.9	
4				
5				
6				
7				
8				
9				
10				
11				
Totals	105490.5	105555	64.0	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: DUST 7 **DATE (dd-mmm-yyyy):** 05-04-2019 **TIME (24:00):** 1439

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 536819 **E** 7150510 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C **Wind Direction:** NE **Wind Speed (knots):** 7

Precipitation: rain / mist / snow / N/A **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, 100 **Dust in area:** Visible, Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-03

-vegetation in sample

Total Volume of Water After Melting : 600 (mL)

Filter #	Weight of Filter + crucible	Filter + Residue + crucible	Residue Weight	Comments
1	122.3+38984.7	39127.8	60.8	
2	125.4+33060.7	33263.6	77.5	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	72253.1	72391.4	138.3	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: DUST 8 **DATE (dd-mmm-yyyy):** 06-Apr-2019 **TIME (24:00):** 1317

SAMPLED BY: MN SSA LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 531401 **E** 7154146 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C **Wind Direction:** E **Wind Speed (knots):** 6

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-02

Total Volume of Water After Melting : 460 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.9	137.2	14.3	
2	122.6	130.4	7.8	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	245.5	267.6	22.1	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: DUST 9 **DATE (dd-mmm-yyyy):** 04-04-2019 **TIME (24:00):** 0930

SAMPLED BY: MN 552 LC **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 541204 **E** 7152154 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C **Wind Direction:** W **Wind Speed (knots):** 20

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** (0%), 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-04

→ Clear

→ new cylinder deployed was not sitting right in the bell shield

Total Volume of Water After Melting : 225 (mL)

Filter #	Weight of Filter + Crucible	Filter + Residue	Residue Weight	Comments
1	123.3 + 38424.8	38566.4	18.3	Only needed 1 filter
2	~~123.1 + 26361.9~~			
3	~~122.8 + 35479.8~~			
4				
5				
6				
7				
8				
9				
10				
11				
Totals	38548.1	38566.4	18.3	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: DUST10 **DATE (dd-mmm-yyyy):** 05-Apr-2019 **TIME (24:00):** 1450

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 532908 **E** 7148924 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -19 °C **Wind Direction:** W **Wind Speed (knots):** 36

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, 10%, (25%), 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2018-12-28

Total Volume of Water After Melting : 375 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	124.3	171.5	47.2	
2	122.2	206.8	84.6	
3	122.1	173.2	51.1	
4				
5				
6				
7				
8				
9				
10				
11				
Totals	368.6	551.5	182.9	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: DUST 911 **DATE (dd-mmm-yyyy):** 05-Apr-2019 **TIME (24:00):** 1034

SAMPLED BY: MN 552 LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 531493 **E** 7150156 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -23 °C **Wind Direction:** W **Wind Speed (knots):** 23 33 (gusting)

Precipitation: rain / mist / snow / (N/A)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Cloud Cover: 0%, 10%, 25%, 50%, 75%, 100

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-03

~~tilted in stand~~

Total Volume of Water After Melting : 475 (mL)

Filter #	Weight of Filter + Crucible	Filter + Residue + Crucible	Residue Weight	Comments
1	124.8 + 31222.7	31402.6	55.1	
2	123.1 + 28985.3	29160.1	51.7	
3	123.3 + 39719.2	39903.9	61.4	
4	125.8 + 30864.7	31047.6	57.1	
5	122.5 + 40100.3	40225.8	0.0	Actual weight 40223.6
6				
7				
8				
9				
10				
11				
Totals	17513.7	17739.8	225.3	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust 12 **DATE (dd-mmm-yyyy):** 2019-04-06 **TIME (24:00):** 10:30

SAMPLED BY: ~~GC~~ NG MNLCSS2 **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 529323 **E** 7151191 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C **Wind Direction:** E **Wind Speed (knots):** 6

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-03

Total Volume of Water After Melting: 525 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	125.4	142.6	17.2	
2	124.5	139.9	15.4	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	249.9	282.5	32.6	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: C1 **DATE (dd-mmm-yyyy):** 05-Apr-2019 **TIME (24:00):** 1149

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 534979 **E** 7144270 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -18 °C **Wind Direction:** NW **Wind Speed (knots):** 12

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: (0%) 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-04

- leaking yellow liquid. discarded as we figure it might be from duct tape
- small amount (approx. 1mL) lost from clamp not being on right
- hair in sample

Total Volume of Water After Melting : 575 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	123.1+26361.9	26505.8	20.8	
2	122.8+35479.8	35644.0	41.4	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	62087.6	62149.8	62.2	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: C2 **DATE (dd-mmm-yyyy):** 2019-04-06 **TIME (24:00):** 10:30

SAMPLED BY: MN SS2 LC **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 528714 **E** 7153276 **N (Zone)** 12

DESCRIPTION: Q1

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -26 °C **Wind Direction:** E **Wind Speed (knots):** 3

Precipitation: rain / mist / snow / N/A **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, 100

Snow Cover: 0%, 10%, 25%, 50%, 75%, 100 **Dust in area:** Visible, Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-01-03

Total Volume of Water After Melting : 425 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	125.4	141.6	16.2	
2	122.4	132.5	10.1	
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	247.8	274.1	26.3	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust 01 **DATE (dd-mmm-yyyy):** 2014-06-26 **TIME (24:00):** 15:30

SAMPLED BY: JK, SS2 **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 533964 **E** 7154321 **N (Zone)** 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 15 °C **Wind Direction:** 170° **Wind Speed (knots):** 7

Precipitation: rain / mist / snow (N/A)

Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2014-04-08 @ 14:54

Total Volume of Water After Melting : 0 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.3	149.3		
2	124.8	157.8		
3	125.9	140.5		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	373	447.6	74.6	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust 2A DATE (dd-mmm-yyyy): 2019-05-25 TIME (24:00): 12:40

SAMPLED BY: JK, MN TYPE OF SAMPLE: (Dust) Other _____

GPS COORDINATES (UTM): 535676 E 7151339 N (Zone) 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C Wind Direction: / Wind Speed (knots): 0

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: (0%) 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-07 @12:05

Total Volume of Water After Melting: 75 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	126.8	160.4		
2	124.9	176.8		
3	125.6	129.5		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	377.3	466.7	89.4	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust03 **DATE (dd-mmm-yyyy):** 2019-06-26 **TIME (24:00):** 16:30

SAMPLED BY: SA, JR **TYPE OF SAMPLE:** Dust **Other**

GPS COORDINATES (UTM): 535024 **E** 7151872 **N (Zone)** 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 16 °C **Wind Direction:** 150° **Wind Speed (knots):** 11

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-03 @ 14:33

Total Volume of Water After Melting : ~~0~~ (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	121.8	174.8		
2	125.3	463.2		
3	123.8	147.0		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	370.9	785.0	414.1	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Duston **DATE (dd-mmm-yyyy):** 26-06-2019 **TIME (24:00):** 08:33

SAMPLED BY: SS2 BH **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 531397 **E** 7152127 **N (Zone)**

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 12 °C **Wind Direction:** 180° **Wind Speed (knots):** 7

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** (0%) 10%, 25%, 50%, 75%, 100

Snow Cover: (0%) 10%, 25%, 50%, 75%, 100 **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2014-04-06 @ 10:54

Total Volume of Water After Melting : 225 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.2	293.5		
2	121.6	193.3		
3	121.6	230.0		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	365.4	716.8	351.4	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust05 **DATE (dd-mmm-yyyy):** 2019-06-25 **TIME (24:00):** 13:35

SAMPLED BY: JK, MN **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 535696 **E** 7155138 **N (Zone)** 12V

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C **Wind Direction:** 180° **Wind Speed (knots):** 5

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** 0% (10%) 25% 50% 75% 100

Snow Cover: (0%) 10% 25% 50% 75% 100 **Dust in area:** Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-06 @14:39

Blueberry bird poo on shield (see picture)

Total Volume of Water After Melting : Ø (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.4	129.9		
2	117.4	131.5		
3	116.5	117.1		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	356.3	378.5	22.2	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
Effective Date:	26-Mar-2012	**By:**	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust 06 **DATE (dd-mmm-yyyy):** 2019-06-26 **TIME (24:00):** 16:08

SAMPLED BY: JK, SS2 **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 537502 **E** 7152934 **N (Zone)** 12W

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 16 °C **Wind Direction:** 150° **Wind Speed (knots):** 11

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-05 @ 13:50

Total Volume of Water After Melting : ~~0~~ (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	125.1	181.5		
2	125.4	175.7		
3	122.1	130.9		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	372.6	488.1	115.5	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	**No:**	ENVI-178-0312
Effective Date:	26-Mar-2012	**Revision:**	R0
Task:	Dust Gauge Collection Field Sheet	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust07 **DATE (dd-mmm-yyyy):** 2019-05-25 **TIME (24:00):** 12:55

SAMPLED BY: SK, MN **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 536819 **E** 7150510 **N (Zone)** 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C **Wind Direction:** ~ **Wind Speed (knots):** 0

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-05 @ 16:40

Total Volume of Water After Melting : 0 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	122.2	140.5		
2	124.5	174.0		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	246.7	314.5	67.8	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	No:	ENVI-178-0312
Effective Date:	26-Mar-2012	Revision:	R0
Task:	Dust Gauge Collection Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust08 DATE (dd-mmm-yyyy): 2019-06-25 TIME (24:00): 11:00

SAMPLED BY: JH, MN TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531401 E 7154146 N (Zone) 12N

DESCRIPTION: G2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 17 °C Wind Direction: 160° Wind Speed (knots): 3

Precipitation: rain / mist / snow / (N/A)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-06 @ 13:11

Total Volume of Water After Melting: 100 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	126.3	167.9		
2	121.8	148.2		
3	125.0	125.2		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	373.1	441.3	68.2	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	No:	ENVI-178-0312
Effective Date:	26-Mar-2012	Revision:	R0
Task:	Dust Gauge Collection Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust09 DATE (dd-mmm-yyyy): 2019-06-25 TIME (24:00): 13:15

SAMPLED BY: JK, MN TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 541204 E 7152154 N (Zone) 12N

DESCRIPTION: G7

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C Wind Direction: / Wind Speed (knots): 0

Precipitation: rain / mist / snow (N/A)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-04 @09:30

lots of Bugs

Total Volume of Water After Melting: Ø (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	124.8	126.9		
2	125.7	132.5		
3	122.5	134.3		
4	123.4	124.6		
5				
6				
7				
8				
9				
10				
11				
Totals	~~496.4~~	518.3	21.9	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	No:	ENVI-178-0312
Effective Date:	26-Mar-2012	Revision:	R0
Task:	Dust Gauge Collection Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust10 DATE (dd-mmm-yyyy): 27-06-2019 TIME (24:00): 15:55

SAMPLED BY: JK, LC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 532908 E 7148924 N (Zone) 12N

DESCRIPTION: G2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 6 °C Wind Direction: 050° Wind Speed (knots): 7

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: (0%), 10%, 25%, 50%, 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100

Dust in area: (Visible) Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-05 @ 14:15

→ Dust only visible when walking

Total Volume of Water After Melting: 25 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	123.7	263.7		
2	123.0	284.0		
3	122.3	249.4		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	369.0	797.1	428.1	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	No:	ENVI-178-0312
Effective Date:	26-Mar-2012	Revision:	R0
Task:	Dust Gauge Collection Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 11 DATE (dd-mmm-yyyy): 2019-06-25 TIME (24:00): 12:00

SAMPLED BY: JR, MN TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 0531493 E 7150156 N (Zone) 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C Wind Direction: 150° Wind Speed (knots): 3

Precipitation: rain / mist / snow / (N/A)

Snow Cover: (0%) 10%, 25%, 50%, 75%, 100%

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-05 @14:39

Total Volume of Water After Melting: 525 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	115.3	270.1		
2	121.4	274.5		
3	115.3	172.6		
4	125.2	181.8		
5	122.9	196.1		
6	117.0	122.8		
7				
8				
9				
10				
11				
Totals	717.1	1217.9	500.8	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	**No:**	ENVI-178-0312
Effective Date:	26-Mar-2012	**Revision:**	R0
Task:	Dust Gauge Collection Field Sheet	**By:**	Dianne Dul
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GENERAL

LOCATION NAME: Dust12 **DATE (dd-mmm-yyyy):** 2019-05-25 **TIME (24:00):** 11:45

SAMPLED BY: JK, MN **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 0529323 **E** 7151191 **N (Zone)** 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C **Wind Direction:** 150° **Wind Speed (knots):** 3

Precipitation: rain / mist / snow / (N/A)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed ~~2019-04-06~~ 2019-04-06 (no time)

2 Bugs in Sample

Total Volume of Water After Melting: 25 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	123.5	124.9		
2	122.3	136.6		
3	122.7	157.3		
4	125.0	171.5		
5	124.9	164.1		
6	117.9	164.3		
7				
8				
9				
10				
11				
Totals	736.3	918.7	182.4	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	**No:**	ENVI-178-0312
Effective Date:	26-Mar-2012	**Revision:**	R0
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GENERAL

LOCATION NAME: Dust C1 **DATE (dd-mmm-yyyy):** 2019-05-25 **TIME (24:00):** 12:15

SAMPLED BY: JR, MN **TYPE OF SAMPLE:** (Dust) Other

GPS COORDINATES (UTM): 0534979 E 7144270 N (Zone) 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 18 °C **Wind Direction:** 150° **Wind Speed (knots):** 3

Precipitation: rain / mist / snow (N/A)

Cloud Cover: 0% (10%) 25% 50% 75% 100

Snow Cover: (0%) 10% 25% 50% 75% 100%

Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed ~~2019-04-05 @ 11:44~~ 2019-04-05@11:49

- large fly present 2x
- visible dust
- leaves
- after filtering, filters were green

Total Volume of Water After Melting: 225 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	124.9	132.6		
2	126.0	140.1		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	250.9	272.7	21.8	

Rio Tinto

Dust Gauge Collection Field Sheet

Area:	8000	**No:**	ENVI-178-0312
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GENERAL

LOCATION NAME: Dust C2 **DATE (dd-mmm-yyyy):** 25-06-~~26~~ 25 **TIME (24:00):** 11:25

SAMPLED BY: JK, MN **TYPE OF SAMPLE:** (Dust) **Other**

GPS COORDINATES (UTM): 0528714 **E** 7155276 **N (Zone)** 12N

DESCRIPTION: Q2

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 17 °C **Wind Direction:** 160° **Wind Speed (knots):** 3

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, (10%), 25%, 50%, 75%, 100

Snow Cover: (0%) 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-04-06 @09:40

- Dust visible
- some vegetation
- after filtering, filters were green

Total Volume of Water After Melting: 75 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	126.2	132.0		
2	126.2	159.6		
3	115.4	116.0		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	367.8	407.6	39.8	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 01 DATE (dd-mmm-yyyy): 2019-09-30 TIME (24:00): 1417

SAMPLED BY: NG, LC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 533964 E 7154321 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 8

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, (50%), 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-26 by JK, SS2

- Some bugs present
- Dust visible - light brown

Total Volume of Water After Melting: 1740 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.2	119.4		
2	114.2	139.1		
3	114.2	161.1		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	342.6	417.6	75.0	

RioTinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 2A DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1655

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535698 E 7151339 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by JK, MN.

- dust visible - greenish colour (Cu tube?)
- some bugs present

Total Volume of Water After Melting: 1600 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.9	174.9		
2	116.1	148.6		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	231.0	323.5	92.5	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 3 DATE (dd-mmm-yyyy): 2019-09-30 TIME (24:00): 1450

SAMPLED BY: NG, LC. TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535024 E 7157872 N (Zone) 12W.

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 8

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, (50%), 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-26 by JK, SS2

- Some bugs present
- visible dust - greenish in colour

Total Volume of Water After Melting: 1700 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	116.3	321.8		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	116.3	321.8	205.5	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: DUST 4 DATE (dd-mmm-yyyy): 28-Sep-2019 TIME (24:00): 1410

SAMPLED BY: SS2 NG LC DP TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531397 E 7152127 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -1 °C Wind Direction: NW 315 Wind Speed (knots): 15

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-27 by SS2, JK

- bugs in sample
- visible dust
- green "fluff" in sample (dust?)

Total Volume of Water After Melting: 1900 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	113.3	131.2		
2	114.4	117.7		
3	114.0	139.4		
4	114.5	120.4		
5				
6				
7				
8				
9				
10				
11				
Totals	456.2	508.7	52.5	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 5 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1512

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535696. E 7155138 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225 Wind Speed (knots): 6.

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by JK, MN.

- Some bugs present
- dust visible - greenish colour (Cu pipe?)

Total Volume of Water After Melting : 1500 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	121.1	168.5		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	121.1	168.5	47.4	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 6 DATE (dd-mmm-yyyy): 2019-09-30 TIME (24:00): 1436

SAMPLED BY: ~~SS2~~ NG, LC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 539502 E 7152934 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 8

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, (50%), 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-26 by SS2 JK
- Dust visible, bugs present
- fine dust - took long time (>1hr) to filter 3 filters

Total Volume of Water After Melting : 900 + 850 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	116.8	144.5		
2	118.4	130.8		
3	121.0	196.4		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	356.2	471.7	115.5	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 7 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1644

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other _____

GPS COORDINATES (UTM): 536819 E 7150510 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by JK, MN.

- clear liquid - dust visible - light brown
- some bugs present

Total Volume of Water After Melting : 1900 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	113.6	144.8		
2	114.9	126.9		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	228.5	271.7	43.2	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 8 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1404

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531401 E 7154146 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6.

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 @ 11:00 by JK, MN.

→ Bugs in sample
→ visible dust
→ green fluff

Total Volume of Water After Melting: 1900 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.6	136.4		
2	115.2	120.3		
3	113.7	123.4		
4	113.7	119.0		
5				
6				
7				
8				
9				
10				
11				
Totals	457.2	499.1	41.9	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 09 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1633

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other _____

GPS COORDINATES (UTM): 541204 E 7152154 N (Zone) 12W.

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6.

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 @ 13:15 by JK, MN

→ Bird poop
- dust visible - brownish colour

Total Volume of Water After Melting : 1200 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	113.8	123.8		
2	113.6	124.2		
3	115.0	126.4		
4				
5				
6				
7				
8				
9				
10				
11				
Totals	342.4	374.4	32	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust 10 DATE (dd-mmm-yyyy): 2019-09-30 TIME (24:00): 1518

SAMPLED BY: NG, LC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 532908 E 7148924 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 8

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, (50%), 75%, 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-27 by LC, JK

- Bugs present
- Dust visible, greenish colour

Total Volume of Water After Melting : 11650. (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	117.0	175.8		
2	121.7	175.0		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	238.7	350.8	112.1	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 11 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1556.

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531493 E 7150156. N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6.

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by JK, MN.

- clear liquid
- Some dust visible, light/white coloured. - some greenish from cu tube
- Some bugs present

Total Volume of Water After Melting : 2250 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.8	153.1		
2	115.4	125.9		
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	230.2	279.0	48.8	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 12 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 15:44

SAMPLED BY: SSZ TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 529323 E 7151191 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6.

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-[illegible]25 @ 11:45 by JK, HN

- Bugs in Sample
- visible Dust
- green fluff

Total Volume of Water After Melting: 2000 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.8	124.8		
2	114.6	124.9		
3	114.4	114.8		
4	113.7	119.0		
5				
6				
7				
8				
9				
10				
11				
Totals	457.5	483.5	26.0	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust C1 DATE (dd-mmm-yyyy): 2019-09-29 TIME (24:00): 1416

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 534979 E 7144270 N (Zone) 12W

DESCRIPTION: Q3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6

Precipitation: rain / mist / snow / (N/A)

Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100%

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by JK, MN

- clear liquid
- some visible dust - blueish-green colour (from Cu pipe?)
- some bugs present

Total Volume of Water After Melting: 1950 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.9	144.2		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	114.9	144.2	29.3	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust C2 DATE (dd-mmm-yyyy): 2019-07-29 TIME (24:00): 1706.

SAMPLED BY: SS2 TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 528714 E 7153296 N (Zone) 12W

DESCRIPTION: D3 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SW 225° Wind Speed (knots): 6

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, (75%), 100

Snow Cover: (0%), 10%, 25%, 50%, 75%, 100% Dust in area: Visible, Not Visible

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-06-25 by SK, MN.
- Some dust visible - slight green hue (in tube)
- Some bugs present

Total Volume of Water After Melting: 1800 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	115.5	134.5		
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	115.5	134.5	19.0	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 01 DATE (dd-mmm-yyyy): 2019-Dec-26 TIME (24:00): 1033

SAMPLED BY: AH NG TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 533964 E 7159329 N (Zone) 12W

DESCRIPTION: 04 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 10

Precipitation: rain / (mist) / snow / N/A Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-30 by LC, NG

- clear liquid - white colour
- some dust visible

Samples analyzed 2019-Dec-29

Total Volume of Water After Melting: 525 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.2	198.0	79.8	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.2	198.0	79.8	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 2A DATE (dd-mmm-yyyy): 2019-Dec-28 TIME (24:00): 1239

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535678 E 7151339 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29. by SS2

- clear liquid
- some dust visible - white in colour.

Samples analyzed 2019-12-29

Total Volume of Water After Melting: 650 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.9	207.2	88.3	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.9	207.2	88.3	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
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GENERAL

LOCATION NAME: Dust 3 DATE (dd-mmm-yyyy): 2019-Dec-26 TIME (24:00): 1115

SAMPLED BY: AH NG TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535024 E 7151872 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 10

Precipitation: rain / (mist) / snow / N/A Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-30 by LC, NG

- clear liquid
- dust visible, white in colour

Samples analyzed 2019-12-29

Total Volume of Water After Melting: 680 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	114.9	327.7	212.8	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	114.9	327.7	212.8	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 4 DATE (dd-mmm-yyyy): 2019-Dec-26 TIME (24:00): 1149

SAMPLED BY: AH NG TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531397 E 7152127 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 10

Precipitation: rain (mist) snow / N/A Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-28 by SS2, NG, LC, DP

- clear liquid - white in colour
- some dust visible.

Samples analyzed 2019-12-29

Total Volume of Water After Melting: 675 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	117.6.	142.2	24.6.	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	117.6	142.2	24.6.	

RIO TINTO

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 5 DATE (dd-mmm-yyyy): 2019-Dec-28 TIME (24:00): 1037

SAMPLED BY: AM GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 535696 E 7155138 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

- clear liquid
- some dust visible - white in colour

Samples analyzed 2019-12-29

Total Volume of Water After Melting: 550 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	117.8	152.5	34.7	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	117.8	152.5	34.7	

RO.Tinto

Dust Gauge Collection Field Sheet

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Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 6 DATE (dd-mmm-yyyy): 2019-Dec-26 TIME (24:00): 1100

SAMPLED BY: AH NG TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 537502 E 7152934 N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 10

Precipitation: rain / (mist) / snow / N/A Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-30 by LC, NG
- clear liquid - white colour
- dust visible.

Samples analyzed 2019-12-29

Total Volume of Water After Melting: 430 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	117.0	146.0	29.0	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	117.0	146.0	29.0	

RioTinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	**Revision:**	R0
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GENERAL

LOCATION NAME: Dust 7 DATE (dd-mmm-yyyy): 2019-Dec-27 TIME (24:00): 1258

SAMPLED BY: AH GL TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 536819 E 7150510 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -14 °C **Wind Direction:** S **Wind Speed (knots):** 7

Precipitation: rain / mist / snow / (N/A) **Cloud Cover:** 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) **Dust in area:** Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29. by SSL

-clear liquid.

-Dust visible, white in colour

Samples Analyzed 2019-12-29

Total Volume of Water After Melting: 670 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.3	227.7	109.4.	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.3	227.7	109.4	

Dust Gauge Collection Field Sheet			
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GENERAL

LOCATION NAME: Dust 8 DATE (dd-mmm-yyyy): 2019-Dec-29 TIME (24:00): 1100

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531401 E 7154146 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29. by SSL

- clear liquid
- some dust visible - white/brown in colour

Samples Analyzed 2019-12-29

Total Volume of Water After Melting: 725 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.2	195.7	77.5	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.2	195.7	77.5	

Rio Tinto

Dust Gauge Collection Field Sheet

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GENERAL

LOCATION NAME: Dust 9 DATE (dd-mmm-yyyy): 2019-Dec-27 TIME (24:00): 1319.

SAMPLED BY: AH, GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 541204 E 7152154 N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -14 °C Wind Direction: S Wind Speed (knots): 7

Precipitation: rain / mist / snow (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible ~~Not Visible~~

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

- clear liquid.
- Some dust visible.

Samples Analyzed 2019-12-29

Total Volume of Water After Melting : ~~65~~ 400 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	119.0	124.9	5.9	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	119.0	124.9	5.9	

Dust Gauge Collection Field Sheet			
		No:	ENVI-178-0312
Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust 10 DATE (dd-mmm-yyyy): 2019-Dec-26 TIME (24:00): 1221

SAMPLED BY: AH NG TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 532908 E 7148924 N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 10.

Precipitation: rain / (mist) / snow / N/A Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-30 by LC, NG
- clear liquid - white colour
- some dust visible
- mosquito present, filtered out

Samples Analyzed 2019-12-29

Total Volume of Water After Melting: 750 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	117.4	227.6	110.2	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	117.4	227.6	110.2	

Rio Tinto

Dust Gauge Collection Field Sheet

		No:	ENVI-178-0312
Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust 11 DATE (dd-mmm-yyyy): 2019-Dec-28 TIME (24:00): 12 17

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 531493 E 7150156. N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

- clear liquid
- some brown/light dust visible.

Samples Analyzed 2019-12-29

Total Volume of Water After Melting : 750 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.3	148.4	30.1	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.3	148.4	30.1	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust 12 DATE (dd-mmm-yyyy): 2019-Dec-28 TIME (24:00): ~~12~~ 1152

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 529323 E 7151191 N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow / (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

- clear liquid
- some dust visible - white - light in colour.

Samples Analyzed 2019-12-29

Total Volume of Water After Melting : 750 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	116.2	131.1	14.9.	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	116.2	131.1	14.9.	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: Dust C1 DATE (dd-mmm-yyyy): 2019-12-27 TIME (24:00): 1221

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 534979 E 7144290 N (Zone) 12W

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -14 °C Wind Direction: S Wind Speed (knots): 7

Precipitation: rain / mist / snow (N/A)

Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%)

Dust in area: Visible, (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

- clear liquid.
- Some dust visible

Samples Analyzed 2019-12-29

Total Volume of Water After Melting: 650. (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.3	143.3	25.0	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.3	143.3	25.0	

Rio Tinto

Dust Gauge Collection Field Sheet

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Area:	8000	Revision:	R0
Effective Date:	26-Mar-2012	By:	Dianne Dul
Task:	Dust Gauge Collection Field Sheet		
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GENERAL

LOCATION NAME: Dust C2 DATE (dd-mmm-yyyy): 2019-Dec-28 TIME (24:00): 1125

SAMPLED BY: AH GC TYPE OF SAMPLE: (Dust) Other

GPS COORDINATES (UTM): 528714 E 7153276 N (Zone) 12W.

DESCRIPTION: Q4 Dust

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -20 °C Wind Direction: W Wind Speed (knots): 12

Precipitation: rain / mist / snow (N/A) Cloud Cover: 0%, 10%, 25%, 50%, 75%, (100)

Snow Cover: 0%, 10%, 25%, 50%, 75%, (100%) Dust in area: Visible (Not Visible)

COLLECTION COMMENTS: (i.e. damage to station, bugs - twigs in sample, hole in vestibule, etc.)

Date Sample Collected was Deployed 2019-09-29 by SS2

-clear liquid

-some dust visible

Samples Analyzed 2019-12-29.

Total Volume of Water After Melting: 680 (mL)

Filter #	Weight of Filter	Filter + Residue	Residue Weight	Comments
1	118.3	132.1	13.8	
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
Totals	118.3	132.1	13.8	

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS1-1 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 1602

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: N/A

GPS COORDINATES (UTM): 0533911 E 7154290 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 0 km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -19 °C Wind Direction: SE Wind Speed (knots): 10

Precipitation: Rain / Mist / Snow / Ice / None

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☑ Not Visible ☑

Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	15.0	12.0	41.0	39.0	2.0	(Y) N	Visible dust
	2	16.0	14.0	41.0	39.0	2.0	(Y) N	
	3	19.6	15.0	42.0	39.0	3.0	(Y) N	
	4	21.0	17.0	42.0	39.0	3.0	(Y) N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	~~1~~ 5	19.0	12.0	41.0	39.0	2.0	(Y) N	
	~~2~~ 6	21.0	14.0	41.0	39.0	2.0	(Y) N	
	~~3~~ 7	30.0	19.0	43.0	39.0	4.0	(Y) N	
	~~4~~ 8	19.0	11.0	41.0	39.0	2.0	(Y) N	Veg
	~~5~~ 9	26.0	16.0	42.0	39.0	3.0	(Y) N	
	~~6~~ 10	26.0	12.0	41.0	39.0	2.0	(Y) N	Veg
	~~7~~ 11	25	19.0	41.0	39.0	2.0	(Y) N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 1090 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.4	376.3	260.9	lots of settled sand present
2	115.3	448.0	332.7	
3	117.3	447.5	330.2	
4	116.0	1301.3	1185.3	
Totals	464.0	2573.1	2109.1	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: 551-2 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 1545

SAMPLED BY: MN 552 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: N/A

GPS COORDINATES (UTM): 0533914 E 7154358 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 0 km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None)

Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑

Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	33	18	45	39.0	6.0	Y (N)	Rewighed, sugary snow @ bottom
	2	29	14	43	39.0	4.0	Y (N)	Sugary snow @ bottom
	3	31	29	45	39.0	6.0	Y (N)	" " veg plug"
	4	33	27	45	39.0	6.0	Y (N)	veg "plug"
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	~~1~~ 5	30	14	42	39.0	3.0	Y (N)	
	~~2~~ 6	31	22	44.0	39.0	5.0	Y (N)	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 1070. (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	114.0	309.1	195.1	
2	116.1	304.5	188.4	
3				
4				
Totals	230.1	613.6	383.5	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS1-3-4 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 15:13

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: DUP

GPS COORDINATES (UTM): 0533966 E 7154521 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 0 km & Direction ____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None) Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	25	17	43.0	39.0	4.0	Y (N)	Reweighed, veg in sample
	2	19	10	42.0	39.0	3.0	Y (N)	
	3	30	14	43.0	39.0	4.0	Y (N)	
	4	23	12	42.0	39.0	3.0	Y (N)	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	~~1~~ 5	25	20	45.0	39.0	6.0	Y (N)	grass in sample
	2 6	25	16	44.0	39.0	5.0	Y (N)	
	~~3~~ 7	25	20	44.0	39.0	5.0	Y (N)	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

no wq sample.

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 1035 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.2	158.8	43.6.	
2				
3				
4				
Totals	115.2	158.8	43.6.	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS1-3-5 DATE (yyyy-mm-dd): 2014-04-06 TIME (24:00): 1530

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: DUP

GPS COORDINATES (UTM): 0533966 E 7154521 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None)
Dust in area: Visible ☐ Not Visible ☑

Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	25	20	45	39.0	6.0	Y (N)	Reweighed
	2	22	16	43	39.0	4.0	Y (N)	Air pockets in snow, slurry at bottom
	3	26	17	45	39.0	6.0	Y (N)	Air pockets in snow, slurry @ bottom
	4	25	16	44	39.0	5.0	Y (N)	"
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	~~1~~ 5	20	12	42	39.0	3.0	Y (N)	"
	~~2~~ 6	20	13	42	39.0	3.0	Y (N)	"
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 960 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.8	145.8	29.0	
2				
3				
4				
Totals	116.8	145.8	29.0	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

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GENERAL

LOCATION NAME: 561-4 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 14:45

SAMPLED BY: SS2 MN LC TYPE OF SAMPLE: Dust ☐ Water Quality ☒ QAQC: _____

GPS COORDINATES (UTM): 534482 E 7155093 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: F Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / None

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑

Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	30	28	46	39.0	7	Y N		7
	2	30	28	46		7	Y N		14
	3	29	28	46		7	Y N		21
	4	30	28	46		7	Y N		28
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	30	28	46	39.0	7	Y N	Rewash.	7
	2	30	29	46		7	Y N		14
	3	30	30	46		7	Y N		21
	4	30	30	46		7	Y N		29
	5	30	30	46		7	Y N		38
	6	30	30	46		7	Y N		45
	7	31	30	46		7	Y N		52
	8	32	31	47	39.0	8	Y N	Rewash	60
	9	32	31	47		8	Y N		68
	10	31	30	46		7	Y N		75
	11	30	30	46		7	Y N		82
	12	30	29	47		8	Y N		90
	13	30	29	46		7			97
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)	14	30	29	46		7			104

*** **Water Content** $_{SWE}$ = **Wt. of Tube & Core** $_{SWE}$ – **Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 895 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.4	162.7	47.3	
2				
3				
4				
Totals	115.4	162.7	47.3	

Water Quality Bottles

~~5514~~ 1625+1675

Total Volume of Melted Snow : 3300 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS1-5 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 14:00

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: _____

GPS COORDINATES (UTM): 535097 E 7156275 N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	30	30	47	39	8	Y N		
	2	30	29	47	39	8	Y N		16
	3	31	29	47	39	8	Y N		24
	4	31	30	48	39	9	Y N		33
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	33	33	49	39	10	Y N		
	2	34	34	50	39	11	Y N		
	3	35	33	50	39	11	Y N		
	4	35	34	50	39	11	Y N		43
	5	35	34	50	39	11	Y N		54
	6	35	33	51	39	12	Y N	Newbury, Neverly	66
	7	36	36	50	39	11	Y N		77
	8	35	35	50	39	11	Y N		88
	9	35	35	50	39	11	Y N		99
	10	36	36	50	39	11	Y N		110
	11						Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 1100 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	121.2.	163.0	41.8	
2				
3				
4				
Totals	121.2.	163.0	41.8	

Water Quality Bottles

1705+1760

Total Volume of Melted Snow : 3465 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS2-1 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 1428

SAMPLED BY: LC SS2 TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 05T 0537553 E 7153473 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 0.18 km & Direction E On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -18 °C Wind Direction: SE Wind Speed (knots): 11

Precipitation: Rain / Mist / (Snow) / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / (100%)

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	31.0	30	47.0	39.0	8.0	Y (N)	Reweighed core
	2	35.0	33	48.0	39.0	9.0	Y (N)	
	3	34.0	33.0	46.0	39.0	7.0	Y (N)	
	4	33.0	31.0	47.0	39.0	8.0	Y (N)	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	33.0	31.0	47.0	39.0	8.0	Y (N)	Reweighed core
	2	32.0	31.0	47.0	39.0	8.0	Y (N)	
	3	32.0	30.0	47.0	39.0	8.0	Y (N)	
	4	32.0	31.0	47.0	39.0	8.0	Y (N)	
	5	32.0	30.0	47.0	39.0	8.0	Y (N)	
	6	32.0	31.0	47.0	39.0	8.0	Y (N)	
	7	30.0	29.0	47.0	39.0	8.0	Y (N)	
	8	~~32~~ 32.0	29.0	47.0	39.0	8.0	Y (N)	Reweighed core
	9	33.0	32.0	48.0	39.0	9.0	Y (N)	
	10	32.0	32.0	47.0	39.0	8.0	Y (N)	
	11	30.0	29.0	46.0	39.0	7.0	Y (N)	
	12	30.0	28.0	46.0	39.0	7.0	Y (N)	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								
		29.0	27.0	46.0	39.0	7.0	(N)	

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 1025 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.5	127.5	11.0.	
2	115.1	121.1	6.0	
3				
4				
Totals	231.6	~~376.1~~ 248.6.	17.0.	

Water Quality Bottles

1755 + 1485

Total Volume of Melted Snow : 3240 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS2-1-1 DATE (yyyy-mm-dd): 2014-04-07 TIME (24:00): 1742

SAMPLED BY: LC SS2 TYPE OF SAMPLE: Dust ☐ Water Quality ☐ QAQC: EBW.

GPS COORDINATES (UTM): _____ E _____ N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: _____ °C Wind Direction: _____ Wind Speed (knots): _____

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☐

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☐ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 1000 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	117.0	(116.3) 117.0.	0	03514-0315
2				
3				
4				
Totals				

Water Quality Bottles

Total Volume of Melted Snow : 1260+2335 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * EBW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate ✓ ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL 552-1-1B

LOCATION NAME: 55 Bay DATE (yyyy-mm-dd): _____ TIME (24:00): _____

SAMPLED BY: _____ TYPE OF SAMPLE: Dust ☐ Water Quality ☐ QAQC: EBW

GPS COORDINATES (UTM): _____ E _____ N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: _____ °C Wind Direction: _____ Wind Speed (knots): _____

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☐

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☐ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1						Y N	03159-0315 D1
	2						Y N	
	3						Y N	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 1095 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.4	(115.8) 116.4	0	031519-0315
2				
3				
4				
Totals				

2235 + 2075

Water Quality Bottles

Total Volume of Melted Snow :_____(mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (FBW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate ✓ ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS2-2-4 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 13:30

SAMPLED BY: SS2 LC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: -4

GPS COORDINATES (UTM): 0537829 E 7153478 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	28	26	46	39	7	Y N		
	2	30	24	46	39	7	Y N		14
	3	29	27	46	39	7	Y N		21
	4	31	25	46	39	7	Y N		28
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	30	30	47	39	8	Y N		
	2	33	32	48	39	9	Y N		17
	3	30	29	46	39	9	Y N		26
	4	31	30	48	39	9	Y N		35
	5	31	31	48	39	9	Y N		44
	6	32	31	48	39	9	Y N		53
	7	31	30	48	39	9	Y N		72
	8	29	27	47	39	8	Y N		80
	9	30	28	47	39	8	Y N		88
	10	29	28	47	39	8	Y N		96
	11	32	27	48	39	9	Y N		106
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 925 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.4	126.4	18.0	
2				
3				
4				
Totals	108.4	126.4	18.0	

Water Quality Bottles

Total Volume of Melted Snow : 1765+1330 3095 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (DUPW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

Perchlorate

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Y ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: SS2-2-5 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 13:54

SAMPLED BY: SS2 LC TYPE OF SAMPLE: Dust ☒ Water Quality ☐ QAQC: -5

GPS COORDINATES (UTM): 0537825 E 7153480 N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☐ Packed ☒ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	30	28	47	39	8	Y N		
	2	30	29	47	39	8	Y N		16
	3	30	28	47	39	8	Y N		24
	4	30	28	47	39	8	Y N		32
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	28	26	46	39	7	Y N		
	2	30	25	47	39	8	Y N		15
	3	32	25	48	39	9	Y N		24
	4	30	26	46	39	7	Y N		31
	5	30	27	47	39	8	Y N		39
	6	30	27	47	39	8	Y N		47
	7	28	26	46	39	7	Y N		54
	8	27	25	46	39	7	Y N		61
	9	31	30	48	39	9	Y N		70
	10	30	28	48	39	9	Y N		79
	11	30	24	46	39	7	Y N		86
	12	30	29	48	39	9	Y N		95
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

13 28 24 45 1 39 1 6 101

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
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Dust Sample Filters

Total Volume of Melted Snow : 1025 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	121.9	135.6	13.7	
2	121.8	134.3	12.5	
3				
4				
Totals	243.7	269.9	26.2	

Water Quality Bottles

Total Volume of Melted Snow : 1515+1700 = 3215 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * DUPW2	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate Y ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: 552-3 DATE (yyyy-mm-dd): 2019-04-04 TIME (24:00): 1113

SAMPLED BY: MN 552 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 05384483 E 7153947 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 2.89 km & Direction NE On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -24 °C Wind Direction: ~~270~~ W Wind Speed (knots): 30

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☑

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	29.0	29.0	46.00	39.0	7.0	Y (N)	Reweigh
	2	34.0	34.0	48.0	39.0	9.0	Y (N)	
	3	34.0	34.0	49.0	39.0	10.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	34.0	34.0	48.0	39.0	9.0	Y (N)	Reweigh Bag 1
	2	27.0	27.0	45.0	39.0	6.0	Y (N)	
	3	30.0	30.0	46.0	39.0	7.0	Y (N)	
	4	30.0	30.0	46.0	39.0	7.0	Y (N)	
	5	31.0	31.0	46.0	39.0	7.0	Y (N)	
	6	36.0	36.0	49.0	39.0	10.0	Y (N)	
	7	36.0	36.0	48.0	39.0	9.0	Y (N)	
	8	35.0	35.0	118.0	39.0	4.0	Y (N)	Reweigh, Bag 2
	9	27.0	27.0	47.0	39.0	8.0	Y (N)	
	10	33.0	32.0	47.0	39.0	8.0	Y (N)	
	11	31.0	31.0	48.0	39.0	9.0	Y (N)	
	12	37.0	37.0	49.0	39.0	10.0	Y (N)	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

36.0 31.0 45.0 39.0 6.0 (N)

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 870 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	121.5	136.4	14.9	
2				
3				
4				
Totals	121.5	136.4	14.9	

Water Quality Bottles

1845.0 + 1955

Total Volume of Melted Snow : 3800 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

pre-blank (Y) (N) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: SS2-4 DATE (yyyy-mm-dd): 2019-04-04 TIME (24:00): 1003

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 0534158 E 7154683 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 3.74 km & Direction NE On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: W Wind Speed (knots): 30

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	23.0	21.0	~~45.0~~ 41.0	39.0	~~6.0~~ 2.0	Y (N)	
	2	23.0	23.0	46.0	39.0	~~6.0~~ 7.0	Y (N)	
	3	23.0	21.0	45.0	39.0	6.0	Y (N)	
	4	~~23.0~~ 24.0	22.0	44.0	39.0	5.0	Y (N)	
		22.0	22.0	44.0	39.0	5.0	(N)	Dust (Min. of 3 cores – Total Water Content SWE =/> 25)
Water Quality Cores	1	27.0	27.0	45.0	39.0	6.0	Y (N)	Reweighed, Bag 1
	2	25.0	24.0	45.0	39.0	6.0	Y (N)	
	3	25.0	25.0	45.0	39.0	6.0	Y (N)	
	4	25.0	25.0	45.0	39.0	6.0	Y (N)	
	5	25.0	25.0	45.0	39.0	6.0	Y (N)	
	6	25.0	25.0	45.0	39.0	6.0	Y (N)	
	7	27.0	27.0	46.0	39.0	7.0	Y (N)	
	8	27.0	27.0	46.0	39.0	7.0	Y (N)	Reweigh.
	9	25.0	25.0	45.0	39.0	6.0	Y (N)	Bag 8
	10	40.0	39.0	51.0	39.0	12.0	Y (N)	
	11	40.0	40.0	51.0	39.0	12.0	Y (N)	
	12	37.0	37.0	49.0	39.0	10.0	Y (N)	
		40.0	34.0	49.0	39.0	10.0	(N)	Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)
		39.0	39.0	49.0	39.0	10.0	(N)	

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 975 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	113.4	138.4	25.0	
2				
3				
4				
Totals	113.4	138.4	25.0	

Water Quality Bottles

1625 + 1780

Total Volume of Melted Snow : 3405 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
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Task:	Snow Sampling Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: 553-4 DATE (yyyy-mm-dd): 2012-04-07 TIME (24:00): 11:32

SAMPLED BY: LC 552 TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 0536536 E 7151023 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / (Snow) / Ice / None
Dust in area: Visible ☐ Not Visible ☑

Cloud Cover: 0% / 10% / 25% / 50% / 75% / (100%)
Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	40	39	50.0	39.0	11.0	Y (N)	Reweighed cores
	2	41	39	51.0	39.0	12.0	Y (N)	
	3	43	41	50.0	39.0	11.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	35.0	33.0	48.0	39.0	9.0	Y (N)	Reweighed cores, Bag 1
	2	39.0	36.0	49.0	39.0	10.0	Y (N)	
	3	38.0	35.0	49.0	39.0	10.0	Y (N)	
	4	38.0	36.0	49.0	39.0	10.0	Y (N)	
	5	38.0	37.0	49.0	39.0	10.0	Y (N)	
	6	37.0	36.0	49.0	39.0	10.0	Y (N)	
	7	39.0	35.0	49.0	39.0	10.0	Y (N)	Reweigh cores, bag 2
	8	36.0	35.0	49.0	39.0	10.0	Y (N)	
	9	36.0	36.0	48.0	39.0	9.0	Y (N)	
	10	37.0	35.0	49.0	39.0	10.0	Y (N)	
	11	36.0	35.0	49.0	39.0	10.0	Y (N)	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 1100 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.4	130.3	21.9	
2	113.9	144.5	30.6	
3	121.8	162.3	40.5	
4				
Totals	344.1	437.1	93.0	

Water Quality Bottles

~~1595~~ 1880 + 1595

Total Volume of Melted Snow : 3475 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R8
Task:	Snow Sampling Field Sheet	By:	Dianne Dul
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GENERAL

LOCATION NAME: SS3-5 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 1001

SAMPLED BY: LC SS2 TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 0537690 E 7150798 N (Zone)_____ NAD 83

DESCRIPTION: Distance to Diavik_____km & Direction_____On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -16 °C Wind Direction: SE Wind Speed (knots): 13

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☑

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	15.0	15.0	42.0	39.0	3.0	Y (N)	Reweighed cover, 55 m from pond due to W road
	2	15.0	15.0	43.0	39.0	4.0	Y (N)	
	3	15.0	15.0	44.0	39.0	5.0	Y (N)	
	4	17.0	16.0	44.0	39.0	5.0	Y (N)	
	5	17.0	15.0	43.0	39.0	4.0	(N)	
	6	17.0	16.0	43.0	39.0	4.0	(N)	
	Dust (Min. of 3 cores – Total Water Content SWE =/> 25)							
Water Quality Cores	1	15.0	15.0	43.0	39.0	4.0	Y (N)	Reweighed cover, Bag 1
	2	16.0	15.0	43.0	39.0	4.0	Y (N)	
	3	16.0	15.0	43.0	39.0	4.0	Y (N)	
	4	15.0	14.0	42.0	39.0	3.0	Y (N)	
	5	15.0	14.0	43.0	39.0	4.0	Y (N)	
	6	16.0	15.0	43.0	39.0	4.0	Y (N)	
	7	16.0	15.0	43.0	39.0	4.0	Y (N)	
	8	16.0	15.0	43.0	39.0	4.0	Y (N)	
	9	15.0	15.0	43.0	39.0	4.0	Y (N)	
	10	17.0	16.0	44.0	39.0	5.0	Y (N)	Reweighed cover
	11	17.0	16.0	43.0	39.0	4.0	Y (N)	
	12	17.0	16.0	43.0	39.0	4.0	Y (N)	
	Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)							
		18.0	17.0	43.0	39.0	4.0	(N)	
		18.0	17.0	43.0	39.0	4.0	(N)	Bag 2
		19.0	18.0	43.0	39.0	4.0	(N)	

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 995 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.6.	124.9.	9.3.	
2	116.7.	128.0	11.3.	
3	116.2.	132.9.	16.7.	
4				
Totals	348.5	385.8.	37.3.	

Water Quality Bottles

Total Volume of Melted Snow : 1765 + 1880 = 3645 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: 553-5 DATE (yyyy-mm-dd): _____ TIME (24:00): _____

SAMPLED BY: _____ TYPE OF SAMPLE: Dust ☐ Water Quality ☐ QAQC: _____

GPS COORDINATES (UTM): _____ E _____ N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: _____ °C Wind Direction: _____ Wind Speed (knots): _____

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☐

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☐ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
65	16	18.0	17.0	44.0	39.0	5.0	Y (N)	
69	2 17	19.0	17.0	43.0	39.0	4.0	Y (N)	
73	3 18	19.0	18.0	43.0	39.0	4.0	Y (N)	
79	4 19	20	19.0	45.0	39.0	6.0	Y (N)	
82	5 20	15.0	15.0	42.0	39.0	3.0	Y (N)	Reweighed core
87	6 21	19.0	18.0	44.0	39.0	5.0	Y (N)	
92	7 22	20.0	19.0	44.0	39.0	5.0	Y (N)	
97	8 23	20.0	20.0	44.0	39.0	5.0	Y (N)	
102	9 24	19.0	19.0	44.0	39.0	5.0	Y (N)	
Water Quality Cores	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow :_____(mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1				
2				
3				
4				
Totals				

Water Quality Bottles

Total Volume of Melted Snow : 3645 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS3-6 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 12:47

SAMPLED BY: SS2 LC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: —

GPS COORDINATES (UTM): 0536300 E 7151568 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☑ Not Visible ☐ Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	26	27	46	39	7	Y N		
	2	25	27	46	39	7	Y N		14
	3	23	28	45	39	6	Y N		20
	4	28	23	46	39	7	Y N		27
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	30	29	45	39	6	Y N		
	2	28	25	44	39	5	Y N		11
	3	30	29	45	39	6	Y N		17
	4	29	27	45	39	6	Y N		23
	5	30	28	45	39	6	Y N		29
	6	28	25	45	39	6	Y N		35
	7	28	24	45	39	6	Y N		41
	8	30	29	45	39	6	Y N		47
	9	30	28	45	39	6	Y N		54
	10	30	28	45	39	6	Y N		60
	11	32	30	46	38	7	Y N		67
	12	31	31	45	39	6	Y N		74
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									
	13	31	29	45	39	6	N		80
	14	31	31	45	39	6	N		86
	15	33	31	46	39	7	N		93
	16	37	31	46	39	?			100
	17	33	31	45	39	6			106

*** **Water Content** SWE = **Wt. of Tube & Core** SWE – **Wt. of Empty Tube** SWE ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 750 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.0.	185.4.	69.4.	
2	115.9.	184.3.	68.4.	
3				
4				
Totals	231.9.	369.7	137.8.	

Water Quality Bottles

Total Volume of Melted Snow : 1670 + 1655 = 3325 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW.	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Per Morata ✓ ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS3-7 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 12:13

SAMPLED BY: SS2 LC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: ✓

GPS COORDINATES (UTM): ~~0~~ 0536344 E 7151369 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☐ Packed ☒ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	29	24	45	39	6	Y N		
	2	31	25	45	39	6	Y N		12
	3	33	31	45	39	6	Y N		18
	4	33	30	45	39	6	Y N		24
	5	33	33	47	39	8	N		32
	Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	33	33	48	39	9	Y N		
	2	34	34	45	39	6	Y N		15
	3	34	32	46	39	7	Y N		23
	4	33	29	45	39	6	Y N		29
	5	33	32	46	39	7	Y N		36
	6	34	34	46	39	7	Y N		44
	7	32	30	45	39	6	Y N		50
	8	31	30	46	39	7	Y N		57
	9	34	31	46	39	7	Y N		64
	10	34	31	46	39	7	Y N		71
	11	34	33	48	39	9	Y N		80
	12	34	32	47	39	8	Y N		88
	Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								
	11	33	28	45	39	6			94

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

12 33 32 46 39 7 101

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 1060. (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.6.	235.1	119.5	
2	116.1	267.7.	151.6.	
3				
4				
Totals	231.7.	502.8	271.1	

Water Quality Bottles

1535 + 1580

Total Volume of Melted Snow : 3115 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS3-8 DATE (yyyy-mm-dd): 2019-04-07 TIME (24:00): 1103

SAMPLED BY: LC SS2 TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 0536672 E 7150824 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 12

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☐ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	37.0	36.0	50.0	39.0	11.0	Y (N)	Reweighed core, original got close to water core, 20cm off
	2	37.0	37.0	51.0	39.0	12.0	Y (N)	
	3	38.0	36.0	50.0	39.0	11.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	40.0	39.0	51.0	39.0	12.0	Y (N)	Reweighed core
	2	40.0	34.0	51.0	39.0	12.0	Y (N)	
	3	40.0	36.0	51.0	39.0	12.0	Y (N)	
	4	42.0	42.0	53.0	39.0	14.0	Y (N)	
63	5	42.0	37.0	52.0	39.0	13.0	Y (N)	Reweighed core
76	6	42.0	41.0	52.0	39.0	13.0	Y (N)	
90	7	41.0	41.0	53.0	39.0	14.0	Y (N)	
101	8	43.0	42.0	53.0	39.0	14.0	Y (N)	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
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Dust Sample Filters

Total Volume of Melted Snow : 1080. (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.1	147.8	39.7	
2	116.3	187.6	71.3	
3				
4				
Totals	224.4	335.4	111.0	

Water Quality Bottles

1700+1535

Total Volume of Melted Snow : 3235 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS4-1-4 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 11:12

SAMPLED BY: MNLC SS2 TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: DUP

GPS COORDINATES (UTM): 0531488 E 7152212 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None)

Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑

Snow Condition: Crystallized ☑ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	40.0	36.0	50.0	39.0	11.0	Y (N)	Reweighed, course crystals
	2	45.0	39.0	51.0	39.0	12.0	Y (N)	
	3	45.0	38.0	50.0	39.0	11.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet			
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Dust Sample Filters

Total Volume of Melted Snow : 1125 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.5	164.9	48.4	
2	115.2	~~115~~ 160.3	45.1	
3				
4				
Totals	231.7	325.2	93.5	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS4-1-5 DATE (yyyy-mm-dd): 2014-04-06 TIME (24:00): 1122

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☐ QAQC: DUP

GPS COORDINATES (UTM): 0531488 E 7152212 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None)

Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑

Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	40	38	50.0	39.0	11.0	Y (N)	Reweighed, air pockets in one
	2	35	25	45.0	39.0	6.0	Y (N)	
	3	35	23	46.0	39.0	7.0	Y (N)	Veg in sample
	4	40	18	44.0	39.0	5.0	Y (N)	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

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Dust Sample Filters

Total Volume of Melted Snow : 980 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.4	152.3	43.9	Sticks filtered out
2	115.5	173.6	58.1	
3				
4				
Totals	223.9	325.9	102.0	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS 4-2 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 11:39

SAMPLED BY: LE SSZ MN TYPE OF SAMPLE: Dust [X] Water Quality [ ] QAQC: —

GPS COORDINATES (UTM): 531356 E 7152261 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land [X] &/or Lake [ ]

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None) Cloud Cover: (0%) / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible [ ] Not Visible [X] Snow Condition: Crystallized [X] Packed [ ] Wet [ ] Dry [ ]

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	45	43	49	39.0	10	Y N		17
	2	45	34	46	39	7	Y N	few flakes + dirt	19
	3	45	45	50	39	11	Y N		28
	4						Y N		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1						Y N		
	2						Y N		
	3						Y N		
	4						Y N		
	5						Y N		
	6						Y N		
	7						Y N		
	8						Y N		
	9						Y N		
	10						Y N		
	11						Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 935 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.2.	154.0.	38.8	
2	110.3.	163.2.	52.9.	
3				
4				
Totals	225.5	317.2.	91.7	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS4-3 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 12:00

SAMPLED BY: LC SSZ MN TYPE OF SAMPLE: Dust ☒ Water Quality ☐ QAQC: _____

GPS COORDINATES (UTM): 531329 E 7152480 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☒ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	49	37	49	39	10	Y N	10
	2	48	44	50	39	11	Y N	21
	3	42	38	48	39	9	Y N	30
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

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Dust Sample Filters

Total Volume of Melted Snow : 935 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	116.6.	199.4.	82.8	
2				
3				
4				
Totals	116.6.	199.4	82.8	

Water Quality Bottles

Total Volume of Melted Snow : _____ (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

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GENERAL

LOCATION NAME: SS4-4 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 12:40

SAMPLED BY: MN SSZ LC TYPE OF SAMPLE: Dust [X] Water Quality [X] QAQC: —

GPS COORDINATES (UTM): 531 129 E 7153169 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction N On: Land [ ] &/or Lake [X]

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 06

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible [ ] Not Visible [X] Snow Condition: Crystallized [ ] Packed [X] Wet [ ] Dry [ ]

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	28	26	46	39	7	Y N		
	2	27	26	46	39	7	Y N		14
	3	27	26	46	39	7	Y N		21
	4	28	27	46	39	7	Y N		28
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	28	26	46	39	7	Y N		
	2	28	26	46	39	7	Y N		14
	3	28	27	46	39	7	Y N		21
	4	30	27	46	39	7	Y N		28
	5	28	24	45	39	6	Y N		32
	6	28	26	46	39	7	Y N		39
	7	30	29	47	39	8	Y N		47
	8	30	28	46	39	7	Y N		54
	9	30	29	46	39	7	Y N		61
	10	30	24	45	39	6	Y N		67
	11	29	24	45	39	6	Y N		63
	12	30	28	46	39	7	Y N		70
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									
	13	28	27	47	39	8	N		178
	14	30	29	47	39	8	N		186
	15	30	25	46	39	7	N		194
	16	30	28	47	39	8	N		102
	17								

*** **Water Content SWE = Wt. of Tube & Core SWE – Wt. of Empty Tube SWE** ***

Rio Tinto

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Dust Sample Filters

Total Volume of Melted Snow : 835 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.3	150.2	41.9	
2	113.5	130.7	17.2	
3				
4				
Totals	221.8	280.9	59.1	

Water Quality Bottles

Total Volume of Melted Snow : 1790+1790 = 3580 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate ✓ ✓

Additional Comments

Rio Tinto

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GENERAL

LOCATION NAME: SS4-5 DATE (yyyy-mm-dd): 2014-01-06 TIME (24:00): 1322

SAMPLED BY: MN SS2 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: NA

GPS COORDINATES (UTM): 0531408 E 7154115 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -22 °C Wind Direction: E Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / (None) Cloud Cover: 0% / (10%) / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	36.0	34.0	48.0	39.0	9.0	Y (N)	Reweighed
	2	36.0	36.0	49.0	39.0	10.0	Y (N)	
	3	31.0	34.0	48.0	39.0	9.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	34.0	33.0	48.0	39.0	9.0	Y (N)	Reweighed Bag 1
	2	33.0	33.0	48.0	39.0	9.0	Y (N)	
	3	34.0	34.0	48.0	39.0	9.0	Y (N)	
	4	36.0	30.0	48.0	39.0	9.0	Y (N)	
	5	36.0	30.0	45.0	39.0	6.0	Y (N)	
51	6	35.6	34.0	48.0	39.0	9.0	Y (N)	
61	7	36.0	36.0	49.0	39.0	10.0	Y (N)	Reweighed, Bag 2
70	8	36.0	36.0	48.0	39.0	9.0	Y (N)	
80	9	36.0	36.0	49.0	39.0	10.0	Y (N)	
89	10	36.0	31.0	48.0	39.0	9.0	Y (N)	
99	11	36.0	36.0	49.0	39.0	10.0	Y (N)	
	12	36.0	36.0	49.0	39.0	10.0	Y (N)	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow S… …g Field Sheet			
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Dust Sample Filters

Total Volume of Melted Snow : 880. (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.6.	166.1.	50.5	
2				
3				
4				
Totals	115.6.	166.1	50.5	

Water Quality Bottles

1905 + 1745

Total Volume of Melted Snow : 3650. (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

perchlorate ✓ ✓

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS5-1 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 14:58

SAMPLED BY: MN LC SS2 TYPE OF SAMPLE: Dust ☒ Water Quality ☐ QAQC: N/A

GPS COORDINATES (UTM): 533150 E 7148925 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☒ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: 320 NW Wind Speed (knots): 7

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	35	30	46	39	7	Y (N)	
	2	35	29	48	39	9	Y (N)	
	3	33	29	47	39	8	Y (N)	Veg. present
	4	35	30	47	39	8	Y (N)	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
	5						Y N	
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

16
24
32

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 1060 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	114.7	196.4	81.7	Grass present in melted snow, filtered out.
2	116.6	296.1	179.5	
3				
4				
Totals	231.3	492.5	261.2	

Water Quality Bottles

Total Volume of Melted Snow :_____(mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SS5-2 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 15:19

SAMPLED BY: MN SS2 - LC TYPE OF SAMPLE: Dust ☒ Water Quality ☐ QAQC: N/A

GPS COORDINATES (UTM): 533150 E 7148875 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 17 °C Wind Direction: 320 NW Wind Speed (knots): 7

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	40	34	47	39	8	Y (N)		
	2	40	32	47	39	8	Y (N)		16
	3	40	27	47	39	8	Y (N)		24
	4	40	29	47	39	8	Y (N)		32
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1						Y N		
	2						Y N		
	3						Y N		
	4						Y N		
	5						Y N		
	6						Y N		
	7						Y N		
	8						Y N		
	9						Y N		
	10						Y N		
	11						Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 995 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	109.3	220.9	111.6	
2	113.6	183.0	69.4	
3	116.0	226.5	110.5	
4				
Totals	338.9	630.4	291.5	

Water Quality Bottles

Total Volume of Melted Snow :_____(mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	Y	N	☐	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	Y	N	☐	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	Y	☐	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	Y	☐	☐	☐	
5	Routine	1000 mL plastic	Y	N	☐	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	Y	N	☐	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: 555-3-4 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 1535

SAMPLED BY: MN 552 LC TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: DUP#1 / WQ only

GPS COORDINATES (UTM): 0533143 E 7148701 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik 200m km & Direction On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: 320 NW Wind Speed (knots): 7

Precipitation: Rain / Mist / Snow / Ice / None Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	32	32	48.0	39.0	9.0	Y (N)	Reweighed
	2	34	34	49.0	39.0	10.0	Y (N)	
	3	34	34	49.0	39.0	10.0	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	~~36.0~~ 32	~~36.0~~ 32	50.0	39.0	11.0	Y (N)	Reweighed, Bag 1
	2	37.0	37.0	50.0	39.0	11.0	Y (N)	
	3	37.0	36.0	49.0	39.0	10.0	Y (N)	
	4	40.0	40.0	51.0	39.0	12.0	Y (N)	
	5	40.0	40.0	51.0	39.0	12.0	Y (N)	
	6	40.0	35.0	49.0	39.0	10.0	Y (N)	Reweigh, Bag 2
	7	42.0	42.0	52.0 ~~50.0~~	39.0	13.0	Y (N)	
	8	41.0	40.0	51.0	39.0	12.0	Y (N)	
	9	41.0	40.0	51.0	39.0	12.0	Y (N)	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

32
44
56
79
91
103

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 885 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	124.0	231.4	107.4	
2	114.7	185.4	70.7	
3				
4				
Totals	238.7	416.8	178.1	

Water Quality Bottles

Total Volume of Melted Snow : 1480+1745 = 3225 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * DUPW1	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

Perchlorate ✓ ✓

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SSS-3-5 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 16:00

SAMPLED BY: MN LO SS2 TYPE OF SAMPLE: Dust ☐ Water Quality ☑ QAQC: DUPW2 WQ only

GPS COORDINATES (UTM): 0533143 E 7148701 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -16 °C Wind Direction: 340 N Wind Speed (knots): 4

Precipitation: Rain / Mist / Snow / Ice / (None) Cloud Cover: 0% / 10% / 25% / (50%) / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1				39.0		Y N	
	2						Y N	
	3						Y N	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	35.0	35.0	48.0	39.0	9.0	Y (N)	Reweigh Bag 1, laser in the snow
	2	41.0	41.0	52.0	39.0	13.0	Y (N)	
	3	43.0	43.0	52.0	39.0	13.0	Y (N)	
	4	42.0	41.0	51.0	39.0	12.0	Y (N)	
	5	42.0	42.0	52.0	39.0	13.0	Y (N)	
	6	44.0	44.0	54.0	39.0	15.0	Y (N)	Reweighed, Bag 2
	7	44.0	44.0	53.0	39.0	14.0	Y N	
	8	44.0	44.0	53.0	39.0	14.0	Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

No Dust sample.

22 35 47 60 75 88 99

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R7
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Dust Sample Filters

Total Volume of Melted Snow :_____(mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1				
2				
3				
4				
Totals				

Water Quality Bottles

1340 + 1920

Total Volume of Melted Snow :_____(mL)

3260

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * DUPW2	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SS-4 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 15:58

SAMPLED BY: LC MN SS2 TYPE OF SAMPLE: Dust ☐ Water Quality ☒ QAQC: N/A

GPS COORDINATES (UTM): 533141 E 7147954 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -17 °C Wind Direction: 320 NW Wind Speed (knots): 7

Precipitation: Rain / Mist / Snow / Ice / (None)
Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / (50%) / 75% / 100%
Snow Condition: Crystallized ☒ Packed ☒ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	36	36	49	39	10	Y (N)	weigh.	10
	2	35	25	48	↓	9	Y (N)		19
	3	35	24	47	↓	8	Y (N)		27
	4						Y N		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	38	38	50	39	11	Y (N)	reweigh bag	11
	2	36	36	49	39	10	Y (N)		21
	3	38	38	50	39	11	Y (N)		32
	4	39	39	50	39	11	Y (N)		43
	5	40	40	52	39	13	Y (N)		56
	6	40	36	50	39	11	Y (N)	reweigh tube bag 2.	67
	7	40	38	52	39	13	Y (N)		80
	8	40	36	51	39	12	Y (N)		92
	9	37	36	50	39	11	Y (N)		103
	10						Y N		
	11						Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Effective Date:	26-MAR-2012	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 825 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	115.8	153.0.	37.2.	
2				
3				
4				
Totals	115.8	153.0	37.2	

Water Quality Bottles

Total Volume of Melted Snow : 1735 + 1415 = 3150 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SSS-5 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 1320

SAMPLED BY: MN LC SS2 TYPE OF SAMPLE: Dust ☒ Water Quality ☑ QAQC: N/A

GPS COORDINATES (UTM): 0539135 E 7146948 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -18 °C Wind Direction: 320° NW Wind Speed (knots): 6

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☑

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☑ Packed ☑ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	26	21	46	39.0	~~46~~ 7.0	Y (N)	Reweighed
	2	30	22	45	39.0	6.0	Y (N)	Hard packed top layer w crystal bottom
	3	27	27	~~47~~	39.0	8.0	Y (N)	
	4	30	20	45	39.0	6.0	Y (N)	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	25	23	46.0	39.0	7.0	Y (N)	Reweigh
	2	30	24	~~46~~ 46.0	39.0	7.0	Y (N)	
	3	30	28	47.0	39.0	8.0	Y (N)	
	4	30	22	45.0	39.0	6.0	Y (N)	
	5	32	32	49.0	39.0	10.0	Y (N)	
	6	32	32	48.0	39.0	9.0	Y (N)	
	7	33	33	49.0	39.0	10.0	Y (N)	
	8	30	30	48.0	39.0	9.0	Y (N)	Reweigh, Bag 1
	9	36	36	50.0	39.0	11.0	Y (N)	
	10	37	36	49.0	39.0	10.0	Y (N)	
	11	39	38	50.0	39.0	11.0	Y (N)	
	12	39	39	50.0	39.0	11.0	Y (N)	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow : 850 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	117.7	137.5	19.8	
2				
3				
4				
Totals	117.7	137.5	19.8	

Water Quality Bottles

Total Volume of Melted Snow : 1815 + 1605 = 3420 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * (GW)	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
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GENERAL

LOCATION NAME: SSC-1 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 12:00

SAMPLED BY: MN SSC LC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: — Dup W

GPS COORDINATES (UTM): 534941 E 7144103 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik ____ km & Direction ____ On: Land ☒ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -18 °C Wind Direction: 348 N Wind Speed (knots): 10

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	38	35	49	39	10	Y (N)	weigh.
	2	38	35	49	39	10	Y (N)	
	3	32	29	47	39	8	Y (N)	
	4	40	35	49	39	10	Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	45	36	49	39	10	Y N	Vegetation Present remove.
	2	48	36	50	39	11	Y N	
	3	45	27	47	39	8	Y N	
	4	45	29	43	39	4	Y N	
	5	45	30	50	39	11	Y N	
	6	44	29	48	39	9	Y N	remeigh bag 2
	7	45	30	47	39	8	Y N	
	8	41	30	48	39	9	Y N	
	9	43	29	48	39	9	Y N	
	10	43	35	49	39	10	Y N	veg. Present
	11	45	39	50	39	11	Y N	
	12	45	30	48	39	9	Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 1255 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	114.7	133.6.	18.9.	
2				
3				
4				
Totals	114.7	133.6	18.9.	

Water Quality Bottles

Total Volume of Melted Snow : ~~1520~~ 2.190+ 1515 = 3705 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type *	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
					DUPW1			
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	Some vegetation
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	Some vegetation

perchlorate (Y) ✓

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

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GENERAL

LOCATION NAME: SSC-1-5 DATE (yyyy-mm-dd): 2019-04-05 TIME (24:00): 12:36

SAMPLED BY: MN SSZ LC TYPE OF SAMPLE: Dust ☐ Water Quality ☒ QAQC: -5 Dup

GPS COORDINATES (UTM): 534941 E 7144103 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -18 °C Wind Direction: 348 N Wind Speed (knots): 10

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1						Y N	
	2						Y N	
	3						Y N	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	46	46	52	39	13	Y N	bag 1 weigh.
	2	38	29	48	39	9	Y N	
31	3	43	26	48	39	9	Y N	
39	4	45	29	47	39	8	Y N	
48	5	44	29	48	39	9	Y N	
57	6	45	30	48	39	9	Y N	
65	7	41	26	47	39	8	Y N	Bag 2 weigh.
74	8	45	25	48	39	9	Y N	
85	9	41	41	50	39	11	Y N	
94	10	45	30	48	39	9	Y N	
102	11	40	32	47	39	8	Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

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Dust Sample Filters

Total Volume of Melted Snow :_____(mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1				
2				
3				
4				
Totals				

Water Quality Bottles

Total Volume of Melted Snow : 2060 + 1145 = 3205 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * DUPW2	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type**: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: SSC-2 DATE (yyyy-mm-dd): 2019-04-06 TIME (24:00): 9:48

SAMPLED BY: MN SS2 - LC TYPE OF SAMPLE: Dust ☒ Water Quality ☑ QAQC: _____

GPS COORDINATES (UTM): 0528718 E 7153309 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☑ &/or Lake ☐

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -26 °C Wind Direction: 110 E Wind Speed (knots): 3

Precipitation: Rain / Mist / Snow / Ice / None
Dust in area: Visible ☐ Not Visible ☐

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%
Snow Condition: Crystallized ☐ Packed ☒ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	67	54	55	39	16	Y (N)	weigh.
	2	67	67	62	39	23	Y (N)	
	3	63	46	54	39	15	Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)								
Water Quality Cores	1	65	56	68	39	29	Y (N)	reweigh.
	2	75	70	62	39	23	Y (N)	52
	3	65	59	59	39	20	Y (N)	Newbag reweigh. 72
	4	73	65	63	39	24	Y (N)	98
	5	63	52	57	39	18	Y (N)	114
	6						Y N	
	7						Y N	
	8						Y N	
	9						Y N	
	10						Y N	
	11						Y N	
	12						Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)								

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 1735 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	117.3	152.4	35.1	
2				
3				
4				
Totals	117.3	152.4	35.1	

Water Quality Bottles

Total Volume of Melted Snow : 1900 + 1310 + 3210 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

perchlorate (Y) ✓

Additional Comments

RioTinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
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GENERAL

LOCATION NAME: SSC - 3 **DATE (yyyy-mm-dd):** 2019 - 04 - 05 **TIME (24:00):** 10:32

SAMPLED BY: LC, SSZ, MN **TYPE OF SAMPLE:** Dust ☒ Water Quality ☒ **QAQC:** –

GPS COORDINATES (UTM): 0538640 **E** 7148762 **N (Zone)** 12 **NAD 83**

DESCRIPTION: Distance to Diavik ______ km & Direction ______ On: Land ☒ &/or Lake ☐

control site WQ.

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -19 °C **Wind Direction:** 330° NW **Wind Speed (knots):** 8

Precipitation: Rain / Mist / Snow / Ice / (None) **Cloud Cover:** (0%) / 10% / 25% / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☒ **Snow Condition:** Crystallized ☒ Packed ☒ Wet ☐ Dry ☒

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	24	23	45	39	6.0	Y (N)	Some veg left in snow	
	2	29	26	46	↓	7.0	Y (N)		
	3	33	29	47		8.0	Y (N)		
	4	33	24.5	45		6.0	Y (N)		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	27	20	44	39	5	Y N	Reweigh bag 1	5
	2	26	24	45	39	6	Y N		11
	3	23	20	43	39	4	Y N		15
	4	29	22	43	39	4	Y N		19
	5	30	29	46	39	7	Y N	grass.	26
	6	32	32	46	39	7	Y N	grass	33
	7	30	30	45	39	6	Y N	grass.	39
	8	42	32	46	39	7	Y N		46
	9	44	31	47	39	8	Y N		54
	10	40	35	47	39	8	Y N	reweigh bag	62
	11	44	35	47	39	8	Y N		70
	12	47	36	47	39	8	Y N	bag 2, left	78
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									
		36 41	35	45	39	6		vegetation.	84
		35	25	45	39	6		veg.	90
		37	31	47	39	8			98
		35	30	46	39.	7			105

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
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Dust Sample Filters

Total Volume of Melted Snow : 840 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	108.9	158.7	49.8	vegetation filtered out
2				
3				
4				
Totals	108.9	158.7	49.8	

Water Quality Bottles

Total Volume of Melted Snow : 2485+1325 = 3810 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	some vegetation in sample
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	" "
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	" "
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	" "
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	" "
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	" "

perchlorate (Y) ✓

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Additional Comments

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: FFA-4 (labelled SSC-7 on bags.) DATE (yyyy-mm-dd): 2019-05-08 TIME (24:00): 1601

SAMPLED BY: LC NG TYPE OF SAMPLE: Dust ☑ Water Quality ☑ QAQC: _____

GPS COORDINATES (UTM): 503724 E 7154100 N (Zone) _____ NAD 83

DESCRIPTION: Distance to Diavik 32 km & Direction _____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: 0 °C Wind Direction: SE Wind Speed (knots): 5

Precipitation: Rain / Mist / Snow / Ice / (None) ☑ Cloud Cover: 0% / 10% / (25%) / 50% / 75% / 100%

Dust in area: Visible ☐ Not Visible ☑ Snow Condition: Crystallized ☐ Packed ☐ Wet ☑ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)
Dust Cores	1	42	41	51	39		Y (N)	
	2	41	40	52			Y (N)	
	3	43	42	53			Y (N)	
	4						Y N	
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)						31 SWE		
Water Quality Cores	1	44	43	52	39		Y N	bag 1
	2	45	42	52			Y N	
	3	46	45	53			Y N	
	4	45	45	54			Y N	
	5	46	46	55			Y N	
	6	46	46	54			Y N	bag 1
	7	45	45	55	39		Y N	
	8	47	47	55			Y N	
	9	46	46	56			Y N	bag 2
	10	50	48	55			Y N	
	11	50	49	56			Y N	
	12	40	36	50			Y N	
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)						109 SWE		

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 1195 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	124.2.	129.5	5.3.	
2				
3				
4				
Totals	124.2	129.5	5.3	

Water Quality Bottles

2745 + 2660

Total Volume of Melted Snow : 5105 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Perchl. ✓ ✓

Additional Comments

Extra snow core during AEMP

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL "FFB 4 Snowcore" on bottles

LOCATION NAME: SSC-6 DATE (yyyy-mm-dd): 2019-05-05 TIME (24:00): 10:58

SAMPLED BY: SSZ LC MN TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: _____

GPS COORDINATES (UTM): 0515668 E 7150029 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -9 °C Wind Direction: Variable Wind Speed (knots): 3

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / (100%)

Snow Condition: Crystallized ☐ Packed ☐ Wet ☒ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	38	37	50	39	11	Y (N)	weigh	11
	2	38	37	50	39	11	Y (N)		22
	3	38	36	50	39	11	Y (N)		33
	4	—	—	—			Y N		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	40	35	50	39	11	Y (N)	reweigh.	11
	2	38	36	50	39	11	Y (N)		22
	3	38	38	50	39	11	Y (N)		33
	4	38	35	50	39	11	Y (N)		44
	5	38	36	50	39	11	Y (N)		55
	6	37	35	50	39	11	Y (N)	reweigh, new bag	66
	7	37	35	49	39	10	Y (N)		76
	8	35	34	49	39	10	Y (N)		86
	9	35	34	49	39	10	Y (N)		96
	10	35	32	49	39	10	Y (N)		106
	11	—	—				Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***.

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 995 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	123.4	145.3	21.9	
2				
3				
4				
Totals	123.4	145.3	21.9	

1625 + 1525

Water Quality Bottles

Total Volume of Melted Snow : 3150. (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Perchl. ✓ ✓

Additional Comments
Extra snowcore during AEMP.

RioTinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
Task:	Snow Sampling Field Sheet		
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GENERAL

LOCATION NAME: FFI-2. SSC-5 DATE (yyyy-mm-dd): 2019-05-04 TIME (24:00): 17:11

SAMPLED BY: MN SSR LC TYPE OF SAMPLE: Dust ☐ Water Quality ☑ QAQC: _____

GPS COORDINATES (UTM): 526547 E 7159040 N (Zone) 12 N NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☑

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -12 °C Wind Direction: SE Wind Speed (knots): 11

Precipitation: Rain / Mist / Snow / Ice / None

Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / 75% / 100%

Snow Condition: Crystallized ☒ Packed ☐ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	40	31	47	39	8	Y (N)	core weigh	
	2	40	40	50	39	11	Y (N)		19
	3	40	40	50	39	11	Y (N)		30
	4	—	—	—			Y N		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	40	40	~~39~~ 49	39	10	Y (N)	reweigh	10
	2	40	40	50	39	11	Y (N)		21
	3	40	40	49	39	10	Y (N)		31
	4	40	40	48	39	9	Y (N)		40
	5	41	40	50	39	11	Y (N)		51
	6	41	40	50	39	11	Y (N)	reweigh	62
	7	41	40	50	39	11	Y (N)		73
	8	41	38	49	39	10	Y (N)		83
	9	41	37	49	39	10	Y (N)		93
	10	41	40	50	39	11	Y (N)		104
	11	—	—	—			Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content $_{SWE}$ = Wt. of Tube & Core $_{SWE}$ – Wt. of Empty Tube $_{SWE}$** ***

Rio Tinto

Snow Sampling Field Sheet

Area:	8000	No:	ENVI-177-0312
Effective Date:	26-MAR-2012	Revision:	R7
Task:	Snow Sampling Field Sheet	By:	D. Dul
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Dust Sample Filters

Total Volume of Melted Snow : 950 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	123.3	134.0	10.7	
2				
3				
4				
Totals	123.3	134.0	10.7	

1625 + 1610

Water Quality Bottles

Total Volume of Melted Snow : 3235 (mL)

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

*Sample Type: GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Perchl. ✓ ✓

Additional Comments

Extra snowcore during AEMP

Rio Tinto

Snow Sampling Field Sheet

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Area:	8000	Revision:	R8
Effective Date:	26-MAR-2012	By:	Dianne Dul
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GENERAL SSC-4 @ LDS-1

LOCATION NAME: ~~LDS-1~~ DATE (yyyy-mm-dd): 2019-04-26 TIME (24:00): 13:11

SAMPLED BY: MN GC TYPE OF SAMPLE: Dust ☒ Water Quality ☒ QAQC: _____

GPS COORDINATES (UTM): 546443 E 7161147 N (Zone) 12 NAD 83

DESCRIPTION: Distance to Diavik _____ km & Direction _____ On: Land ☐ &/or Lake ☒

CLIMATE CONDITIONS (if sampling outside)

Air Temp: -19 °C Wind Direction: W Wind Speed (knots): 5

Precipitation: Rain / Mist / Snow / Ice / (None)
Dust in area: Visible ☐ Not Visible ☒

Cloud Cover: 0% / 10% / 25% / 50% / (75%) / 100%
Snow Condition: Crystallized ☒ Packed ☒ Wet ☐ Dry ☐

	Core Number	Depth of Snow (cm)	Length of Snow Core (cm)	Weight of Tube & Core-SWE (cm)	Weight of Empty Tube-SWE (cm)	Water Content-SWE (cm)	Dust Present Yes/No	Comments (core weighed, bag #, changes in snow condition)	
Dust Cores	1	51 / 51	49 / 50	55 / 56	39	16 / 17	Y (N)	weigh.	33
	2	49	49	55	39	16	Y N		
	3						Y N		
	4						Y N		
Dust (Min. of 3 cores – Total Water Content SWE =/> 25)									
Water Quality Cores	1	53	51	56	39	17	Y (N)	rough	17
	2	54	51	57		18	Y N	caribou droppings ? ½ bag	35
	3	53	46	53		14	Y N		49
	4	53	48	53		14	Y N		63
	5	58	56	58	39	19	Y N	rough.	82
	6	58	57	57		18	Y N		100
	7	57	55	59			Y N		
	8						Y N		
	9						Y N		
	10						Y N		
	11						Y N		
	12						Y N		
Water Quality (Min. of 3 cores – Total Water Content SWE =/> 100)									

*** **Water Content** $_{SWE}$ **= Wt. of Tube & Core** $_{SWE}$ **– Wt. of Empty Tube** $_{SWE}$ ***

Rio Tinto

Snow Sampling Field Sheet

		No:	ENVI-177-0312
Area:	8000	Revision:	R7
Effective Date:	26-MAR-2012	By:	D. Dul
Task:	Snow Sampling Field Sheet		
		Page:	2 of 2

Dust Sample Filters

Total Volume of Melted Snow : 1985 (mL)

Filter #	Weight of Filter (mg)	Filter + Residue (mg)	Residue Weight (mg)	Comments
1	123.0	128.6	5.6	caribou scat present, filtered out, yellow in colour
2				
3				
4				
Totals	123.0	128.6	5.6	

Water Quality Bottles

Total Volume of Melted Snow : 3215 (mL) ~~2945 + 2660~~ ~~1695 + 1985~~ 1520

Filling Order	Analysis	Bottle Type	Triple Rinse	Preserve	Sample Type * GW	Sample Type *	Sample Type *	Sample Comments DI Batch # for QAQC, Location preserved if not in field, label changes
1	Metals Total	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
2	Metals Dissolved	60 mL Falcon Tube	(Y)	N	☑	☐	☐	
3	Total Mercury	40 mL clear glass (pre-preserved)	N	(Y)	☑	☐	☐	
4	Nutrients	120 mL plastic (pre-preserved)	N	(Y)	☑	☐	☐	
5	Routine	1000 mL plastic	(Y)	N	☑	☐	☐	
6	TSS/Turb/pH	1000 mL plastic	(Y)	N	☑	☐	☐	

***Sample Type:** GW, DUPW1/DUPW2, FBW, TBW, EBW, REP1/ REP2, Filter Blank

Perch. ✓ ✓

Additional Comments

Extra Snowcore during AEMP

Bag ~~#1 for WQ~~ #2 for WQ Contained caribou scat - pale yellow water - switched to DUST bag for WQ

APPENDIX D SNOW WATER CHEMISTRY ANALYTICAL RESULTS

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Acidity (pH 4.5)	mg/L	SS1-4	6-Apr-19	<1.0	0.500	1	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<1.0	0.500	1	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<1.0	0.500	1	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<1.0	0.500	1	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<1.0	0.500	1	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<1.0	0.500	1	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<1.0	0.500	1	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<1.0	0.500	1	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<1.0	0.500	1	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<1.0	0.500	1	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<1.0	0.500	1	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<1.0	0.500	1	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<1.0	0.500	1	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<1.0	0.500	1	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<1.0	0.500	1	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<1.0	0.500	1	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<1.0	0.500	1	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<1.0	0.500	1	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<1.0	0.500	1	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<1.0	0.500	1	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<1.0	0.500	1	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<1.0	0.500	1	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<1.0	0.500	1	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<1.0	0.500	1	VN5138	GW	
	mg/L	FF1-2	4-May-19	<1.0	0.500	1	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<1.0	0.500	1	VT3155	GW	
	mg/L	FFB-4	5-May-19	<1.0	0.500	1	VT3156	GW	
	mg/L	FFA-4	8-May-19	<1.0	0.500	1	VT3157	GW	
Acidity (pH 8.3)	mg/L	SS1-4	6-Apr-19	<1.0	0.500	1	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<1.0	0.500	1	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<1.0	0.500	1	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<1.0	0.500	1	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<1.0	0.500	1	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<1.0	0.500	1	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<1.0	0.500	1	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<1.0	0.500	1	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<1.0	0.500	1	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<1.0	0.500	1	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<1.0	0.500	1	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<1.0	0.500	1	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<1.0	0.500	1	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<1.0	0.500	1	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<1.0	0.500	1	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<1.0	0.500	1	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<1.0	0.500	1	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<1.0	0.500	1	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<1.0	0.500	1	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<1.0	0.500	1	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<1.0	0.500	1	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<1.0	0.500	1	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<1.0	0.500	1	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<1.0	0.500	1	VN5138	GW	
	mg/L	FF1-2	4-May-19	1.000	1.000	1	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	1.100	1.100	1	VT3155	GW	
	mg/L	FFB-4	5-May-19	1.300	1.300	1	VT3156	GW	
	mg/L	FFA-4	8-May-19	1.100	1.100	1	VT3157	GW	

Notes:
For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".
Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Alkalinity (PP as $CaCO_3$)	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Alkalinity (Total as $CaCO_3$)	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.830	0.830	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	8.260	8.260	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	8.080	8.080	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	4.800	4.800	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	1.540	1.540	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	1.880	1.880	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.790	0.790	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.620	0.620	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	1.930	1.930	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	3.240	3.240	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.640	0.640	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.540	0.540	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.640	0.640	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	1.010	1.010	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.530	0.530	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.720	0.720	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	1.180	1.180	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Aluminum (Al) - Dissolved	ug/L	SS1-4	6-Apr-19	55.400	55.400	0.2	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	47.500	47.500	0.2	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.20	0.100	0.2	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.20	0.100	0.2	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	28.000	28.000	0.2	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	88.700	88.700	0.2	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	152.000	152.000	0.2	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	75.800	75.800	0.2	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	43.900	43.900	0.2	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	57.500	57.500	0.2	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	115.000	115.000	0.2	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	58.000	58.000	0.2	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	40.700	40.700	0.2	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	15.600	15.600	0.2	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	27.900	27.900	0.2	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	44.800	44.800	0.2	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	15.700	15.700	0.2	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	162.000	162.000	0.2	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	59.400	59.400	0.2	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	20.800	20.800	0.2	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	20.500	20.500	0.2	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	29.200	29.200	0.2	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	48.100	48.100	0.2	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	19.700	19.700	0.2	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.410	1.410	0.2	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	2.130	2.130	0.2	VT3155	GW	
	ug/L	FFB-4	5-May-19	2.080	2.080	0.2	VT3156	GW	
	ug/L	FFA-4	8-May-19	2.010	2.010	0.2	VT3157	GW	
Aluminum (Al) - Total	ug/L	SS1-4	6-Apr-19	53.300	53.300	0.2	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	46.400	46.400	0.2	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.20	0.100	0.2	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.20	0.100	0.2	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	23.500	23.500	0.2	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	96.300	96.300	0.2	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	134.000	134.000	0.2	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	78.900	78.900	0.2	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	46.300	46.300	0.2	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	52.800	52.800	0.2	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	128.000	128.000	0.2	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	67.300	67.300	0.2	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	30.900	30.900	0.2	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	13.100	13.100	0.2	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	24.700	24.700	0.2	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	47.700	47.700	0.2	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	12.700	12.700	0.2	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	151.000	151.000	0.2	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	50.300	50.300	0.2	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	19.400	19.400	0.2	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	17.900	17.900	0.2	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	31.000	31.000	0.2	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	36.100	36.100	0.2	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	21.700	21.700	0.2	VN5138	GW	
	ug/L	FF1-2	4-May-19	119.000	119.000	0.2	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	16.600	16.600	0.2	VT3155	GW	
	ug/L	FFB-4	5-May-19	126.000	126.000	0.2	VT3156	GW	
	ug/L	FFA-4	8-May-19	20.000	20.000	0.2	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Ammonia (N) - Total	mg/L	SS1-4	6-Apr-19	0.080	0.080	0.005	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.072	0.072	0.005	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.065	0.065	0.005	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.096	0.096	0.005	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.110	0.110	0.005	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.110	0.110	0.005	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.120	0.120	0.005	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.087	0.087	0.005	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.072	0.072	0.005	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.043	0.043	0.005	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.033	0.033	0.005	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.023	0.023	0.005	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.056	0.056	0.005	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.013	0.013	0.005	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.040	0.040	0.005	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.078	0.078	0.005	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.068	0.068	0.005	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.072	0.072	0.005	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.037	0.037	0.005	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.077	0.077	0.005	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.071	0.071	0.005	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.031	0.031	0.005	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.170	0.170	0.005	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.029	0.029	0.005	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.061	0.061	0.005	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.065	0.065	0.005	VT3157	GW	
Antimony (Sb) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.020	0.010	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.020	0.010	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.020	0.010	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.020	0.010	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.020	0.010	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.020	0.010	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.020	0.010	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.020	0.010	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.020	0.010	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.020	0.010	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.020	0.010	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.020	0.010	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.020	0.010	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.020	0.010	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.020	0.010	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.020	0.010	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.020	0.010	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.020	0.010	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.020	0.010	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.020	0.010	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.020	0.010	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.020	0.010	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.020	0.010	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.020	0.010	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.020	0.010	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.020	0.010	0.02	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Antimony (Sb) - Total	ug/L	SS1-4	6-Apr-19	<0.020	0.010	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.020	0.010	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.020	0.010	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.020	0.010	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.020	0.010	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.020	0.010	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.020	0.010	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.020	0.010	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.020	0.010	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.020	0.010	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.020	0.010	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.020	0.010	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.020	0.010	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.020	0.010	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.020	0.010	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.020	0.010	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.020	0.010	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.020	0.010	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.020	0.010	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.020	0.010	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.020	0.010	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.020	0.010	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.020	0.010	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.020	0.010	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.020	0.010	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.020	0.010	0.02	VT3157	GW	
Arsenic (As) - Dissolved	ug/L	SS1-4	6-Apr-19	0.041	0.041	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.026	0.026	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.033	0.033	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.073	0.073	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.112	0.112	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.047	0.047	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.054	0.054	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.027	0.027	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.066	0.066	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.053	0.053	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.033	0.033	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.066	0.066	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.020	0.010	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.102	0.102	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.020	0.010	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.056	0.056	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.034	0.034	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.050	0.050	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.021	0.021	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.034	0.034	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.062	0.062	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.020	0.010	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.020	0.010	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.020	0.010	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.020	0.010	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.020	0.010	0.02	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Arsenic (As) - Total	ug/L	SS1-4	6-Apr-19	0.033	0.033	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.033	0.033	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.027	0.027	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.062	0.062	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.096	0.096	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.048	0.048	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.050	0.050	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.031	0.031	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.051	0.051	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.035	0.035	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.036	0.036	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.027	0.027	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.020	0.010	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.107	0.107	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.020	0.010	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.054	0.054	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.040	0.040	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.048	0.048	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.020	0.010	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.024	0.024	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.047	0.047	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.027	0.027	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.023	0.023	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.020	0.010	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.037	0.037	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.020	0.010	0.02	VT3157	GW	
Barium (Ba) - Dissolved	ug/L	SS1-4	6-Apr-19	2.620	2.620	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	2.680	2.680	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	5.130	5.130	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	14.900	14.900	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	13.000	13.000	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	7.980	7.980	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	8.540	8.540	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	6.970	6.970	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	3.190	3.190	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	2.590	2.590	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	2.000	2.000	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.340	1.340	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.560	1.560	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	6.810	6.810	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	1.320	1.320	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	3.620	3.620	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	6.930	6.930	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.680	1.680	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.706	0.706	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.500	1.500	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	2.010	2.010	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.872	0.872	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.890	1.890	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.372	0.372	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	5.760	5.760	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.696	0.696	0.02	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Barium (Ba) - Total	ug/L	SS1-4	6-Apr-19	2.760	2.760	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	2.750	2.750	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	4.880	4.880	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	14.800	14.800	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	12.400	12.400	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	8.340	8.340	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	8.920	8.920	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	6.920	6.920	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	3.910	3.910	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	2.510	2.510	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	2.070	2.070	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.450	1.450	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.640	1.640	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	6.710	6.710	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	1.440	1.440	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	3.630	3.630	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	6.870	6.870	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.720	1.720	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.708	0.708	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.460	1.460	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.890	1.890	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.794	0.794	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	3.600	3.600	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.606	0.606	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	8.270	8.270	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.956	0.956	0.02	VT3157	GW	
Beryllium (Be) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.010	0.005	0.01	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.010	0.005	0.01	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.010	0.005	0.01	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.010	0.005	0.01	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.010	0.005	0.01	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.010	0.005	0.01	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.010	0.005	0.01	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.010	0.005	0.01	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.010	0.005	0.01	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.010	0.005	0.01	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.011	0.011	0.01	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.010	0.005	0.01	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.010	0.005	0.01	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.010	0.005	0.01	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.010	0.005	0.01	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.018	0.018	0.01	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.010	0.005	0.01	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.010	0.005	0.01	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.010	0.005	0.01	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.010	0.005	0.01	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.010	0.005	0.01	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.010	0.005	0.01	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.010	0.005	0.01	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.010	0.005	0.01	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.010	0.005	0.01	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.010	0.005	0.01	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Beryllium (Be) - Total	ug/L	SS1-4	6-Apr-19	<0.010	0.005	0.01	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.010	0.005	0.01	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.010	0.005	0.01	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.010	0.005	0.01	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.010	0.005	0.01	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.012	0.012	0.01	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.010	0.005	0.01	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.010	0.005	0.01	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.010	0.005	0.01	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.010	0.005	0.01	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.010	0.005	0.01	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.010	0.005	0.01	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.010	0.005	0.01	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.010	0.005	0.01	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.010	0.005	0.01	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.013	0.013	0.01	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.010	0.005	0.01	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.010	0.005	0.01	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.010	0.005	0.01	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.010	0.005	0.01	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.010	0.005	0.01	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.010	0.005	0.01	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.010	0.005	0.01	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.010	0.005	0.01	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.010	0.005	0.01	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.010	0.005	0.01	VT3157	GW	
Bicarbonate (HCO_3)	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	1.010	1.010	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	10.100	10.100	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	9.860	9.860	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	5.860	5.860	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	1.880	1.880	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	2.290	2.290	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.960	0.960	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.760	0.760	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	2.350	2.350	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	3.950	3.950	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.780	0.780	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.660	0.660	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.780	0.780	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	1.230	1.230	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.650	0.650	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.880	0.880	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	1.440	1.440	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value". Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Bismuth (Bi) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.0050	0.003	0.005	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0050	0.003	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.006	0.006	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.005	0.005	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0050	0.003	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.005	0.005	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Bismuth (Bi) - Total	ug/L	SS1-4	6-Apr-19	<0.0050	0.003	0.005	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0050	0.003	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0050	0.003	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0050	0.003	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0050	0.003	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.006	0.006	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Boron (B) - Dissolved	ug/L	SS1-4	6-Apr-19	10.000	10.000	5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	8.300	8.300	5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	8.700	8.700	5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	7.500	7.500	5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	6.100	6.100	5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	6.700	6.700	5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	6.100	6.100	5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<5.0	2.500	5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<5.0	2.500	5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<5.0	2.500	5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<5.0	2.500	5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<5.0	2.500	5	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<5.0	2.500	5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<5.0	2.500	5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<5.0	2.500	5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<5.0	2.500	5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<5.0	2.500	5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<5.0	2.500	5	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<5.0	2.500	5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	15.000	15.000	5	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	13.100	13.100	5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	11.500	11.500	5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	10.400	10.400	5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	9.100	9.100	5	VN5138	GW	
	ug/L	FF1-2	4-May-19	<5.0	2.500	5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<5.0	2.500	5	VT3155	GW	
	ug/L	FFB-4	5-May-19	<5.0	2.500	5	VT3156	GW	
	ug/L	FFA-4	8-May-19	<5.0	2.500	5	VT3157	GW	
Boron (B) - Total	ug/L	SS1-4	6-Apr-19	9.400	9.400	5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	7.800	7.800	5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	7.300	7.300	5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	6.500	6.500	5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	5.700	5.700	5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	6.200	6.200	5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	5.400	5.400	5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<5.0	2.500	5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<5.0	2.500	5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<5.0	2.500	5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<5.0	2.500	5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<5.0	2.500	5	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<5.0	2.500	5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<5.0	2.500	5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<5.0	2.500	5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<5.0	2.500	5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<5.0	2.500	5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<5.0	2.500	5	VN9072	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS3-4	7-Apr-19	<5.0	2.500	5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	14.500	14.500	5	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	12.100	12.100	5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	11.300	11.300	5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	10.200	10.200	5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	8.300	8.300	5	VN5138	GW	
	ug/L	FF1-2	4-May-19	<5.0	2.500	5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<5.0	2.500	5	VT3155	GW	
	ug/L	FFB-4	5-May-19	<5.0	2.500	5	VT3156	GW	
	ug/L	FFA-4	8-May-19	<5.0	2.500	5	VT3157	GW	
Cadmium (Cd) - Dissolved	ug/L	SS1-4	6-Apr-19	0.006	0.006	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.006	0.006	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0050	0.003	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0050	0.003	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.007	0.007	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.006	0.006	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Cadmium (Cd) - Total	ug/L	SS1-4	6-Apr-19	0.005	0.005	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0050	0.003	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0050	0.003	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0050	0.003	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.006	0.006	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0050	0.003	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Calcium (Ca) - Dissolved	mg/L	SS1-4	6-Apr-19	0.420	0.420	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.319	0.319	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.501	0.501	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	2.930	2.930	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	29.900	29.900	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	1.960	1.960	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.556	0.556	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.581	0.581	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.385	0.385	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.217	0.217	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.217	0.217	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.163	0.163	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.227	0.227	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.779	0.779	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.168	0.168	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.441	0.441	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	1.450	1.450	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.184	0.184	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.075	0.075	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.180	0.180	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.193	0.193	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.087	0.087	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.183	0.183	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.085	0.085	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.390	0.390	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.119	0.119	0.01	VT3157	GW	
Calcium (Ca) - Total	mg/L	SS1-4	6-Apr-19	0.388	0.388	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.332	0.332	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.444	0.444	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	3.150	3.150	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	3.220	3.220	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	2.130	2.130	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.574	0.574	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.571	0.571	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.401	0.401	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.238	0.238	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.214	0.214	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.161	0.161	0.01	VN9068	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SSC-2	6-Apr-19	0.240	0.240	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.771	0.771	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.172	0.172	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.437	0.437	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	1.420	1.420	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.182	0.182	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.070	0.070	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.186	0.186	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.190	0.190	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.086	0.086	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.189	0.189	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.059	0.059	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.401	0.401	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.085	0.085	0.01	VT3157	GW	
Carbonate (CO_3)	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Chloride (Cl) - Dissolved	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Chromium (Cr) - Dissolved	ug/L	SS1-4	6-Apr-19	0.117	0.117	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.101	0.101	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.102	0.102	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.428	0.428	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.594	0.594	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.239	0.239	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.178	0.178	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.278	0.278	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.171	0.171	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.113	0.113	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.071	0.071	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.077	0.077	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.120	0.120	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.056	0.056	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.261	0.261	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.249	0.249	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.068	0.068	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.064	0.064	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.074	0.074	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.103	0.103	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.073	0.073	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.066	0.066	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.297	0.297	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.071	0.071	0.05	VT3157	GW	
Chromium (Cr) - Total	ug/L	SS1-4	6-Apr-19	0.127	0.127	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.098	0.098	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.083	0.083	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.390	0.390	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.470	0.470	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.298	0.298	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.220	0.220	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.202	0.202	0.05	VN9064	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS5-3-4	5-Apr-19	0.236	0.236	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.181	0.181	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.050	0.025	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.081	0.081	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.191	0.191	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.128	0.128	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.235	0.235	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.204	0.204	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.059	0.059	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.053	0.053	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.056	0.056	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.073	0.073	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.596	0.596	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.069	0.069	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	1.480	1.480	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.144	0.144	0.05	VT3157	GW	
Cobalt (Co) - Dissolved	ug/L	SS1-4	6-Apr-19	0.124	0.124	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.126	0.126	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.119	0.119	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.070	0.070	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.519	0.519	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.067	0.067	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.069	0.069	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.119	0.119	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.148	0.148	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.108	0.108	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.113	0.113	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.042	0.042	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.060	0.060	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.122	0.122	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.033	0.033	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.141	0.141	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.110	0.110	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.082	0.082	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.042	0.042	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.084	0.084	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.072	0.072	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.043	0.043	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.065	0.065	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.012	0.012	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.132	0.132	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.029	0.029	0.005	VT3157	GW	
Cobalt (Co) - Total	ug/L	SS1-4	6-Apr-19	0.099	0.099	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.111	0.111	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.135	0.135	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.060	0.060	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.051	0.051	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.051	0.051	0.005	VN9062	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS4-4	6-Apr-19	0.123	0.123	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.127	0.127	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.125	0.125	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.153	0.153	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.075	0.075	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.056	0.056	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.040	0.040	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.130	0.130	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.060	0.060	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.157	0.157	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.097	0.097	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.083	0.083	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.039	0.039	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.060	0.060	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.111	0.111	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.034	0.034	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.139	0.139	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.023	0.023	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.316	0.316	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.041	0.041	0.005	VT3157	GW	
Conductivity	uS/cm	SS1-4	6-Apr-19	4.900	4.900	1	VN9055	GW	
	uS/cm	SS1-5	6-Apr-19	4.300	4.300	1	VN9056	GW	
	uS/cm	SS2-1-1	7-Apr-19	1.200	1.200	1	VN9057	GW	
	uS/cm	SS2-1-1B	7-Apr-19	1.400	1.400	1	VN9058	GW	
	uS/cm	SS3-5	7-Apr-19	5.100	5.100	1	VN9059	GW	
	uS/cm	SS3-6	7-Apr-19	21.400	21.400	1	VN9060	GW	
	uS/cm	SS3-7	7-Apr-19	23.400	23.400	1	VN9061	GW	
	uS/cm	SS3-8	7-Apr-19	14.400	14.400	1	VN9062	GW	
	uS/cm	SS4-4	6-Apr-19	8.600	8.600	1	VN9063	GW	
	uS/cm	SS4-5	6-Apr-19	6.700	6.700	1	VN9064	GW	
	uS/cm	SS5-3-4	5-Apr-19	4.300	4.300	1	VN9065	GW	
	uS/cm	SS5-4	5-Apr-19	3.500	3.500	1	VN9066	GW	
	uS/cm	SS5-5	5-Apr-19	3.500	3.500	1	VN9067	GW	
	uS/cm	SSC-1-4	5-Apr-19	3.700	3.700	1	VN9068	GW	
	uS/cm	SSC-2	6-Apr-19	3.700	3.700	1	VN9069	GW	
	uS/cm	SSC-3	5-Apr-19	7.800	7.800	1	VN9070	GW	
	uS/cm	SSC-1-5	5-Apr-19	3.100	3.100	1	VN9071	GW	
	uS/cm	SS5-3-5	5-Apr-19	5.100	5.100	1	VN9072	GW	
	uS/cm	SS3-4	7-Apr-19	10.700	10.700	1	VN9073	GW	
	uS/cm	SS2-1	7-Apr-19	3.200	3.200	1	VN5134	GW	
	uS/cm	SS2-2-4	7-Apr-19	2.200	2.200	1	VN5135	GW	
	uS/cm	SS2-3	4-Apr-19	2.900	2.900	1	VN5136	GW	
	uS/cm	SS2-4	4-Apr-19	3.400	3.400	1	VN5137	GW	
	uS/cm	SS2-2-5	7-Apr-19	2.500	2.500	1	VN5138	GW	
	uS/cm	FF1-2	4-May-19	3.000	3.000	1	VT3154	GW	
	uS/cm	LDS-1	26-Apr-19	3.200	3.200	1	VT3155	GW	
	uS/cm	FFB-4	5-May-19	4.900	4.900	1	VT3156	GW	
	uS/cm	FFA-4	8-May-19	3.700	3.700	1	VT3157	GW	
Copper (Cu) - Dissolved	ug/L	SS1-4	6-Apr-19	0.105	0.105	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.166	0.166	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.101	0.101	0.05	VN9060	GW	

Notes:

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Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS3-7	7-Apr-19	0.220	0.220	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.122	0.122	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.079	0.079	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.110	0.110	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.196	0.196	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.149	0.149	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.099	0.099	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.053	0.053	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.070	0.070	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.257	0.257	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.200	0.200	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.103	0.103	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.054	0.054	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.078	0.078	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.077	0.077	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.160	0.160	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.084	0.084	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.145	0.145	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.114	0.114	0.05	VT3157	GW	
Copper (Cu) - Total	ug/L	SS1-4	6-Apr-19	0.131	0.131	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.129	0.129	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.088	0.088	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.177	0.177	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.095	0.095	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.079	0.079	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.084	0.084	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.154	0.154	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.157	0.157	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.083	0.083	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.054	0.054	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.051	0.051	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.259	0.259	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.065	0.065	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.245	0.245	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.124	0.124	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.090	0.090	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.098	0.098	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.052	0.052	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.200	0.200	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.088	0.088	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.328	0.328	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.112	0.112	0.05	VT3157	GW	
Fluoride (F)	mg/L	SS1-4	6-Apr-19	<0.010	0.005	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.010	0.005	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	

Notes:

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Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.010	0.005	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.010	0.010	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.011	0.011	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.010	0.005	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.010	0.005	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.010	0.005	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.010	0.005	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.010	0.005	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.010	0.005	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.010	0.005	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.010	0.005	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.010	0.010	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.010	0.005	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.010	0.005	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.010	0.005	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.010	0.005	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.010	0.005	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.010	0.005	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.010	0.005	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.013	0.013	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.013	0.013	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.011	0.011	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.013	0.013	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.012	0.012	0.01	VT3157	GW	
Hardness ($CaCO_3$) - Dissolved	mg/L	SS1-4	6-Apr-19	1.400	1.400	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	1.140	1.140	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	1.820	1.820	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	8.910	8.910	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	165.000	165.000	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	5.840	5.840	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	2.410	2.410	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	2.410	2.410	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	1.490	1.490	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.910	0.910	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.860	0.860	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.650	0.650	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.820	0.820	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	2.960	2.960	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.650	0.650	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	1.730	1.730	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	4.540	4.540	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.700	0.700	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.660	0.660	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.770	0.770	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.650	0.650	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	1.700	1.700	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	

Notes:

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Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Hardness ($CaCO_3$) - Total	mg/L	SS1-4	6-Apr-19	1.340	1.340	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	1.220	1.220	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	1.660	1.660	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	9.450	9.450	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	9.720	9.720	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	6.260	6.260	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	2.450	2.450	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	2.460	2.460	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	1.580	1.580	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.970	0.970	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.810	0.810	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.610	0.610	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.870	0.870	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	3.000	3.000	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.690	0.690	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	1.720	1.720	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	4.400	4.400	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.730	0.730	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.670	0.670	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.730	0.730	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	1.330	1.330	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	3.940	3.940	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Hydroxide (OH)	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Iron (Fe) - Dissolved	ug/L	SS1-4	6-Apr-19	34.300	34.300	1	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	32.100	32.100	1	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<1.0	0.500	1	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<1.0	0.500	1	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	14.700	14.700	1	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	50.600	50.600	1	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	250.000	250.000	1	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	39.200	39.200	1	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	37.300	37.300	1	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	50.100	50.100	1	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	74.400	74.400	1	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	46.400	46.400	1	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	17.200	17.200	1	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	10.600	10.600	1	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	14.500	14.500	1	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	39.400	39.400	1	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	13.600	13.600	1	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	97.500	97.500	1	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	45.200	45.200	1	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	10.100	10.100	1	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	7.600	7.600	1	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	10.400	10.400	1	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	12.500	12.500	1	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	6.700	6.700	1	VN5138	GW	
	ug/L	FF1-2	4-May-19	<1.0	0.500	1	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	3.200	3.200	1	VT3155	GW	
	ug/L	FFB-4	5-May-19	3.600	3.600	1	VT3156	GW	
	ug/L	FFA-4	8-May-19	2.600	2.600	1	VT3157	GW	
Iron (Fe) - Total	ug/L	SS1-4	6-Apr-19	35.800	35.800	1	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	40.300	40.300	1	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<1.0	0.500	1	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<1.0	0.500	1	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	10.100	10.100	1	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	44.500	44.500	1	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	55.700	55.700	1	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	37.600	37.600	1	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	45.600	45.600	1	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	51.900	51.900	1	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	71.500	71.500	1	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	44.300	44.300	1	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	17.400	17.400	1	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	14.800	14.800	1	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	14.200	14.200	1	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	42.600	42.600	1	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	15.900	15.900	1	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	96.200	96.200	1	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	39.500	39.500	1	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	15.500	15.500	1	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	7.500	7.500	1	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	10.200	10.200	1	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	16.200	16.200	1	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	7.400	7.400	1	VN5138	GW	
	ug/L	FF1-2	4-May-19	166.000	166.000	1	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	23.100	23.100	1	VT3155	GW	
	ug/L	FFB-4	5-May-19	244.000	244.000	1	VT3156	GW	
	ug/L	FFA-4	8-May-19	30.400	30.400	1	VT3157	GW	

Notes:
For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".
Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Kjeldahl Nitrogen - Total	mg/L	FF1-2	4-May-19	0.068	0.068	0.02	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.042	0.042	0.02	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.087	0.087	0.02	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.075	0.075	0.02	VT3157	GW	
	mg/L	SS1-4	6-Apr-19	0.111	0.111	0.02	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.117	0.117	0.02	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	0.022	0.022	0.02	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	0.030	0.030	0.02	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.090	0.090	0.02	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.116	0.116	0.02	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.124	0.124	0.02	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.107	0.107	0.02	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.121	0.121	0.02	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.086	0.086	0.02	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.099	0.099	0.02	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.055	0.055	0.02	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.082	0.082	0.02	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.060	0.060	0.02	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.074	0.074	0.02	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.150	0.150	0.02	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.069	0.069	0.02	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.099	0.099	0.02	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.060	0.060	0.02	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.085	0.085	0.02	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.044	0.044	0.02	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.053	0.053	0.02	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.110	0.110	0.02	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.040	0.040	0.02	VN5138	GW	
Lead (Pb) - Dissolved	ug/L	SS1-4	6-Apr-19	0.052	0.052	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.033	0.033	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.024	0.024	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.062	0.062	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.139	0.139	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.055	0.055	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.065	0.065	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.055	0.055	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.090	0.090	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.043	0.043	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.029	0.029	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.017	0.017	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.031	0.031	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.054	0.054	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.015	0.015	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.124	0.124	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.066	0.066	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.009	0.009	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.011	0.011	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.022	0.022	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.026	0.026	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.009	0.009	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.009	0.009	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.012	0.012	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.061	0.061	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.015	0.015	0.005	VT3157	GW	

Notes:
For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".
Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Lead (Pb) - Total	ug/L	SS1-4	6-Apr-19	0.046	0.046	0.005	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.043	0.043	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.023	0.023	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.069	0.069	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.097	0.097	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.059	0.059	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.061	0.061	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.047	0.047	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.110	0.110	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.065	0.065	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.031	0.031	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.018	0.018	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.026	0.026	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.060	0.060	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.017	0.017	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.126	0.126	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.078	0.078	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.012	0.012	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.007	0.007	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.022	0.022	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.018	0.018	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.008	0.008	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.144	0.144	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.047	0.047	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.172	0.172	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.048	0.048	0.005	VT3157	GW	
Lithium (Li) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.640	0.640	0.5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.550	0.550	0.5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.690	0.690	0.5	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Lithium (Li) - Total	ug/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.560	0.560	0.5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.740	0.740	0.5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.720	0.720	0.5	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Magnesium (Mg) - Dissolved	mg/L	SS1-4	6-Apr-19	0.086	0.086	0.005	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.084	0.084	0.005	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.138	0.138	0.005	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.390	0.390	0.005	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	22.000	22.000	0.005	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.232	0.232	0.005	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.248	0.248	0.005	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.232	0.232	0.005	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.128	0.128	0.005	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.090	0.090	0.005	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.076	0.076	0.005	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.059	0.059	0.005	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.062	0.062	0.005	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.246	0.246	0.005	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.056	0.056	0.005	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.152	0.152	0.005	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.221	0.221	0.005	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.060	0.060	0.005	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.021	0.021	0.005	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.051	0.051	0.005	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.070	0.070	0.005	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.028	0.028	0.005	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.047	0.047	0.005	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.016	0.016	0.005	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.177	0.177	0.005	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.025	0.025	0.005	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Magnesium (Mg) - Total	mg/L	SS1-4	6-Apr-19	0.091	0.091	0.005	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.095	0.095	0.005	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.134	0.134	0.005	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.387	0.387	0.005	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.410	0.410	0.005	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.226	0.226	0.005	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.246	0.246	0.005	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.251	0.251	0.005	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.141	0.141	0.005	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.091	0.091	0.005	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.068	0.068	0.005	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.050	0.050	0.005	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.065	0.065	0.005	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.262	0.262	0.005	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.063	0.063	0.005	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.153	0.153	0.005	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.209	0.209	0.005	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.066	0.066	0.005	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.024	0.024	0.005	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.049	0.049	0.005	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.062	0.062	0.005	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.028	0.028	0.005	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.209	0.209	0.005	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.027	0.027	0.005	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.713	0.713	0.005	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.039	0.039	0.005	VT3157	GW	
Manganese (Mn) - Dissolved	ug/L	SS1-4	6-Apr-19	3.020	3.020	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	3.120	3.120	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	3.570	3.570	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	3.780	3.780	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	3.850	3.850	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	3.160	3.160	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	4.130	4.130	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	3.920	3.920	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	5.930	5.930	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	3.720	3.720	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	2.280	2.280	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	2.360	2.360	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	2.370	2.370	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	16.200	16.200	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	2.100	2.100	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	6.490	6.490	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	3.810	3.810	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.650	1.650	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.977	0.977	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.510	1.510	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.980	1.980	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	1.000	1.000	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.440	1.440	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.489	0.489	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	3.160	3.160	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.020	1.020	0.05	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Manganese (Mn) - Total	ug/L	SS1-4	6-Apr-19	3.660	3.660	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	3.120	3.120	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	3.410	3.410	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	3.480	3.480	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	3.380	3.380	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	3.490	3.490	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	4.250	4.250	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	4.500	4.500	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	6.220	6.220	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	3.590	3.590	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	2.590	2.590	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.960	1.960	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	2.080	2.080	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	14.700	14.700	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	2.140	2.140	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	6.680	6.680	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	3.430	3.430	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.630	1.630	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.840	0.840	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.790	1.790	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	2.010	2.010	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.980	0.980	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	3.520	3.520	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.914	0.914	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	6.150	6.150	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.310	1.310	0.05	VT3157	GW	
Mercury (Hg) - Total	ug/L	SS1-4	6-Apr-19	<0.0020	0.001	0.002	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.0020	0.001	0.002	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0020	0.001	0.002	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.002	0.002	0.002	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.002	0.002	0.002	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0020	0.001	0.002	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0020	0.001	0.002	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0020	0.001	0.002	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0020	0.001	0.002	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0020	0.001	0.002	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0020	0.001	0.002	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0020	0.001	0.002	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0020	0.001	0.002	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0020	0.001	0.002	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0020	0.001	0.002	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0020	0.001	0.002	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0020	0.001	0.002	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0020	0.001	0.002	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0020	0.001	0.002	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0020	0.001	0.002	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0020	0.001	0.002	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0020	0.001	0.002	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0020	0.001	0.002	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0020	0.001	0.002	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0020	0.001	0.002	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0020	0.001	0.002	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Molybdenum (Mo) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.050	0.025	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.050	0.025	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.166	0.166	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.208	0.208	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.125	0.125	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.080	0.080	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.123	0.123	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.088	0.088	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.050	0.025	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.050	0.025	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.073	0.073	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.100	0.100	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.082	0.082	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.050	0.025	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.063	0.063	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.059	0.059	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.170	1.170	0.05	VT3157	GW	
Molybdenum (Mo) - Total	ug/L	SS1-4	6-Apr-19	<0.050	0.025	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.050	0.025	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.163	0.163	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.182	0.182	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.146	0.146	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.086	0.086	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.125	0.125	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.101	0.101	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.050	0.025	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.050	0.025	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.061	0.061	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.124	0.124	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.072	0.072	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.050	0.025	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.050	0.025	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.051	0.051	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.050	0.025	0.05	VT3157	GW	

Notes:
For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".
Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Nickel (Ni) - Dissolved	ug/L	SS1-4	6-Apr-19	1.210	1.210	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.290	1.290	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.020	0.010	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	3.210	3.210	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	2.150	2.150	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	2.090	2.090	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	1.470	1.470	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	3.760	3.760	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	3.260	3.260	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	1.560	1.560	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.520	1.520	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.090	1.090	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.813	0.813	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.694	0.694	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	3.250	3.250	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.841	0.841	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	1.800	1.800	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	2.690	2.690	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.280	1.280	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.388	0.388	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.796	0.796	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.130	1.130	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.514	0.514	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.974	0.974	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.148	0.148	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	3.000	3.000	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.285	0.285	0.02	VT3157	GW	
Nickel (Ni) - Total	ug/L	SS1-4	6-Apr-19	1.120	1.120	0.02	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.200	1.200	0.02	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	0.024	0.024	0.02	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.020	0.010	0.02	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	3.030	3.030	0.02	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	2.020	2.020	0.02	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	1.680	1.680	0.02	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	1.470	1.470	0.02	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	3.920	3.920	0.02	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	3.400	3.400	0.02	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	1.790	1.790	0.02	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.490	1.490	0.02	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.140	1.140	0.02	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.685	0.685	0.02	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.746	0.746	0.02	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	3.280	3.280	0.02	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.839	0.839	0.02	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	1.740	1.740	0.02	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	2.690	2.690	0.02	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.180	1.180	0.02	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.414	0.414	0.02	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.794	0.794	0.02	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.110	1.110	0.02	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.470	0.470	0.02	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.580	1.580	0.02	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.200	0.200	0.02	VT3155	GW	
	ug/L	FFB-4	5-May-19	5.410	5.410	0.02	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.358	0.358	0.02	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Nitrate (N)	mg/L	SS1-4	6-Apr-19	0.164	0.164	0.002	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.131	0.131	0.002	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.125	0.125	0.002	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.155	0.155	0.002	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.150	0.150	0.002	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.118	0.118	0.002	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.219	0.219	0.002	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.149	0.149	0.002	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.123	0.123	0.002	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.096	0.096	0.002	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.096	0.096	0.002	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.101	0.101	0.002	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.154	0.154	0.002	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.025	0.025	0.002	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.104	0.104	0.002	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.132	0.132	0.002	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.131	0.131	0.002	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.125	0.125	0.002	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.061	0.061	0.002	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.100	0.100	0.002	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.127	0.127	0.002	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.067	0.067	0.002	VN5138	GW	
Nitrate (N) - Dissolved	mg/L	FF1-2	4-May-19	0.120	0.120	0.002	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.091	0.091	0.002	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.100	0.100	0.002	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.110	0.110	0.002	VT3157	GW	
Nitrate plus Nitrite (N)	mg/L	SS1-4	6-Apr-19	0.168	0.168	0.002	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.136	0.136	0.002	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.128	0.128	0.002	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.160	0.160	0.002	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.161	0.161	0.002	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.123	0.123	0.002	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.224	0.224	0.002	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.151	0.151	0.002	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.130	0.130	0.002	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.097	0.097	0.002	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.096	0.096	0.002	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.101	0.101	0.002	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.156	0.156	0.002	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.029	0.029	0.002	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.104	0.104	0.002	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.140	0.140	0.002	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.135	0.135	0.002	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.125	0.125	0.002	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.063	0.063	0.002	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.100	0.100	0.002	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.127	0.127	0.002	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.067	0.067	0.002	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.120	0.120	0.0022	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.091	0.091	0.0022	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.100	0.100	0.0022	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.110	0.110	0.0022	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Nitrite (N)	mg/L	SS1-4	6-Apr-19	0.004	0.004	0.001	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.004	0.004	0.001	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0010	0.001	0.001	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	0.002	0.002	0.001	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.003	0.003	0.001	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.006	0.006	0.001	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.011	0.011	0.001	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.005	0.005	0.001	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.005	0.005	0.001	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.002	0.002	0.001	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.007	0.007	0.001	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.001	0.001	0.001	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.0010	0.001	0.001	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.0010	0.001	0.001	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.002	0.002	0.001	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.004	0.004	0.001	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.0010	0.001	0.001	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.007	0.007	0.001	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.004	0.004	0.001	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.0010	0.001	0.001	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.002	0.002	0.001	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.0010	0.001	0.001	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.0010	0.001	0.001	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.0010	0.001	0.001	VN5138	GW	
Nitrite (N) - Dissolved	mg/L	FF1-2	4-May-19	<0.0010	0.001	0.001	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.0010	0.001	0.001	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.0010	0.001	0.001	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.0010	0.001	0.001	VT3157	GW	
Nitrogen (N) - Total	mg/L	SS1-4	6-Apr-19	0.279	0.279	0.02	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.252	0.252	0.02	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	0.022	0.022	0.02	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	0.030	0.030	0.02	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.217	0.217	0.02	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.276	0.276	0.02	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.284	0.284	0.02	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.230	0.230	0.02	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.344	0.344	0.02	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.237	0.237	0.02	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.230	0.230	0.02	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.152	0.152	0.02	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.177	0.177	0.02	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.162	0.162	0.02	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.230	0.230	0.02	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.180	0.180	0.02	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.173	0.173	0.02	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.238	0.238	0.02	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.196	0.196	0.02	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.210	0.210	0.02	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.107	0.107	0.02	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.154	0.154	0.02	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.237	0.237	0.02	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.108	0.108	0.02	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.180	0.180	0.02	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.130	0.130	0.02	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.190	0.190	0.02	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.180	0.180	0.02	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Orthophosphate (P)	mg/L	SS1-4	6-Apr-19	0.004	0.004	0.001	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.004	0.004	0.001	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	0.001	0.001	0.001	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	0.001	0.001	0.001	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.004	0.004	0.001	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.003	0.003	0.001	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.005	0.005	0.001	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.002	0.002	0.001	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.006	0.006	0.001	VN9063	GW	Matrix spike exceeds acceptance limits, probable matrix interference.
	mg/L	SS4-5	6-Apr-19	0.005	0.005	0.001	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.004	0.004	0.001	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.003	0.003	0.001	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.004	0.004	0.001	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.006	0.006	0.001	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.002	0.002	0.001	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.001	0.001	0.001	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.003	0.003	0.001	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.004	0.004	0.001	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.002	0.002	0.001	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.001	0.001	0.001	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.002	0.002	0.001	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.002	0.002	0.001	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.002	0.002	0.001	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.0010	0.001	0.001	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.003	0.003	0.001	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.003	0.003	0.001	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.006	0.006	0.001	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.002	0.002	0.001	VT3157	GW	
pH	pH	SS1-4	6-Apr-19	5.290	5.290	N/A	VN9055	GW	
	pH	SS1-5	6-Apr-19	5.240	5.240	N/A	VN9056	GW	
	pH	SS2-1-1	7-Apr-19	5.200	5.200	N/A	VN9057	GW	
	pH	SS2-1-1B	7-Apr-19	5.540	5.540	N/A	VN9058	GW	
	pH	SS3-5	7-Apr-19	5.840	5.840	N/A	VN9059	GW	
	pH	SS3-6	7-Apr-19	6.890	6.890	N/A	VN9060	GW	
	pH	SS3-7	7-Apr-19	6.900	6.900	N/A	VN9061	GW	
	pH	SS3-8	7-Apr-19	6.650	6.650	N/A	VN9062	GW	
	pH	SS4-4	6-Apr-19	6.110	6.110	N/A	VN9063	GW	
	pH	SS4-5	6-Apr-19	6.220	6.220	N/A	VN9064	GW	
	pH	SS5-3-4	5-Apr-19	5.720	5.720	N/A	VN9065	GW	
	pH	SS5-4	5-Apr-19	5.580	5.580	N/A	VN9066	GW	
	pH	SS5-5	5-Apr-19	5.210	5.210	N/A	VN9067	GW	
	pH	SSC-1-4	5-Apr-19	4.970	4.970	N/A	VN9068	GW	
	pH	SSC-2	6-Apr-19	5.080	5.080	N/A	VN9069	GW	
	pH	SSC-3	5-Apr-19	6.110	6.110	N/A	VN9070	GW	
	pH	SSC-1-5	5-Apr-19	5.340	5.340	N/A	VN9071	GW	
	pH	SS5-3-5	5-Apr-19	5.050	5.050	N/A	VN9072	GW	
	pH	SS3-4	7-Apr-19	6.450	6.450	N/A	VN9073	GW	
	pH	SS2-1	7-Apr-19	6.260	6.260	N/A	VN5134	GW	
	pH	SS2-2-4	7-Apr-19	5.960	5.960	N/A	VN5135	GW	
	pH	SS2-3	4-Apr-19	6.180	6.180	N/A	VN5136	GW	
	pH	SS2-4	4-Apr-19	6.230	6.230	N/A	VN5137	GW	
	pH	SS2-2-5	7-Apr-19	5.980	5.980	N/A	VN5138	GW	
	pH	FF1-2	4-May-19	5.240	5.240	N/A	VT3154	GW	
	pH	LDS-1	26-Apr-19	4.690	4.690	N/A	VT3155	GW	
	pH	FFB-4	5-May-19	6.000	6.000	N/A	VT3156	GW	
	pH	FFA-4	8-May-19	4.980	4.980	N/A	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Phosphorus (P) - Dissolved	mg/L	SS1-4	6-Apr-19	0.041	0.041	0.002	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.027	0.027	0.002	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.036	0.036	0.002	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.005	0.005	0.002	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.011	0.011	0.002	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.003	0.003	0.002	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.006	0.006	0.002	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.006	0.006	0.002	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.006	0.006	0.002	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.004	0.004	0.002	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.003	0.003	0.002	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.010	0.010	0.002	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.018	0.018	0.002	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.036	0.036	0.002	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.003	0.003	0.002	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.007	0.007	0.002	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.027	0.027	0.002	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.003	0.003	0.003	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.003	0.003	0.003	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.003	0.003	0.003	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.004	0.004	0.003	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.0030	0.002	0.003	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.0020	0.001	0.002	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.0020	0.001	0.002	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.005	0.005	0.002	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.0020	0.001	0.002	VT3157	GW	
Phosphorus (P) - Total	mg/L	SS1-4	6-Apr-19	0.095	0.095	0.002	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.094	0.094	0.002	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.052	0.052	0.002	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.254	0.254	0.002	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.413	0.413	0.002	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.211	0.211	0.002	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.060	0.060	0.002	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.077	0.077	0.002	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.189	0.189	0.002	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.111	0.111	0.002	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.046	0.046	0.002	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.025	0.025	0.002	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.029	0.029	0.002	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.081	0.081	0.002	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.020	0.020	0.002	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.368	0.368	0.002	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.144	0.144	0.002	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.030	0.030	0.001	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.018	0.018	0.001	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.040	0.040	0.001	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.048	0.048	0.001	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.016	0.016	0.001	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.007	0.007	0.002	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.0020	0.001	0.002	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.012	0.012	0.002	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.002	0.002	0.002	VT3157	GW	

Notes:
For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".
Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Potassium (K) - Dissolved	mg/L	SS1-4	6-Apr-19	0.058	0.058	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.073	0.073	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.072	0.072	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.206	0.206	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	6.580	6.580	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.154	0.154	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.136	0.136	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.129	0.129	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.132	0.132	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.061	0.061	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.042	0.042	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.063	0.063	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.033	0.033	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.392	0.392	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.036	0.036	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.167	0.167	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.127	0.127	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.031	0.031	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.022	0.022	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.037	0.037	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.047	0.047	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.025	0.025	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.030	0.030	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.010	0.005	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.059	0.059	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.017	0.017	0.01	VT3157	GW	
Potassium (K) - Total	mg/L	SS1-4	6-Apr-19	0.064	0.064	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.072	0.072	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.068	0.068	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.225	0.225	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.288	0.288	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.155	0.155	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.152	0.152	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.129	0.129	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.135	0.135	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.063	0.063	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.049	0.049	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.071	0.071	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.075	0.075	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.376	0.376	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.046	0.046	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.171	0.171	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.112	0.112	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.033	0.033	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.027	0.027	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.041	0.041	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.045	0.045	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.027	0.027	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.083	0.083	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.014	0.014	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.098	0.098	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.029	0.029	0.01	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Selenium (Se) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.040	0.020	0.04	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.040	0.020	0.04	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.040	0.020	0.04	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.040	0.020	0.04	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.040	0.020	0.04	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.040	0.020	0.04	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.040	0.020	0.04	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.040	0.020	0.04	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.040	0.020	0.04	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.040	0.020	0.04	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.040	0.020	0.04	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.040	0.020	0.04	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.040	0.020	0.04	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.040	0.020	0.04	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.040	0.020	0.04	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.040	0.020	0.04	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.040	0.020	0.04	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.040	0.020	0.04	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.040	0.020	0.04	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.040	0.020	0.04	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.051	0.051	0.04	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.040	0.020	0.04	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.040	0.020	0.04	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.047	0.047	0.04	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.040	0.020	0.04	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.040	0.020	0.04	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.040	0.020	0.04	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.040	0.020	0.04	VT3157	GW	
Selenium (Se) - Total	ug/L	SS1-4	6-Apr-19	<0.040	0.020	0.04	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.040	0.020	0.04	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.040	0.020	0.04	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.040	0.020	0.04	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.040	0.020	0.04	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.040	0.020	0.04	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.040	0.020	0.04	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.040	0.020	0.04	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.040	0.020	0.04	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.040	0.020	0.04	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.040	0.020	0.04	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.040	0.020	0.04	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.040	0.020	0.04	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.040	0.020	0.04	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.040	0.020	0.04	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.040	0.020	0.04	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.040	0.020	0.04	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.040	0.020	0.04	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.040	0.020	0.04	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.040	0.020	0.04	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.040	0.020	0.04	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.045	0.045	0.04	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.040	0.020	0.04	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.040	0.020	0.04	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.040	0.020	0.04	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.040	0.020	0.04	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.040	0.020	0.04	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.040	0.020	0.04	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Silicon (Si) - Dissolved	ug/L	SS1-4	6-Apr-19	166.000	166.000	50	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	130.000	130.000	50	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<50	25.000	50	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<50	25.000	50	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	126.000	126.000	50	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	783.000	783.000	50	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	1040.000	1040.000	50	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	540.000	540.000	50	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	202.000	202.000	50	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	224.000	224.000	50	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	293.000	293.000	50	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	171.000	171.000	50	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	100.000	100.000	50	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<50	25.000	50	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	59.000	59.000	50	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	219.000	219.000	50	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<50	25.000	50	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	385.000	385.000	50	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	393.000	393.000	50	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	92.000	92.000	50	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	<50	25.000	50	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	57.000	57.000	50	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	90.000	90.000	50	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<50	25.000	50	VN5138	GW	
	ug/L	FF1-2	4-May-19	<50	25.000	50	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<50	25.000	50	VT3155	GW	
	ug/L	FFB-4	5-May-19	85.000	85.000	50	VT3156	GW	
	ug/L	FFA-4	8-May-19	<50	25.000	50	VT3157	GW	
Silicon (Si) - Total	ug/L	SS1-4	6-Apr-19	149.000	149.000	50	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	134.000	134.000	50	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<50	25.000	50	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<50	25.000	50	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	110.000	110.000	50	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	773.000	773.000	50	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	935.000	935.000	50	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	561.000	561.000	50	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	197.000	197.000	50	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	239.000	239.000	50	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	302.000	302.000	50	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	199.000	199.000	50	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	81.000	81.000	50	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<50	25.000	50	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<50	25.000	50	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	225.000	225.000	50	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<50	25.000	50	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	404.000	404.000	50	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	321.000	321.000	50	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	65.000	65.000	50	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	<50	25.000	50	VN5135	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS2-3	4-Apr-19	62.000	62.000	50	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	72.000	72.000	50	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<50	25.000	50	VN5138	GW	
	ug/L	FF1-2	4-May-19	194.000	194.000	50	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<50	25.000	50	VT3155	GW	
	ug/L	FFB-4	5-May-19	276.000	276.000	50	VT3156	GW	
	ug/L	FFA-4	8-May-19	<50	25.000	50	VT3157	GW	
Silver (Ag) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.0050	0.003	0.005	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0050	0.003	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0050	0.003	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0050	0.003	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0050	0.003	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0050	0.003	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Silver (Ag) - Total	ug/L	SS1-4	6-Apr-19	<0.0050	0.003	0.005	VN9055	GW	Matrix Spike exceeds acceptance limits due to matrix interference. Reanalysis yields similar results.
	ug/L	SS1-5	6-Apr-19	<0.0050	0.003	0.005	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0050	0.003	0.005	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0050	0.003	0.005	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0050	0.003	0.005	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0050	0.003	0.005	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0050	0.003	0.005	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0050	0.003	0.005	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0050	0.003	0.005	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0050	0.003	0.005	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0050	0.003	0.005	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0050	0.003	0.005	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0050	0.003	0.005	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0050	0.003	0.005	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0050	0.003	0.005	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0050	0.003	0.005	VN9070	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SSC-1-5	5-Apr-19	<0.0050	0.003	0.005	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0050	0.003	0.005	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0050	0.003	0.005	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0050	0.003	0.005	VN5134	GW	Detection limits raised due to dilution to bring analyte within the calibrated range.
	ug/L	SS2-2-4	7-Apr-19	<0.0050	0.003	0.005	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0050	0.003	0.005	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0050	0.003	0.005	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0050	0.003	0.005	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0050	0.003	0.005	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0050	0.003	0.005	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.0050	0.003	0.005	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0050	0.003	0.005	VT3157	GW	
Sodium (Na) - Dissolved	mg/L	SS1-4	6-Apr-19	0.088	0.088	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.094	0.094	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.066	0.066	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.126	0.126	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	34.200	34.200	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.076	0.076	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.155	0.155	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.115	0.115	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.086	0.086	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.081	0.081	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.094	0.094	0.01	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	0.043	0.043	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.062	0.062	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.130	0.130	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.047	0.047	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.094	0.094	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.074	0.074	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.152	0.152	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.078	0.078	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.090	0.090	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.096	0.096	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.065	0.065	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.064	0.064	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.036	0.036	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.055	0.055	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.040	0.040	0.01	VT3157	GW	
Sodium (Na) - Total	mg/L	SS1-4	6-Apr-19	0.097	0.097	0.01	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	0.091	0.091	0.01	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	0.064	0.064	0.01	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	0.147	0.147	0.01	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	0.194	0.194	0.01	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.084	0.084	0.01	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.149	0.149	0.01	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.106	0.106	0.01	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.086	0.086	0.01	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.068	0.068	0.01	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	0.097	0.097	0.01	VN9067	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SSC-1-4	5-Apr-19	0.043	0.043	0.01	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	0.053	0.053	0.01	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	0.121	0.121	0.01	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	0.049	0.049	0.01	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	0.103	0.103	0.01	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	0.069	0.069	0.01	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	0.119	0.119	0.01	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	0.087	0.087	0.01	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	0.087	0.087	0.01	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	0.096	0.096	0.01	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	0.069	0.069	0.01	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.032	0.032	0.01	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.029	0.029	0.01	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.049	0.049	0.01	VT3156	GW	
	mg/L	FFA-4	8-May-19	0.026	0.026	0.01	VT3157	GW	
Strontium (Sr) - Dissolved	ug/L	SS1-4	6-Apr-19	2.070	2.070	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.670	1.670	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	3.670	3.670	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	14.300	14.300	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	13.900	13.900	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	7.880	7.880	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	7.390	7.390	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	5.950	5.950	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	2.730	2.730	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.670	1.670	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.490	1.490	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.100	1.100	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.430	1.430	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	6.440	6.440	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.974	0.974	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	3.360	3.360	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	6.700	6.700	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.470	1.470	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.524	0.524	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.120	1.120	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.610	1.610	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.553	0.553	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.230	1.230	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.226	0.226	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	4.080	4.080	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.354	0.354	0.05	VT3157	GW	
Strontium (Sr) - Total	ug/L	SS1-4	6-Apr-19	1.870	1.870	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.960	1.960	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	4.490	4.490	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	12.400	12.400	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	13.800	13.800	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	8.420	8.420	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	8.310	8.310	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	8.210	8.210	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	3.040	3.040	0.05	VN9065	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS5-4	5-Apr-19	1.990	1.990	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.850	1.850	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	2.000	2.000	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.300	1.300	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	5.800	5.800	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	1.230	1.230	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	3.520	3.520	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	6.330	6.330	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.520	1.520	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.426	0.426	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.930	0.930	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.610	1.610	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.646	0.646	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.400	1.400	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.258	0.258	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	4.720	4.720	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.418	0.418	0.05	VT3157	GW	
Sulphate (SO_4) - Dissolved	mg/L	SS1-4	6-Apr-19	0.510	0.510	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	0.670	0.670	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	1.460	1.460	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	1.100	1.100	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	0.940	0.940	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	0.850	0.850	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	0.880	0.880	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	0.600	0.600	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	0.760	0.760	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	0.640	0.640	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	0.800	0.800	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	0.560	0.560	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Sulphur (S) - Dissolved	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	ug/L	FF1-2	4-May-19	<500	250.000	500	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	ug/L	LDS-1	26-Apr-19	<500	250.000	500	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	ug/L	FFB-4	5-May-19	<500	250.000	500	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
	ug/L	FFA-4	8-May-19	<500	250.000	500	VT3157	GW	
Sulphur (S) - Total	mg/L	SS1-4	6-Apr-19	<0.50	0.250	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	<0.50	0.250	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	ug/L	SS2-1-1	7-Apr-19	<500	250.000	500	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	ug/L	SS2-1-1B	7-Apr-19	<500	250.000	500	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	<0.50	0.250	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	<0.50	0.250	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	<0.50	0.250	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	<0.50	0.250	0.5	VN9062	GW	
	ug/L	SS3-8	7-Apr-19	<500	250.000	500	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	ug/L	SS4-4	6-Apr-19	<500	250.000	500	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	<0.50	0.250	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	<0.50	0.250	0.5	VN9065	GW	
	ug/L	SS5-3-4	5-Apr-19	<500	250.000	500	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	<0.50	0.250	0.5	VN9066	GW	
	ug/L	SS5-4	5-Apr-19	<500	250.000	500	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	<0.50	0.250	0.5	VN9070	GW	
	ug/L	SSC-3	5-Apr-19	<500	250.000	500	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	ug/L	SSC-1-5	5-Apr-19	<500	250.000	500	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	<0.50	0.250	0.5	VN9072	GW	
	ug/L	SS5-3-5	5-Apr-19	<500	250.000	500	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	<0.50	0.250	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SS2-4	4-Apr-19	<0.50	0.250	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	ug/L	FF1-2	4-May-19	<500	250.000	500	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	ug/L	LDS-1	26-Apr-19	<500	250.000	500	VT3155	GW	
	mg/L	FFB-4	5-May-19	<0.50	0.250	0.5	VT3156	GW	
	ug/L	FFB-4	5-May-19	<500	250.000	500	VT3156	GW	
	mg/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
	ug/L	FFA-4	8-May-19	<500	250.000	500	VT3157	GW	
Thallium (Tl) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.0020	0.001	0.002	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.0020	0.001	0.002	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0020	0.001	0.002	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0020	0.001	0.002	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.002	0.002	0.002	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0020	0.001	0.002	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0020	0.001	0.002	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0020	0.001	0.002	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0020	0.001	0.002	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0020	0.001	0.002	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0020	0.001	0.002	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0020	0.001	0.002	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0020	0.001	0.002	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0020	0.001	0.002	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.0020	0.001	0.002	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0020	0.001	0.002	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0020	0.001	0.002	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0020	0.001	0.002	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0020	0.001	0.002	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0020	0.001	0.002	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0020	0.001	0.002	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0020	0.001	0.002	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.0020	0.001	0.002	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0020	0.001	0.002	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.002	0.002	0.002	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0020	0.001	0.002	VT3157	GW	
Thallium (Tl) - Total	ug/L	SS1-4	6-Apr-19	<0.0020	0.001	0.002	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.0020	0.001	0.002	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.0020	0.001	0.002	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.0020	0.001	0.002	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.0020	0.001	0.002	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.0020	0.001	0.002	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.0020	0.001	0.002	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.0020	0.001	0.002	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.0020	0.001	0.002	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.0020	0.001	0.002	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.0020	0.001	0.002	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.0020	0.001	0.002	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.0020	0.001	0.002	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.0020	0.001	0.002	VN9070	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SSC-1-5	5-Apr-19	<0.0020	0.001	0.002	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	<0.0020	0.001	0.002	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.0020	0.001	0.002	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.0020	0.001	0.002	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.0020	0.001	0.002	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.0020	0.001	0.002	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.0020	0.001	0.002	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.0020	0.001	0.002	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.003	0.003	0.002	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.0020	0.001	0.002	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.003	0.003	0.002	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0020	0.001	0.002	VT3157	GW	
Tin (Sn) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.010	0.005	0.01	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.010	0.005	0.01	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.010	0.005	0.01	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.010	0.005	0.01	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.010	0.005	0.01	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.010	0.005	0.01	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.010	0.005	0.01	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.010	0.005	0.01	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	<0.010	0.005	0.01	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.010	0.005	0.01	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.010	0.005	0.01	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.010	0.005	0.01	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.010	0.005	0.01	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.010	0.005	0.01	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.010	0.005	0.01	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.010	0.010	0.01	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.010	0.005	0.01	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.010	0.005	0.01	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.010	0.005	0.01	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.010	0.005	0.01	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.010	0.005	0.01	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.010	0.005	0.01	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.010	0.005	0.01	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.010	0.005	0.01	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.010	0.005	0.01	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.010	0.005	0.01	VT3157	GW	
Tin (Sn) - Total	ug/L	SS1-4	6-Apr-19	<0.010	0.005	0.01	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	<0.010	0.005	0.01	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.010	0.005	0.01	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.010	0.005	0.01	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.010	0.005	0.01	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.011	0.011	0.01	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	<0.010	0.005	0.01	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.010	0.005	0.01	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.010	0.005	0.01	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	<0.010	0.005	0.01	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.013	0.013	0.01	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	<0.010	0.005	0.01	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.010	0.005	0.01	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.010	0.005	0.01	VN9068	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SSC-2	6-Apr-19	<0.010	0.005	0.01	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.010	0.005	0.01	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.010	0.005	0.01	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.010	0.010	0.01	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.010	0.005	0.01	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.010	0.005	0.01	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.010	0.005	0.01	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.010	0.005	0.01	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.010	0.005	0.01	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.010	0.005	0.01	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.045	0.045	0.01	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.010	0.005	0.01	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.010	0.005	0.01	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.010	0.005	0.01	VT3157	GW	
Titanium (Ti) - Dissolved	ug/L	SS1-4	6-Apr-19	2.400	2.400	0.5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	2.300	2.300	0.5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.760	0.760	0.5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	2.150	2.150	0.5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.720	0.720	0.5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	1.270	1.270	0.5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	<0.50	0.250	0.5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	2.930	2.930	0.5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	3.160	3.160	0.5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.470	1.470	0.5	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.50	0.250	0.5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.800	0.800	0.5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	4.490	4.490	0.5	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	1.260	1.260	0.5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.50	0.250	0.5	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.50	0.250	0.5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.650	0.650	0.5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.50	0.250	0.5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.50	0.250	0.5	VT3155	GW	
	ug/L	FFB-4	5-May-19	1.300	1.300	0.5	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.50	0.250	0.5	VT3157	GW	
Titanium (Ti) - Total	ug/L	SS1-4	6-Apr-19	3.370	3.370	0.5	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.550	1.550	0.5	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.50	0.250	0.5	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.750	0.750	0.5	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	3.250	3.250	0.5	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	4.940	4.940	0.5	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	2.650	2.650	0.5	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	2.190	2.190	0.5	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	2.120	2.120	0.5	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	5.900	5.900	0.5	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	3.490	3.490	0.5	VN9066	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS5-5	5-Apr-19	<0.50	0.250	0.5	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.50	0.250	0.5	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.720	0.720	0.5	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	1.100	1.100	0.5	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.50	0.250	0.5	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	5.270	5.270	0.5	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	2.490	2.490	0.5	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	1.900	1.900	0.5	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.50	0.250	0.5	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.660	0.660	0.5	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.810	0.810	0.5	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.50	0.250	0.5	VN5138	GW	
	ug/L	FF1-2	4-May-19	7.780	7.780	0.5	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.710	0.710	0.5	VT3155	GW	
	ug/L	FFB-4	5-May-19	6.880	6.880	0.5	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.090	1.090	0.5	VT3157	GW	
Total Dissolved Solids	mg/L	SS1-4	6-Apr-19	2.000	2.000	0.5	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	1.000	1.000	0.5	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<0.50	0.250	0.5	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	1.000	1.000	0.5	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	2.000	2.000	0.5	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	11.000	11.000	0.5	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	11.000	11.000	0.5	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	7.000	7.000	0.5	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	4.000	4.000	0.5	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	4.000	4.000	0.5	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	3.000	3.000	0.5	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	2.000	2.000	0.5	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	1.000	1.000	0.5	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	1.000	1.000	0.5	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	1.000	1.000	0.5	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	3.000	3.000	0.5	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	1.000	1.000	0.5	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	2.000	2.000	0.5	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	4.000	4.000	0.5	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	1.000	1.000	0.5	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	1.000	1.000	0.5	VN5135	GW	
	mg/L	SS2-3	4-Apr-19	1.000	1.000	0.5	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	2.000	2.000	0.5	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	1.000	1.000	0.5	VN5138	GW	
	mg/L	FF1-2	4-May-19	2.000	2.000	0.5	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	1.000	1.000	0.5	VT3155	GW	
	mg/L	FFB-4	5-May-19	2.000	2.000	0.5	VT3156	GW	
	mg/L	FFA-4	8-May-19	1.000	1.000	0.5	VT3157	GW	
	mg/L	SS1-4	6-Apr-19	6.300	6.300	1	VN9055	GW	RDL raised due to limited initial sample amount.
	mg/L	SS1-5	6-Apr-19	7.100	7.100	1	VN9056	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-1-1	7-Apr-19	4.600	4.600	1	VN9057	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-1-1B	7-Apr-19	3.300	3.300	1	VN9058	GW	RDL raised due to limited initial sample amount.
	mg/L	SS3-5	7-Apr-19	8.000	8.000	1	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	18.700	18.700	1	VN9060	GW	RDL raised due to limited initial sample amount.
	mg/L	SS3-7	7-Apr-19	19.600	19.600	1	VN9061	GW	RDL raised due to limited initial sample amount.
	mg/L	SS3-8	7-Apr-19	12.200	12.200	1	VN9062	GW	RDL raised due to limited initial sample amount.
	mg/L	SS4-4	6-Apr-19	10.400	10.400	1	VN9063	GW	RDL raised due to limited initial sample amount.
	mg/L	SS4-5	6-Apr-19	10.200	10.200	1	VN9064	GW	RDL raised due to limited initial sample amount.

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	mg/L	SS5-3-4	5-Apr-19	7.900	7.900	1	VN9065	GW	RDL raised due to limited initial sample amount.
	mg/L	SS5-4	5-Apr-19	6.000	6.000	1	VN9066	GW	RDL raised due to limited initial sample amount.
	mg/L	SS5-5	5-Apr-19	6.100	6.100	1	VN9067	GW	RDL raised due to limited initial sample amount.
	mg/L	SSC-1-4	5-Apr-19	7.600	7.600	1	VN9068	GW	RDL raised due to limited initial sample amount.
	mg/L	SSC-2	6-Apr-19	5.100	5.100	1	VN9069	GW	RDL raised due to limited initial sample amount.
	mg/L	SSC-3	5-Apr-19	8.500	8.500	1	VN9070	GW	RDL raised due to limited initial sample amount.
	mg/L	SSC-1-5	5-Apr-19	5.200	5.200	1	VN9071	GW	RDL raised due to limited initial sample amount.
	mg/L	SS5-3-5	5-Apr-19	10.000	10.000	1	VN9072	GW	RDL raised due to limited initial sample amount.
	mg/L	SS3-4	7-Apr-19	9.400	9.400	1	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	2.800	2.800	1	VN5134	GW	
	mg/L	SS2-2-4	7-Apr-19	2.900	2.900	1	VN5135	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-3	4-Apr-19	3.300	3.300	1	VN5136	GW	
	mg/L	SS2-4	4-Apr-19	2.000	2.000	1	VN5137	GW	
	mg/L	SS2-2-5	7-Apr-19	4.000	4.000	1	VN5138	GW	
	mg/L	FF1-2	4-May-19	<1.0	0.500	1	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<1.0	0.500	1	VT3155	GW	
	mg/L	FFB-4	5-May-19	1.600	1.600	1	VT3156	GW	
	mg/L	FFA-4	8-May-19	<1.0	0.500	1	VT3157	GW	
Total Suspended Solids	mg/L	SS1-4	6-Apr-19	39.600	39.600	1	VN9055	GW	
	mg/L	SS1-5	6-Apr-19	38.100	38.100	1	VN9056	GW	
	mg/L	SS2-1-1	7-Apr-19	<1.0	0.500	1	VN9057	GW	
	mg/L	SS2-1-1B	7-Apr-19	<1.0	0.500	1	VN9058	GW	
	mg/L	SS3-5	7-Apr-19	35.100	35.100	1	VN9059	GW	
	mg/L	SS3-6	7-Apr-19	95.500	95.500	1	VN9060	GW	
	mg/L	SS3-7	7-Apr-19	139.000	139.000	1	VN9061	GW	
	mg/L	SS3-8	7-Apr-19	70.100	70.100	1	VN9062	GW	
	mg/L	SS4-4	6-Apr-19	48.000	48.000	1	VN9063	GW	
	mg/L	SS4-5	6-Apr-19	37.100	37.100	1	VN9064	GW	
	mg/L	SS5-3-4	5-Apr-19	128.000	128.000	1	VN9065	GW	
	mg/L	SS5-4	5-Apr-19	51.400	51.400	1	VN9066	GW	
	mg/L	SS5-5	5-Apr-19	25.300	25.300	1	VN9067	GW	
	mg/L	SSC-1-4	5-Apr-19	14.300	14.300	1	VN9068	GW	
	mg/L	SSC-2	6-Apr-19	21.800	21.800	1	VN9069	GW	
	mg/L	SSC-3	5-Apr-19	43.700	43.700	1	VN9070	GW	
	mg/L	SSC-1-5	5-Apr-19	12.500	12.500	1	VN9071	GW	
	mg/L	SS5-3-5	5-Apr-19	114.000	114.000	1	VN9072	GW	
	mg/L	SS3-4	7-Apr-19	51.500	51.500	1	VN9073	GW	
	mg/L	SS2-1	7-Apr-19	18.800	18.800	1.1	VN5134	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-2-4	7-Apr-19	14.300	14.300	1.1	VN5135	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-3	4-Apr-19	21.300	21.300	1.1	VN5136	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-4	4-Apr-19	29.900	29.900	1.1	VN5137	GW	RDL raised due to limited initial sample amount.
	mg/L	SS2-2-5	7-Apr-19	19.500	19.500	1.1	VN5138	GW	RDL raised due to limited initial sample amount.
	mg/L	FF1-2	4-May-19	<1.0	0.500	1	VT3154	GW	
	mg/L	LDS-1	26-Apr-19	<1.0	0.500	1	VT3155	GW	
	mg/L	FFB-4	5-May-19	<1.0	0.500	1	VT3156	GW	
	mg/L	FFA-4	8-May-19	<1.0	0.500	1	VT3157	GW	
Turbidity	NTU	SS1-4	6-Apr-19	10.200	10.200	0.1	VN9055	GW	
	NTU	SS1-5	6-Apr-19	6.670	6.670	0.1	VN9056	GW	
	NTU	SS2-1-1	7-Apr-19	0.130	0.130	0.1	VN9057	GW	
	NTU	SS2-1-1B	7-Apr-19	0.210	0.210	0.1	VN9058	GW	
	NTU	SS3-5	7-Apr-19	8.310	8.310	0.1	VN9059	GW	
	NTU	SS3-6	7-Apr-19	22.700	22.700	0.1	VN9060	GW	
	NTU	SS3-7	7-Apr-19	36.500	36.500	0.1	VN9061	GW	
	NTU	SS3-8	7-Apr-19	22.200	22.200	0.1	VN9062	GW	

Notes:

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Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	NTU	SS4-4	6-Apr-19	14.400	14.400	0.1	VN9063	GW	
	NTU	SS4-5	6-Apr-19	12.300	12.300	0.1	VN9064	GW	
	NTU	SS5-3-4	5-Apr-19	31.400	31.400	0.1	VN9065	GW	
	NTU	SS5-4	5-Apr-19	15.500	15.500	0.1	VN9066	GW	
	NTU	SS5-5	5-Apr-19	5.510	5.510	0.1	VN9067	GW	
	NTU	SSC-1-4	5-Apr-19	3.150	3.150	0.1	VN9068	GW	
	NTU	SSC-2	6-Apr-19	4.940	4.940	0.1	VN9069	GW	
	NTU	SSC-3	5-Apr-19	8.640	8.640	0.1	VN9070	GW	
	NTU	SSC-1-5	5-Apr-19	3.620	3.620	0.1	VN9071	GW	
	NTU	SS5-3-5	5-Apr-19	32.800	32.800	0.1	VN9072	GW	
	NTU	SS3-4	7-Apr-19	13.900	13.900	0.1	VN9073	GW	
	NTU	SS2-1	7-Apr-19	1.120	1.120	0.1	VN5134	GW	
	NTU	SS2-2-4	7-Apr-19	1.650	1.650	0.1	VN5135	GW	
	NTU	SS2-3	4-Apr-19	4.960	4.960	0.1	VN5136	GW	
	NTU	SS2-4	4-Apr-19	1.010	1.010	0.1	VN5137	GW	
	NTU	SS2-2-5	7-Apr-19	2.870	2.870	0.1	VN5138	GW	
	NTU	FF1-2	4-May-19	4.100	4.100	0.1	VT3154	GW	
	NTU	LDS-1	26-Apr-19	1.200	1.200	0.1	VT3155	GW	
	NTU	FFB-4	5-May-19	5.200	5.200	0.1	VT3156	GW	
	NTU	FFA-4	8-May-19	3.300	3.300	0.1	VT3157	GW	
Uranium (U) - Dissolved	ug/L	SS1-4	6-Apr-19	0.031	0.031	0.002	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.040	0.040	0.002	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.0020	0.001	0.002	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	0.002	0.002	0.002	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.027	0.027	0.002	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.073	0.073	0.002	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	12.400	12.400	0.002	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.046	0.046	0.002	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.029	0.029	0.002	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.031	0.031	0.002	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.132	0.132	0.002	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.064	0.064	0.002	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.057	0.057	0.002	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.034	0.034	0.002	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.048	0.048	0.002	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.129	0.129	0.002	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.028	0.028	0.002	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.176	0.176	0.002	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.056	0.056	0.002	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.018	0.018	0.002	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.020	0.020	0.002	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.029	0.029	0.002	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.031	0.031	0.002	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.021	0.021	0.002	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.007	0.007	0.002	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.005	0.005	0.002	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.024	0.024	0.002	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.0020	0.001	0.002	VT3157	GW	
Uranium (U) - Total	ug/L	SS1-4	6-Apr-19	0.047	0.047	0.002	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.041	0.041	0.002	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	0.003	0.003	0.002	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.0020	0.001	0.002	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.025	0.025	0.002	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.072	0.072	0.002	VN9060	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS3-7	7-Apr-19	0.141	0.141	0.002	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.067	0.067	0.002	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.034	0.034	0.002	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.026	0.026	0.002	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.170	0.170	0.002	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.074	0.074	0.002	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.058	0.058	0.002	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	0.037	0.037	0.002	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	0.072	0.072	0.002	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.131	0.131	0.002	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.031	0.031	0.002	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.198	0.198	0.002	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.089	0.089	0.002	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.017	0.017	0.002	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.020	0.020	0.002	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.026	0.026	0.002	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.032	0.032	0.002	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.023	0.023	0.002	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.088	0.088	0.002	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	0.021	0.021	0.002	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.082	0.082	0.002	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.025	0.025	0.002	VT3157	GW	
Vanadium (V) - Dissolved	ug/L	SS1-4	6-Apr-19	0.111	0.111	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.115	0.115	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.060	0.060	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.336	0.336	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.583	0.583	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.154	0.154	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.171	0.171	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.154	0.154	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.245	0.245	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.090	0.090	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.066	0.066	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.092	0.092	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.202	0.202	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.142	0.142	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.051	0.051	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.063	0.063	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.050	0.025	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.050	0.025	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.050	0.025	0.05	VT3157	GW	
Vanadium (V) - Total	ug/L	SS1-4	6-Apr-19	0.086	0.086	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.130	0.130	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.071	0.071	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.313	0.313	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.473	0.473	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.144	0.144	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.153	0.153	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.173	0.173	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.193	0.193	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.134	0.134	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.050	0.025	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.114	0.114	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.184	0.184	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.191	0.191	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.057	0.057	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.216	0.216	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	0.277	0.277	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.050	0.025	0.05	VT3157	GW	
Zinc (Zn) - Dissolved	ug/L	SS1-4	6-Apr-19	1.590	1.590	0.1	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.350	1.350	0.1	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	0.530	0.530	0.1	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	0.390	0.390	0.1	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.460	0.460	0.1	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.10	0.050	0.1	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.860	0.860	0.1	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.350	0.350	0.1	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.340	0.340	0.1	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.370	0.370	0.1	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.940	0.940	0.1	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.540	1.540	0.1	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.370	1.370	0.1	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.060	1.060	0.1	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.310	1.310	0.1	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	1.090	1.090	0.1	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	1.480	1.480	0.1	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	1.150	1.150	0.1	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.430	0.430	0.1	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.690	0.690	0.1	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.710	0.710	0.1	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	0.860	0.860	0.1	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	1.230	1.230	0.1	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.770	0.770	0.1	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.870	0.870	0.1	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	2.630	2.630	0.1	VT3155	GW	
	ug/L	FFB-4	5-May-19	2.690	2.690	0.1	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.590	1.590	0.1	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value".

Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Zinc (Zn) - Total	ug/L	SS1-4	6-Apr-19	1.480	1.480	0.1	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	1.480	1.480	0.1	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	0.410	0.410	0.1	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	0.500	0.500	0.1	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	0.530	0.530	0.1	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	<0.10	0.050	0.1	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.830	0.830	0.1	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.410	0.410	0.1	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.280	0.280	0.1	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.450	0.450	0.1	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.920	0.920	0.1	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	1.330	1.330	0.1	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	1.600	1.600	0.1	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	1.180	1.180	0.1	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	1.160	1.160	0.1	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.860	0.860	0.1	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	1.610	1.610	0.1	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	1.270	1.270	0.1	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.590	0.590	0.1	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	0.640	0.640	0.1	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	0.870	0.870	0.1	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	1.000	1.000	0.1	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	0.960	0.960	0.1	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	0.910	0.910	0.1	VN5138	GW	
	ug/L	FF1-2	4-May-19	1.690	1.690	0.1	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	1.100	1.100	0.1	VT3155	GW	
	ug/L	FFB-4	5-May-19	1.370	1.370	0.1	VT3156	GW	
	ug/L	FFA-4	8-May-19	1.100	1.100	0.1	VT3157	GW	
Zirconium (Zr) - Dissolved	ug/L	SS1-4	6-Apr-19	<0.050	0.025	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.078	0.078	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	<0.050	0.025	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.076	0.076	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.229	0.229	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	0.113	0.113	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.063	0.063	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.064	0.064	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.099	0.099	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.076	0.076	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	0.095	0.095	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	<0.050	0.025	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	0.055	0.055	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.208	0.208	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	0.117	0.117	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.050	0.025	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	<0.050	0.025	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.050	0.025	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	<0.050	0.025	0.05	VT3157	GW	

Notes:

For measurements that were less than the detection limit, half the detection limit was used for calculations and graphs and presented as "Graphable Value". Non truncated values are used for calculations and graphs.

Appendix D: Snow Water Chemistry Analytical Results

Parameter	Unit	Site	Date	Data Point	Graphable Value	RDL	Lab Ref	Sample Type	Comment
Zirconium (Zr) - Total	ug/L	SS1-4	6-Apr-19	0.112	0.112	0.05	VN9055	GW	
	ug/L	SS1-5	6-Apr-19	0.115	0.115	0.05	VN9056	GW	
	ug/L	SS2-1-1	7-Apr-19	<0.050	0.025	0.05	VN9057	GW	
	ug/L	SS2-1-1B	7-Apr-19	0.087	0.087	0.05	VN9058	GW	
	ug/L	SS3-5	7-Apr-19	<0.050	0.025	0.05	VN9059	GW	
	ug/L	SS3-6	7-Apr-19	0.175	0.175	0.05	VN9060	GW	
	ug/L	SS3-7	7-Apr-19	0.208	0.208	0.05	VN9061	GW	
	ug/L	SS3-8	7-Apr-19	<0.050	0.025	0.05	VN9062	GW	
	ug/L	SS4-4	6-Apr-19	0.099	0.099	0.05	VN9063	GW	
	ug/L	SS4-5	6-Apr-19	0.109	0.109	0.05	VN9064	GW	
	ug/L	SS5-3-4	5-Apr-19	0.166	0.166	0.05	VN9065	GW	
	ug/L	SS5-4	5-Apr-19	0.055	0.055	0.05	VN9066	GW	
	ug/L	SS5-5	5-Apr-19	<0.050	0.025	0.05	VN9067	GW	
	ug/L	SSC-1-4	5-Apr-19	<0.050	0.025	0.05	VN9068	GW	
	ug/L	SSC-2	6-Apr-19	<0.050	0.025	0.05	VN9069	GW	
	ug/L	SSC-3	5-Apr-19	0.055	0.055	0.05	VN9070	GW	
	ug/L	SSC-1-5	5-Apr-19	<0.050	0.025	0.05	VN9071	GW	
	ug/L	SS5-3-5	5-Apr-19	0.158	0.158	0.05	VN9072	GW	
	ug/L	SS3-4	7-Apr-19	<0.050	0.025	0.05	VN9073	GW	
	ug/L	SS2-1	7-Apr-19	<0.050	0.025	0.05	VN5134	GW	
	ug/L	SS2-2-4	7-Apr-19	<0.050	0.025	0.05	VN5135	GW	
	ug/L	SS2-3	4-Apr-19	<0.050	0.025	0.05	VN5136	GW	
	ug/L	SS2-4	4-Apr-19	<0.050	0.025	0.05	VN5137	GW	
	ug/L	SS2-2-5	7-Apr-19	<0.050	0.025	0.05	VN5138	GW	
	ug/L	FF1-2	4-May-19	0.051	0.051	0.05	VT3154	GW	
	ug/L	LDS-1	26-Apr-19	<0.050	0.025	0.05	VT3155	GW	
	ug/L	FFB-4	5-May-19	<0.050	0.025	0.05	VT3156	GW	
	ug/L	FFA-4	8-May-19	0.052	0.052	0.05	VT3157	GW	

APPENDIX E DUST GAUGE COLLECTION STANDARD OPERATING PROCEDURE (ENVR-508-0112)

RioTinto

Environment STANDARD OPERATING PROCEDURE			
Area No.:	**8000**	**Document #:**	**ENVR-508-0112**
		Revision:	**5**
Task Title:	**SOP – Dust Gauge Collection**		
Next Review:	**1 Year from Final Approval in Documentum**		
Effective Date:	**Date on approved stamp in footer.**		

1 REFERENCES/RELATED DOCUMENTS

1.1 ENVI-403-0112 - SOP Total Suspended Solids - Located in: Diavik Intranet - SOPs – Environment Folder

1.2 ENVR-301-0112 – SOP General Laboratory Safety - Located in: Diavik Intranet – SOPs – Environment Folder

1.3 ENVR-605-0112 - SOP Snowmobiles – Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.4 ENVR-602-0112 - SOP Watercraft – Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.5 ENVR-501-0112 - SOP Remote Field Safety – Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.6 ENVI-101-0813 - SOP Lightning Response – Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.7 ENVR-601-0112 – SOP Helicopter - Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.8 ENVI-135-0112 - Remote Field Safety Permit Form – Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Remote Field Safety Plans

1.9 ENVI-178-0312 - Dust Gauge Collection Field Sheet – Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved

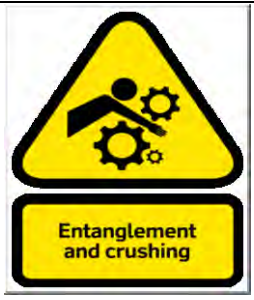
Revision History			
Revision	**Revision Description**	**Date of Revision**	**Author**
0	Initial Release	11-Jan-12	D. Meredith
1	New SOP format, Clarify procedures, adds photos.	23-Nov-14	D. Dul/ D. Bourassa
2	Format update	19-Jul-15	D. Birch
3	Annual Update	10-Feb-2016	S. Sinclair
4	New Template, clarification of representative sampling, decrease in oven temperature to be consistent with Standard Methods	04-Nov-16/10-Nov-16	S. Martin-Elson/N. Goodman

5	Template and area manager updated	20-Oct-2017	S. Skinner

Authorized Electronically in Documentum By:	
Area Superintendent:	D. Wells
Area Manager:	J. Kozian

Environment
STANDARD OPERATING PROCEDURE
SOP – Dust Gauge Collection

CRITICAL RISKS ARE HIGHLIGHTED IN GREY

Please click on the CRM Risks that are applicable for this SOP			
			
			
			
			

Dust Gauge Site 5 in the Summer

Dust Gauge Site 7 in the Winter

Dust Gauge Tubes in the Field Lab

Description

This Standard Operating Procedure (SOP) provides guidelines on procedures to follow when carrying out Dust Gauge Collections.

2 PURPOSE

The purpose of this Standard Operating Procedure is to outline the methodology for collecting dust gauges. This program is aimed at understanding dust deposition rates associated with project activities. Results collected from this program are compiled and placed in the Appendix of the annual AEMP report.

3 SCOPE

3.1 Scope of Procedure

This standard operating procedure (SOP) describes the responsibilities and processes for the deployment, collection and analysis of Dust Gauge Samples. These procedures apply to all Diavik Mine personnel and contractor personnel authorized for sample collection activities.

3.2 Scope of Activities

Twelve dust gauges (10 sample sites, plus 2 control sites) are established on and around East Island for monitoring airborne dust particles. The dust gauges are collected quarterly throughout the year.

4 DEFINITIONS

Definitions							
PPE	✓	GPS	✓	DO	✗	NTU	✗
MSDS	✗	SOP	✓	DI Water	✓	ELT	✗
Problem Bear	✓	JHA	✓	AEMP	✓	WLWB	✗
QA	✗	Groundwater	✗	COC	✓	PAL	✗
QC	✗	Seepage	✗	WHMIS	✗	ACTS	✗
Remote Work	✓	SNP	✗	TSS	✓	PROVE	✗
TSP							

See: ENVI-443-0415 - Environment Term Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

5 RESPONSIBILITIES

See: ENVI-444-0415 - Environment Roles and Responsibilities - Located in: Diavik Intranet – SOPs – Environment Folder

6 PROCEDURE

6.1 Key HSEQ Aspects

Task Hazards							
Slip, Trip, Fall	✓	Chemical Contact	✗	Rotating Parts	✓	Uneven Terrain / Ground	✓
Sprain / Strain	✓	Fall into Water	✓	Firearms / Deterrents	✓	Perception	✓
Working Remotely	✓	Overhead Objects	✗	Dehydration	✓	Risk to Wildlife	✓
Aircraft	✓	Visibility	✓	Ergonomics	✗	Unfamiliar Area	✗
Watercraft Operation	✓	Fire	✗	Glass	✓	Falling	✗
Snowmobile Operation	✓	Line of Fire	✓	Fumes / Gases	✗	Confined Space	✗
Light Vehicle	✓	Cuts Scrapes	✓	Entanglement	✗	Heavy Equipment	✓
Lifting	✓	Pinch Points	✓	Stored Energy	✓	Extreme Weather	✓
Manual Labour	✓	Noise	✓	Burns	✓	Electrical	✗
Wildlife	✓	Spills	✓	Equipment Loss or Damage	✓	Sample Loss or Damage	✓

See: ENVI-445-0415 - Environment Hazard Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

6.2 CRM Critical Risks

Critical Risk	Critical Control
Drowning	PFD
Vehicle collision or rollover	Seat Belt, Defensive driving, Segregation
Vehicle impact on person	Seat Belt, Defensive driving/walking, Segregation

Wildlife	Scans
Aircraft transport	PPE

6.3 Tools Required

Supplies, Tools and Equipment			
Tool / Equipment	**Quantity**	**Supplies**	**Quantity**
Snowmobile(2), Boat or Helicopter	**1**	**Winter/Summer/Boat Survival Gear (Set)**	**1**
GPS/ Loaded Coordinates	**2**	**Spare Batteries**	**4**
Satellite Phone	**1**	**Personal Gear (per person)**	**1**
Spot (per snowmobile)	**1**	**Wildlife Deterrents (air horn/banger kit)**	**1**
Camera (per person)	**1**	**Field Permit and Map**	**1**
Radio with spare battery (per person)	**1**	**Adjustable Wrench's**	**1**
Forceps, Pliers, Leatherman or Tweezers	**1**	**Field Sheets**	**14**
Clean Replacement Sample Tubes	**6**	**Pencils, Pens or Markers**	**2**
Glass Beakers (1000 mL)	**6**	**Large/Clear/Heavy-duty Plastic Bags or Gloves**	**6**
High Temp Oven	**1**	**TSS Filters**	**12 - 36**
Fire Proof Gloves/Tongs	**1**	**Duct Tape**	**12 - 36**
Vice Grips	**1**		

6.4 Procedural Steps

6.4..1 Pre-Deployment

Spare tubes are stored in the Environment field lab Shelf B3. **Tubes needs to be cleaned and checked for leaks**. To clean and check for leaks fill spare tubes with water and leave overnight on counter in Environment Lab. If leaks are discovered tag out and make arrangements with truck shop to have them fixed.

6.4..2 Sample Collection and Deployment

Depending on location and season samples are collected using various methods of transportation; you can walk, drive, boat, snowmobile or use a helicopter to access the various

sites. When using a Helicopter, a Hot Loading Variance is permitted (a JHA must be completed and signed off by OHSE Manager). The map in Figure 1 provides the Dust Gauges locations, and Table 1 provides the coordinates.

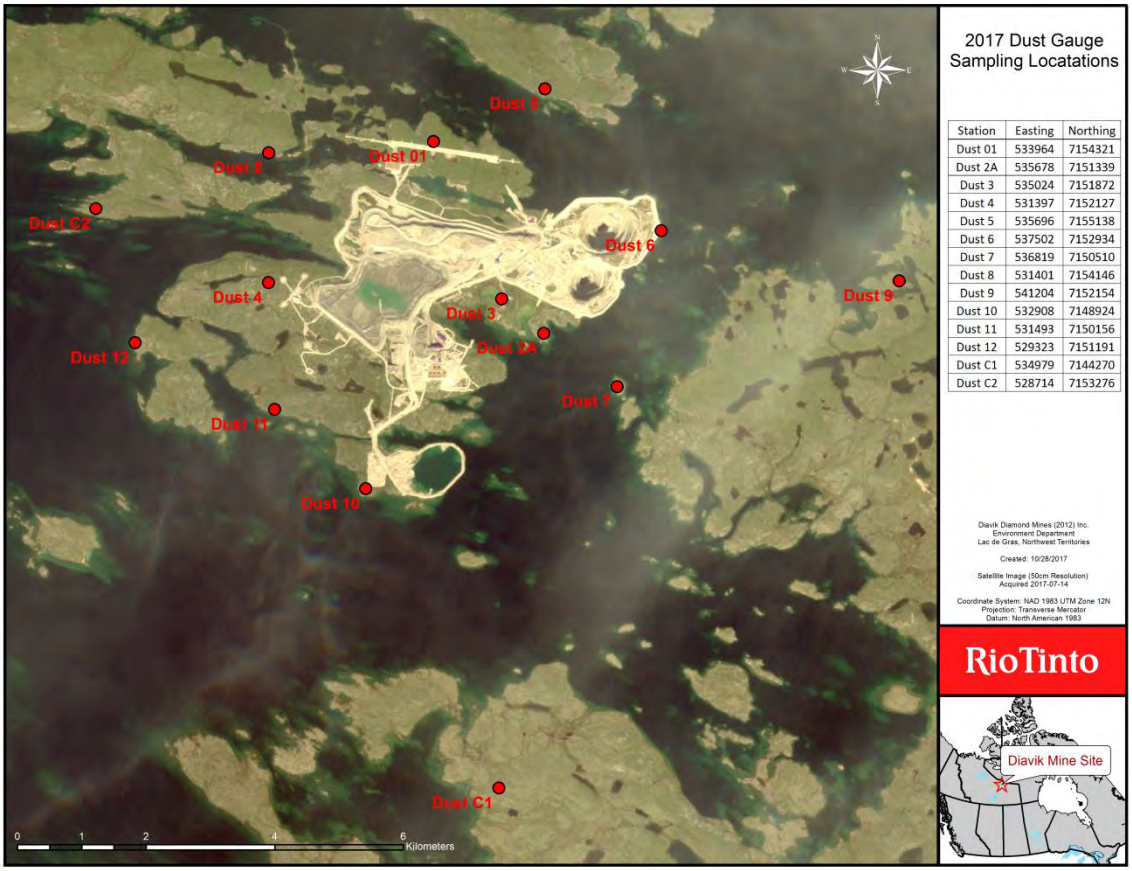


Figure 1: Map: Identifying Dust Gauge Sites

Table 1.0 below provides the coordinates for each Dust Gauge Site

STATION	EASTING	NORTHING		STATION	EASTING	NORTHING
Dust 01	533964	7154321		**Dust 8**	531401	7154146
Dust 2A	535678	7151339		**Dust 9**	541204	7152154
Dust 3	535024	7151872		**Dust 10**	532908	7148924
Dust 4	531397	7152127		**Dust 11**	531493	7150156
Dust 5	535696	7155138		**Dust 12**	529323	7151191
Dust 6	537502	7152934		**Dust C1**	534979	7144270
Dust 7	536819	7150510		**Dust C2**	528714	7153276

- When you arrive at the sample location, first inspect the station for damage (fiberglass tube on ground, station on angle etc.) and document anything noted on the Dust Gauge Collection Field Sheet - ENVI-178-0312.

- Carefully remove the copper tube out from the center of the fiberglass shield, keeping it upright. If the tube is stuck or frozen, try wiggling it, or tapping it near the bottom. If the tube is still stuck you may need extra leverage to free the tube and may if absolutely necessary use vice grips to grab the top and wiggle while pulling up. If it will not come free, you may have to remove the shield and pop the tube out. Be sure to replace the shield and insert a new tube afterwards. See photo 1 & 2 below

.

Photo 1: Tube Retrieval

Photo 2: Fiberglass Shield Removed

- Once retrieved, keep the tube upright, place an extra-large latex glove over top of tube and seal with clean plastic bag and duct tape. Ensure tube is labelled with the station

number, date and time collected. Keep the tube upright and secure at all times during transport. See photo 3 below.

- Place a clean, leak tested tube into the fiberglass shield (the tube should be labelled with the Dust Gauge Site, deployment date and time). Note that tubes need to be *upright and secure in the base rims* in order for the sample to be considered representative. Some of the base rims are bent and the tubes will not seat in them properly. When this is the case, place rocks around the tube within the fiberglass shell to ensure that tube will stay upright.

Photo 3: Sealing the Tube

6.4..3 Sample Analysis

- Once back in the Environment Lab, carefully transfer sample into a triple rinsed 1000ml glass beaker. Extract all debris including bugs and twigs and be sure to triple rinse them into the beaker to capture all the dust particles. Rinse the copper tube with DI water until all dust particles are removed. Record the total volume of water on the Dust Gauge Collection Field Sheet- ENVI-178-0312. If snow is present stand up the sample tube in a clean plastic bag (prevents sample loss if there is a leak) and allow samples to melt before conducting the above procedure.

- Cover the 1000ml beaker with parafilm and store the sample in the fridge until samples can be analysed for Total Suspended Solids (ENVI-403-0112). This should be conducted as soon as possible because some solids may dissolve in water, especially after snow melt. Note that it may take multiple filters to complete one sample.

- The resulting filter(s) with the dust particles are put into ceramic crucibles; ensure that you record the sample id on the crucibles **in pencil** before putting them into the oven. (1 filter per crucible) See photo 4 below.

Photo 4: Ceramic Crucibles with filter

- The high temperature oven is set up in the fume hood with the fan running. Heavy-duty fire-proof gloves and long tongs are used when placing or removing the crucibles from the oven. Filters are processed in the oven at 550 degrees Celsius for one hour. Allow oven to heat up to temperature before use. See photo 5 & photo 6 below.

Photo 5: High Heat Oven

Photo 6: Fire Proof Glove and Long Tongs

- When samples are removed from the oven, place the crucibles into their original labeled tin tray. Let the sample cool for at least 10 minutes before carefully removing the filters from their ceramic crucible using tweezers. Add any dust that has fallen off into the crucible to the top of the filter. Place the tin tray into the desiccator and allow the sample to cool further for a minimum of one hour.

- Remove the tin tray from the desiccator and weigh the filter according to the procedure outlined in the Total Suspended Solids SOP ENVI-403-0112.

- Record the results on the Dust Gauge Data Form (ENVI-178-0312) and in 13.14 Annual Dust Gauge Collection excel file in the P-Drive in for the given year.

- The dust fall deposition rate is determined using the equation below:

Daily Dust fall Deposition (mg/dm$_2$/d) = (TP (mg) / SA (dm$_2$)) / TDD (d)

Where:
TP (mg) = Total Particulate
SA (dm$_2$) = Surface Area of Dust Gauge Collection Tube = (3.14*(6.25*6.25))*(100)
TDD = Total Days Gauge was Deployed

Calculations are setup in the excel file. If you have any questions about entering this data contact your supervisor.

7 QUALITY OUTCOMES AND EXPECTATIONS

7.1 To safely complete the tasks outlined in this SOP, without incident.

7.2 Produce quality, accurate and repeatable results.

APPENDIX F SNOW CORE SURVEY STANDARD OPERATING PROCEDURE (ENVR-512-0213)

RioTinto

Environment STANDARD OPERATING PROCEDURE			
Area No.:	**8000**	**Document #:**	**ENVR-512-0213**
		Revision:	**5**
Task Title:	**Snow Core Survey**		
Next Review:	**1 Year from Final Approval in Documentum**		
Effective Date:	**Date on approved stamp in footer.**		

1 REFERENCES/RELATED DOCUMENTS

1.1 ENVR-501-0112 – SOP Remote Field Safety - Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.2 ENVR-605-0112 - SOP Snowmobile - Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.3 ENVR-301-0112 - SOP General Laboratory Safety - Located in: Diavik Intranet – SOPs – Environment Folder

1.4 ENVR-303-0112 - SOP Quality Assurance and Quality Control - Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

1.5 ENVR-206-0112 - SOP Chain of Custody and Sample Shipment - Located in: Diavik Intranet – SOPs – Environment Folder

1.6 ENVR-403-0112 - SOP Total Suspended Solids Analysis - Located in: Diavik Intranet – SOPs – Environment Folder

1.7 ENVI-601-0916- Snowmobile Pre-Op Inspection - Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Check Sheets

1.8 ENVI-135-0112 – Remote Field Safety Permit - Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Remote Field Safety Plans

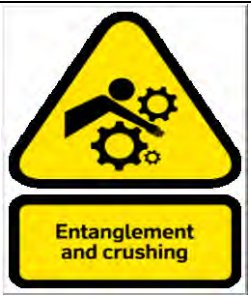
1.9 ENVI-177-0312 – Snow Sampling Field Sheet - Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Water Quality Forms

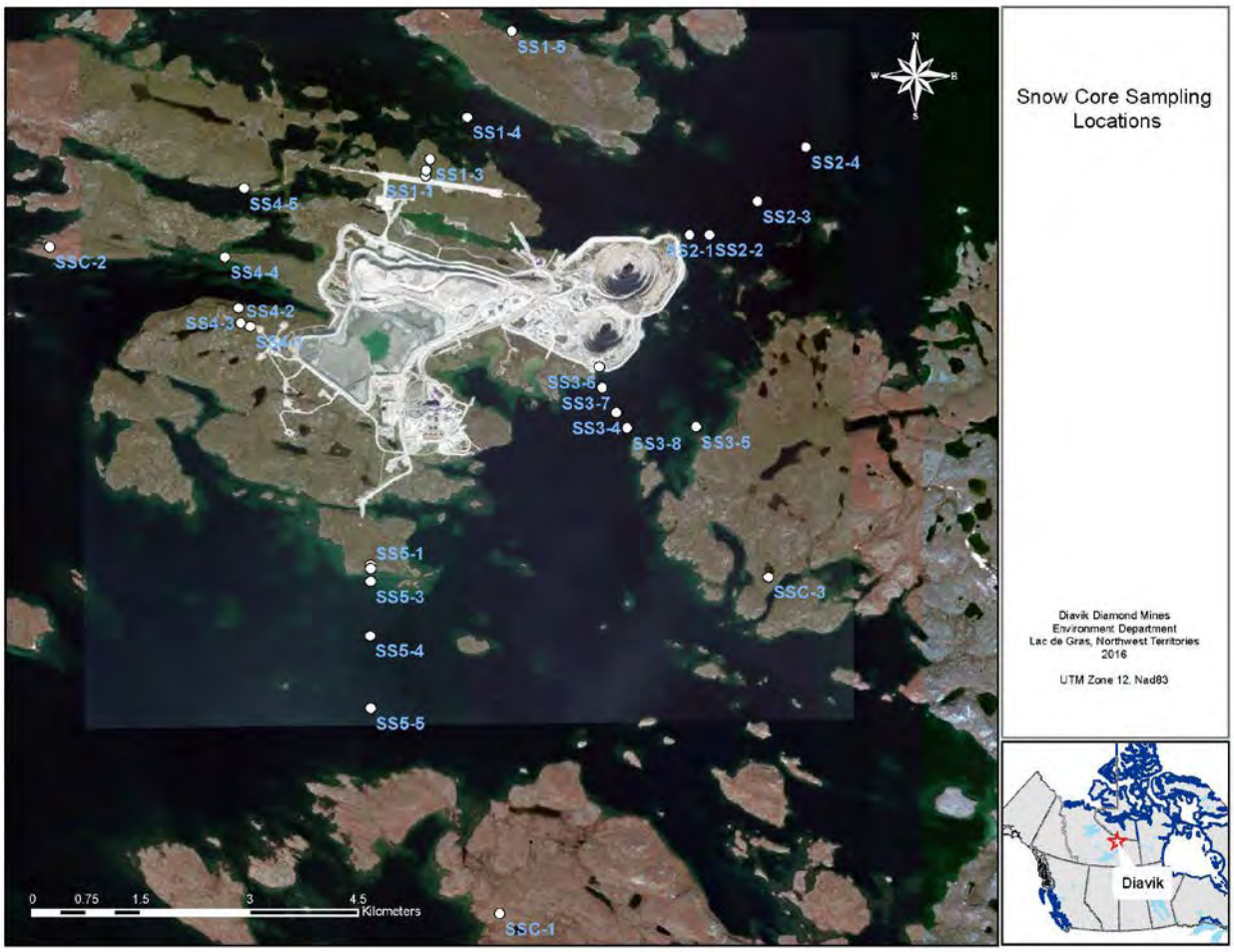
Revision History			
Revision	**Revision Description**	**Date of Revision**	**Author**
0	Original Issue	08-FEB-2012	D. Grabke
1	Updated Map for 2014, added SS3-6, SS3-7, SS3-8 sample points, updated to new environment SOP format	8-Apr-2014	D. Grabke
2	Format update	19-Jul-15	D. Birch
3	Format update	06-Dec-15	G.Reid
4	Format update	06-Nov-16	S. Martin-Elson
5	Format and area manager updated	20-Oct-2017	S. Skinner

Environment
STANDARD OPERATING PROCEDURE
Snow Core Survey

Authorized Electronically in Documentum By:	
Area Superintendent:	D. Wells
Area Manager:	J. Kozian

CRITICAL RISKS ARE HIGHLIGHTED IN GREY

Please click on the CRM Risks that are applicable for this SOP			
			
			
			
			



Snow Survey Sample Program Map

Description

Snow sampling at the Diavik Diamond Mine consists of snow core sampling to monitor dust deposition rates relative to predictions outlined in the DDMI Environmental Effects Report (1998), and snow water quality sampling in support of the DDMI Aquatic Effects Monitoring Program (AEMP).

2 PURPOSE

The purpose of this guide is to promote efficient and accurate snow surveying and to establish uniform sampling procedures.

3 SCOPE

3.1 Scope of Procedure

This standard operating procedure (SOP) describes the responsibilities and processes for collecting, documenting, and processing snow samples from at the Diavik mine site a surrounding Lac de Gras area (during ice cover). This procedure applies to all Diavik Diamond Mines personnel and contractor personnel authorized to collect samples under the current years Aurora Research Institute – Aquatic Effects Monitoring Program (AEMP) Research Permit.

3.2 Scope of Activities

This procedure has been developed to be consistent with the requirements of the AEMP design document and Environmental Effects Monitoring.

4 DEFINITIONS

Definitions							
PPE	✓	GPS	✓	DO	✗	NTU	✓
MSDS	✓	SOP	✓	DI Water	✓	ELT	✗
Problem Bear	✗	JHA	✓	AEMP	✗	WLWB	✗
QA	✗	Groundwater	✗	COC	✓	PAL	✗
QC	✓	Seepage	✗	WHMIS	✓	ACTS	✗
Remote Work	✓	SNP	✗	TSS	✓	PROVE	✗
TSP	✗						

See: ENVI-443-0415 - Environment Term Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

5 RESPONSIBILITIES

See: **ENVI-444-0415 - Environment Roles and Responsibilities** - Located in: Diavik Intranet – SOPs – Environment Folder

6 PROCEDURE

6.1 Key HSEQ Aspects

Task Hazards							
Slip, Trip, Fall	✓	Chemical Contact	✓	Rotating Parts	✓	Uneven Terrain / Ground	✓
Sprain / Strain	✓	Fall into Water	✓	Firearms / Deterrents	✗	Perception	✓
Working Remotely	✓	Overhead Objects	✗	Dehydration	✓	Risk to Wildlife	✓
Aircraft	✗	Visibility	✓	Ergonomics	✓	Unfamiliar Area	✓
Watercraft Operation	✗	Fire	✓	Glass	✗	Falling	✓
Snowmobile Operation	✓	Line of Fire	✓	Fumes / Gases	✓	Confined Space	✓
Light Vehicle	✓	Cuts Scrapes	✓	Entanglement	✓	Heavy Equipment	✗
Lifting	✗	Pinch Points	✓	Stored Energy	✓	Extreme Weather	✓
Manual Labour	✓	Noise	✗	Burns	✓	Electrical	✗
Wildlife	✓	Spills	✓	Equipment Loss or Damage	✓	Sample Loss or Damage	✓

See: ENVI-445-0415 - Environment Hazard Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

6.2 CRM Critical Risks

Critical Risk	Critical Control
Wildlife	Scans
Vehicle collision or rollover	Seatbelt, Segregation, Defensive Driving
Vehicle impact on person	Seatbelt, Segregation, Defensive Driving/Walking
Drowning	PFD
Exposure to hazardous substances	PPE
Fall from height	Stay away from edges

6.3 Tools Required

Supplies, Tools and Equipment			
Tool / Equipment	**Quantity**	**Supplies**	**Quantity**
Snow Corer & Handles	**1**	**Snow Survey Map**	**2**
Transport Case	**1**	**GPS & Waypoints**	**2**
Weighing Scale & Cradle	**1**	**Satellite Phone**	**1**
Sample Collection Bags & Zip Ties	**20**	**Spot Personal Locator**	**2**
Black Permanent Marker	**2**	**Survival Kit**	**1**
Field Data Sheets (Pens/Pencils) & Clipboard	**10**	**Ice Rescue Kit**	**2**
Snowmobile	**1**	**Radio and Spare Battery**	**2**
Toboggan	**1**	**Coolers**	**5**
Camera	**1**		

6.4 Procedural Steps

6.4..1 Planning

6.4..1.1 Program Management

The sampling snow survey will be completed annually in April. The survey design consists of 27 sample stations, including 3 control areas established along 5 transect lines originating from East Island and extending onto Lac de Gras.

Table 1 - Snowcore Sampling Locations

Transect Line	Station	UTM E (NAD 83)	UTM W (NAD 83)	Description
1	SS1-1	533911	7154288	Land
	SS1-2	533924	7154367	Land
	SS1-3	533966	7154517	Land
	SS1-4	534485	7155094	Ice
	SS1-5	535099	7156279	Ice
2	SS2-1	537553	7153473	Ice
	SS2-2	537829	7153476	Ice
	SS2-3	538484	7153939	Ice
	SS2-4	539151	7154685	Ice
3	SS3-4	536585	7151002	Ice
	SS3-5	537623	7150817	Ice
	SS3-6	536305	7151564	Ice
	SS3-7	536344	7151366	Ice
	SS3-8	536688	7150810	Ice
4	SS4-1	531491	7152211	Land
	SS4-2	531356	7152261	Land
	SS4-3	531331	7152434	Land
	SS4-4	531141	7153167	Ice
	SS4-5	531405	7154116	Ice
5	SS5-1	533150	7148925	Land
	SS5-2	533150	7148875	Land
	SS5-3	533150	7148700	Ice
	SS5-4	533150	7147950	Ice
	SS5-5	533150	7146950	Ice
	Control 1	534983	7144271	Land
	Control 2	528714	7153281	Land
	Control 3	538650	7148750	Land

6.4..1.2 Sampling Requirements – Dust Deposition

Dust deposition will be measured in-house using standard DDMI Total Suspended Solids laboratory procedures ENVR-403-0112. To facilitate this analysis, a composite sample comprised of a minimum of 3 snow cores will be collected at **ALL** (land and Ice) of the snow sampling stations. Water content must add up to a minimum 25 SWE for there to be sufficient water for analysis.

6.4..1.3 Sampling Requirements – Snow Water Quality

Snow water quality samples are required for all sample stations on Lac de Gras identified as **on-ice** locations, as well as at the **three control** areas Table 1 - Snowcore Sampling Locations. Snow chemistry analysis will be conducted by Maxxam Analytics. To facilitate the required analysis Table 2- Snow Water Quality Sample Requirements, a composite sample comprised of a minimum of 3 snow cores with a water Content (SWE) of at least 100 will be collected at all of the snow water quality stations.

Table 2- Snow Water Quality Sample Requirements

Bottle Filling Sequence	Maxxam Bottle	Analysis	Minimum Volume of Sample Required (ml)	Preservative
1	Metals	Total ICP Metals (Ultra Low)	60mL Falcon Tube	1ml Nitric Acid – HNO_3
2	Mercury	Total	40mL Glass Vial	1 ml Hydrochloric Acid - HCL
3	Nutrients	Ammonia	120mL HDPE	1 ml Sulfuric Acid
4	Routine	Sulfates, Nitrates, and Nitrites	1000mL HDPE	None Required
5	TSS, Turbidity & pH (Routine, 2nd Bottle)	TSS, Turbidity & pH	1000mL HDPE	None Required
Total Sample Volume Required			2220ml + 30% Triple Rinse	**3000ml = 100SWE**

Determining anticipated sample volume from Snow Water Equivalent (SWE)
Sample Water (ml) = SWE (cm) x 30(cm^2)
3000ml /30cm^2 = SWE = 100cm SWE

Therefore the aggregate Water Content SWE collected at a sample site must add up to at least 100 to ensure sufficient volume for water quality analysis.

6.4..2 Quality Assurance and Quality Control

Quality Control will be achieved through the use of duplicate and blank samples.

- Duplicate samples will be collected for a minimum 10% of the total samples (both Dust and Water Quality).
- At least **two** duplicate samples for the **dust** deposition samples
- At least **two** duplicate samples for the **water quality** samples
- One **equipment blank** will be collected and processed by Maxxam for water quality chemical analysis and internally for TSS. Maxxam DI water batch number will be

recorded on the field sheet. Equipment blanks will be completed from a single batch of DI water. Ensure that information from the DI water is recorded on the field sheet. Batch ID and Expiry date.

Quality assurance will be achieved via the following processes;

- Field data sheets will be utilized to document any and all observations, or occurrences that may impact the integrity of the samples, as well as corrective actions implemented to deal with those occurrences.
- If a sample becomes compromised, it will be recorded on the field data sheet, the sample will be discarded and a new sample collected.
- Individuals collecting the samples will take precautions to eliminate sample contamination during handling. Avoid touching insides of sample bags, avoid contacting the snow samples with anything other than the sampling corer.

Steps will be taken prior to, during, and after sampling to ensure all samples are correctly labeled with the sample date, sample ID, and sample type.

6.4..3 Equipment Inspection & Preparation

Prior to commencing the sampling program, inspect all sampling equipment for fouling, contamination, or damage. All of the polyacrylic tubes that will be utilized will be rinsed with a 10% Nitric Acid solution to ensure they are clean prior to the initiation of the program.

Snow Corer – Inspect the core tube to ensure measurement etchings are legible. Check the cutting edge to ensure blade is not deformed or damaged. Inspect the handles and threads to ensure they will assemble and disassemble without binding. Ensure the corer has been de-contaminated (acid rinsed) prior to commencing the program.

Weighing Scale and Cradle – Inspect the scale and cradle for deformity or damage

Snowmobiles – Inspection and use of snowmobiles will be in accordance with ENVR-603-0112

Communication – Inspect all communication equipment (Radios/Sat Phones, Spot Personal Locator) to ensure they are operational and functional. Ensure batteries (including spares) are fully charged. Ensure check-in times and procedures are clearly identified on the Field Work Permit.

Navigation – Inspect GPS and spare batteries to ensure equipment is functioning correctly. Verify that all sample locations are present and correct, and that the GPS Essentials file is loaded. Ensure an appropriate map is present to allow navigation back to site should the GPS fail.

Personnel Gear – In addition to winter survival equipment, each individual participating in off-site activities is expected to carry appropriate personal gear and equipment as is deemed necessary for the individual well being in an emergency situation.

Survival Kit – Inspect survival kit and Ice Rescue kits to ensure that they are complete and all items are functional and ready for use.

Misc – Individual core samples will be compiled into plastic bags (soil sampling bags) and sealed with zip-ties until they are ready for processing. Prior to the program commencing bags must be inspected to ensure they are new and clean.

6.4..4 Sample Collection

Navigate to the sampling locations – If the sample point falls on or immediately adjacent to the winter road adjusts your location to the nearest area with natural snow coverage (i.e. not impacted by the road or snow clearing).

Assemble the corer by threading the handles onto the tube, and re-inspect the snow corer for fouling and/or damage that may have occurred during transportation.

Fill in station location and weather information on the field data sheet. Identify snow conditions and dust observations in the comments section.

Prior to collecting a sample re-inspect the tube to check for cleanliness.

- **Take the weight of the empty snowcorer at each station prior to collecting any samples.**
- **For all station requiring snow water chemistry, collect the dust sample first – this will effectively rinse the corer with ambient snow minimizing cross contamination from locations.**

Hold the corer vertically (cutter end down) and drive it through the snow to the ground/ice surface below. Be sure the cutter contacts the ground/ice as compacted snow/ice may feel like the ground and result in an incomplete core.

Before raising the corer, read the depth of the snow (nearest cm) and record on the field datasheet.

Turn the corer at least one full turn to cut the core loose from the ground/ice surface. Carefully raise the corer and record the length of the core extracted. [Note: this could potentially be different from the depth of snow, see next]

Inspect the cutter end of the tube for dirt or litter, with gloves on carefully remove soil and litter from the core. If need be correct the length of the core extracted by subtracting the depth of the soil or litter (plug). Record adjusted core length and litter/soil observations on the field data sheet.

Carefully balance the corer containing the core on the weighing cradle.

- **Suspend the corer (like a pendulum) do not hold the corer tube or handles**

To ensure and accurate reading, gently tap the scale to be sure it is not sticking or binding.

Read the weight of the tube and core from the graduations on the scale. The scale is marked in cm of water.

Record the weight of the corer and the core to the nearest one-half cm.

To collect the core, lift the tube from the cradle and turn cutter und up. Gently tap the corer and the extracted core will slide out the top end. Be sure to use a clean/new sample bag to catch the core sample.

- **Ensure all sample bags are clearly labelled with the station ID, sample type, date, and number of cores included in the composite**
- **Ensure all bags are sealed using a clean zip-tie**

Weigh the empty sampling tube following the first and at least every fourth sample as the weight will change as small particle of water or snow accumulate/cling to the inside and outside of the tube and checking will make the data more accurate. Record the weight of the empty corer on the field data sheet.

Subtract the weight of the empty tube from the weight of the tube and core to obtain the water content of the sample.

Density calculations can be completed back in the lab following the completion of the program.

Density (g/cm^3) = Total SWE Collected (g/cm^{2*}) / Total Snow Core Length Collected (cm)
***assumes pure water density 1g/cm^3**

Prior to moving to the next sampling location ensure the field datasheet is complete.

6.4..5 Sample Processing

Prior to processing, all samples must be kept in a frozen state to minimize sample degradation.

When preparing the samples for decanting and analysis, remove the sample bags from the freezer. Check to ensure that the top of the bag is well twisted and the zip-tie is tight. Place the sample bag into a new (clean) sample bag and affix a zip-tie to seal the second bag. This double bagging will help to ensure no sample is lost during the melting process. To process samples, they will require anywhere from 12-36 hours to thaw at room temperature.

Place the sealed sample bags upright in clean coolers in the lab to thaw overnight.

Once a sample is completely melted it is ready for processing.

Sample volume can be determined using a scale accurate to 1g, set up scale, tare the sampling basin with two bags and 2 zip-ties. Place sample bags in the basin and record the weight of each of the bags on the field sheet.

Dust deposition samples will be processed in the DDMI Lab for TSS.

- **The entire volume of sample must be processed – this may require the use of multiple filters.**
- **For samples with large quantities of organics (twigs/leaves etc.) it may be necessary to sieve the sample through a course filter prior to processing.**
- **Given the possibility of the samples containing organic matter, sample filters will be dried in the high temperature oven (650°F) for 1hr to burn off any organics on the filter.**
- **Allow Samples to cool in the desiccator prior to weighing the filters.**

Snow Water Quality samples will be decanted to fill the appropriate (pre-labelled) Maxxam sample bottles as per standard water sampling procedures. Any excess sample water can be discarded.

6.4..6 Sample Chain of Custody

Samples will be shipped to Maxxam Analytics as per ENVR-206-0112 – CHAIN OF CUSTODY & SAMPLE SHIPPING – and accompanied by COC documentation.

7 QUALITY OUTCOMES AND EXPECTATIONS

7.1 To safely complete the tasks outlined in this SOP, without incident.

7.2 Producing quality, accurate and repeatable results.

APPENDIX G QUALITY ASSURANCE/QUALITY CONTROL STANDARD OPERATING PROCEDURE (ENVR-303-0112)

RioTinto

ENVIRONMENT STANDARD OPERATING PROCEDURE			
Area No.:	**8000**	**Document #:**	**ENVR-303-0112**
		Revision:	**4**
Task Title:	**Quality Assurance/Quality Control**		
	Supersedes: ENV SOP 303		
FOR DOCUMENT CONTROL USE ONLY: **Next Review:** **1 year from Area Manager Authorized Signature Date below** **Effective Date:** **See Area Manager Authorized Signature Date below**			

1 REFERENCES/RELATED DOCUMENTS

1.1 **ENVI-656-0117 DDMI Environment Lab – Training** – Located in: P:\DDMI Environment\10.0 Operational Control\10.13 CALA Certification\Approved Quality Manual Documents\5.2 Training

1.2 **ENVR-301-0112 – SOP- General Laboratory Safety -** Located in: Diavik Intranet – SOPs – Environment Folder

1.3 **ENVR-206-0112 - SOP- Chain of Custody & Sample Shipping -** Located in: Diavik Intranet – SOPs – Environment Folder

1.4 **ENVI-133-0112 - Aquatic Effects Field Sheet -** Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Water Quality Forms

1.5 **ENVI-134-0112 – 1645-19 SNP Monitoring Field Sheet** – Located in: P:\DDMI Environment\10.0 Operational Control\10.2 Forms\Current Forms\Approved\Water Quality Forms

1.6 **ENVI-668-0117 DDMI Environment Lab – Equipment Management** - Located in: P:\DDMI Environment\10.0 Operational Control\10.13 CALA Certification\Approved Quality Manual Documents\5.5 Equipment

1.7 **ENVI-669-0117 DDMI Environment Lab – Measurement Traceability** - Located in: P:\DDMI Environment\10.0 Operational Control\10.13 CALA Certification\Approved Quality Manual Documents\5.6 Measurement Traceability

1.8 **ENVI-653-0117 DDMI Environment Lab – Record Control** - Located in: P:\DDMI Environment\10.0 Operational Control\10.13 CALA Certification\Approved Quality Manual Documents\4.13 Record Control

1.9 **ENVI-650-0117 DDMI Environment Lab – Document Control** - Located in: P:\DDMI Environment\10.0 Operational Control\10.13 CALA Certification\Approved Quality Manual Documents\4.3 Document Control

1.10 **ENVR-403-0112 – SOP Total Suspended Solids Analysis -** Located in: Diavik Intranet – SOPs – Environment Folder

1.11 ENVR-404-0112 – SOP pH Analysis - Located in: Diavik Intranet – SOPs – Environment Folder

1.12 ENVR-405-0112 – SOP Turbidity Analysis - Located in: Diavik Intranet – SOPs – Environment Folder

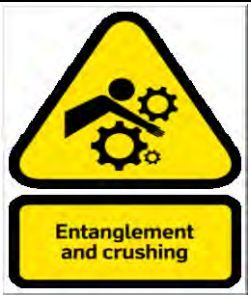
1.13 ENVR-604-0112 – SOP Field Meter - Located in: P:\DDMI Environment\10.0 Operational Control\10.1 SOPs\Working SOPs

Revision History			
Revision	**Revision Description**	**Date of Revision**	**Author**
0	Initial Release	01-Jan-12	D. Grabke
1	Formatting	08-Dec-15	D. Birch
2	Revision of QC schedule and measures	29-May-16	N. Goodman
3	CALA Updates	15-Dec-16	N. Goodman
4	Update to template, area manager and CRM	21-Oct-17	A. Hehn

Authorized Electronically in Documentum By:	
Area Superintendent:	D. Wells
Area Manager:	J. Kozian

(Document owners will be prompted annually to update content; however, changes may or may not result.)

CRITICAL RISKS ARE HIGHLIGHTED IN GREY

Please click on the CRM Risks that are applicable for this SOP			
			
			
			
			

Internal QA/QC
LABBW
LDUPW1/ LDUPW2
DUPRDGS
EBINT

External QA/QC KEY		
-1	=	EBW
-2	=	FBW
-3	=	TBW
-4	=	DUPW1
-5	=	DUPW2
-6	=	DLS

Description
This SOP reviews the quality assurance and quality control measures we use to ensure best practices are being utilized while collecting and analysing samples.

2 PURPOSE

The Objective of this Standard Operating Procedure is to establish consistent and uniform criteria and procedures to be implemented for laboratory activities undertaken during water quality analysis to ensure environmental data generated and processed is scientifically valid.

This SOP is intended to define Environmental Quality Assurance (QA) and Quality Control (QC) measures in place to ensure all data generated in the DDMI Environment Laboratory shall be of known precision and accuracy, be complete, representative, and comparable.

3 SCOPE

3.1 Scope of Procedure

This procedure applies to all Diavik Diamond Mines personnel and contract personnel authorized by the Environment Superintendent to collect, analyse and ship samples. All persons conducting analyses in the DDMI laboratory are required to read, understand, and fully comply with the methods outlined in the SOP for each analytical test conducted, respectively.

This procedure has been developed to be consistent with the requirements of the Rio Tinto HS & E standards.

4 DEFINITIONS

Definitions							
PPE	✓	GPS	✓	DO	✗	NTU	✗
MSDS	✗	SOP	✓	DI Water	✗	ELT	✓
Problem Bear	✗	JHA	✓	AEMP	✗	WLWB	✗
QA	✗	Groundwater	✗	COC	✗	PAL	✗
QC	✗	Seepage	✗	WHMIS	✗	ACTS	✗
Remote Work	✓	SNP	✗	TSS	✗	PROVE	✗
TSP	✗						

See: ENVI-443-0415 - Environment Term Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

5 RESPONSIBILITIES

See ENVI-444-0415 - Environment Roles and Responsibilities - Located in: Diavik Intranet – SOPs – Environment Folder

6 PROCEDURE

6.1 Key Safety Aspects

Task Hazards							
Slip, Trip, Fall	✓	Chemical Contact	✗	Rotating Parts	✓	Uneven Terrain / Ground	✓
Sprain / Strain	✓	Fall into Water	✗	Firearms / Deterrents	✓	Perception	✗
Working Remotely	✓	Overhead Objects	✗	Dehydration	✗	Risk to Wildlife	✓
Aircraft	✓	Visibility	✗	Ergonomics	✗	Unfamiliar Area	✗
Watercraft Operation	✗	Fire	✗	Glass	✗	Falling	✗
Snowmobile Operation	✗	Line of Fire	✓	Fumes / Gases	✓	Confined Space	✗
Light Vehicle	✗	Cuts Scrapes	✗	Entanglement	✗	Heavy Equipment	✗
Lifting	✗	Pinch Points	✓	Stored Energy	✗	Extreme Weather	✓
Manual Labour	✗	Noise	✓	Burns	✗	Electrical	✗
Wildlife	✓	Spills	✓	Equipment Loss or Damage	✗	Sample Loss or Damage	✗

See: ENVI-445-0415 - Environment Hazard Definitions - Located in: Diavik Intranet – SOPs – Environment Folder

6.2 CRM Critical Risks

Critical Risk	Critical Control
N/A	N/A

6.3 Procedural Steps

6.3.1 Quality Assurance (QA)

Quality assurance for the environmental laboratory encompasses all quality-related activities that ensure the validity of aquatics testing and analysis and all relevant technical support. All DDMI environment personnel, from management to field laboratory technicians, are required to conscientiously follow applicable quality control measures and standard operating procedures (SOPs). Adherence to these documents, combined with staff vigilance, can help ensure that the analytical data and other test results collected will be acceptable as the bases for making significant decisions.

The DDMI laboratory ("the lab") encompasses a broad range of activities including preparation of samples for internal analytical processing, calibration and maintenance of equipment, data management, and sample handling for external analysis.

Our approach to quality assurance places an emphasis on four aspects:

- Infrastructure (instruments, testing capabilities, calibrations, SOP's)
- Control Measures (internal/external)
- Personnel (competence, ethics, and integrity)
- Data Management/Control of Non-Conforming Work

The quality of the outputs is at risk if any of these four aspects are deficient in any way.

6.3.2 Infrastructure

6.3.2.1 Equipment

All equipment is to be maintained and operated in accordance with manufacturer instructions and SOPs. Modifications to equipment/equipment settings/any issues are to be recorded in the spreadsheet in the relevant Equipment folder, which is accessible to all staff and should be regularly consulted during troubleshooting, as per ENVI DDMI Environment Lab – Equipment Management.

6.3.2.2 Testing Capabilities

Continued testing capability is verified through a regular (semi-annual) program of Proficiency Testing (PT). Environmental conditions within the lab (such as sample storage areas, as well as within test-specific equipment such as ovens and desiccators) shall be maintained such that the exact requirements of specific methods are met and testing capability is not impaired. Furthermore, lab management has a responsibility to review new editions of external method reference documents (such as the Standard Methods) whenever a new edition is released to ensure continued consistency with internationally approved best practice.

6.3.2.3 Calibrations

Calibrations are performed regularly on all pieces of lab equipment with the potential to impact test results, following a predefined schedule and bearing traceability to SI units wherever possible. When performed internally, calibrations are always done in accordance with method SOPs. All observations and maintenance actions must be reported in the QA/QC Lab Performance logbook.
The logbook must also keep record of the instrument calibration history. Calibration records for fixed and portable laboratory measuring equipment, and individual monitoring devices, shall be maintained and include dates, personnel, and specifics of calibration standards and reference solutions. Instrument calibration procedures and schedules are clearly outlined in individual SOP's.

More details on calibrations and calibration records are available in ENVI-669-0117 R0 DDMI Environment Lab – Measurement Traceability, ENVI-670-0117 RO DDMI Environment Lab – Record Control, and ENVI 650-0117 R0 DDMI Environment Lab – Document Control

6.3.2.4 Purchasing and Verifying Supplies and Services

Services and supplies that affect the quality of tests and/or calibrations shall be purchased only from suppliers that have been investigated and approved. Suppliers shall only be approved when they have been verified as complying with standard specifications or requirements defined in the methods for the tests and/or calibrations concerned. All received supplies will be compared against their accompanying purchase documents, and their reception and specifications must be recorded. Supplies must be verified prior to use according to ENVI-651-0117 DDMI Environment Lab – Purchasing Supplies and Services

6.3.3 Internal Quality Control (QC) Measures

Laboratory quality control consists of both internal and external checks on precision and accuracy of analytical results. Employees are trained in quality control and good lab practices through the lab analyst certification process (ENVI-560-0616, ENVI-561-0616, ENVI-562-0616). An annual performance evaluation ensures that the integrity of analytical procedures remains intact.

Best practices in water quality monitoring dictate that QC samples will comprise at least 10% of all samples analyzed, and more as required to maintain assurance of quality across homogenous sampling matrices and conditions. Due to high sample volumes, the DDMI Environment department performs more than 10% internal QC in order to ensure that any errors or sources of contamination in procedures or equipment are caught immediately. No batch of samples is ever analyzed without some form of internal QC (at least a Lab Blank, below).

Internal Quality Control sample types (descriptions below) consist of: Lab Blanks (LBW), Lab Duplicates (LDUPW1/LDUPW2), Duplicate Readings (DUPRDGS), Laboratory Splits (DLS), and Internal Equipment Blanks (EBINT). Results of Internal Quality Control samples are recorded as per ENVI-670-0117 RO DDMI Environment Lab – Record Control, and reviewed by Environment Supervisors to detect trends.

Lab Blanks (LABBW)

A laboratory blank is a sample comprised of deionised (DI) water, prepared in the lab, which remains in the lab for analysis. This blank is exposed to any and all reagents that are used in the analytical process and is carried through the entire analytical processes including any filtration required. Lab blanks may identify unsuspected contaminates associated with DI water purity, improper cleaning procedures, filters or air contaminants in the lab. LABBWs are the most frequent form of QC at DDMI and occur every day that samples are analyzed.

Lab Duplicates (LDUPW1/LDUPW2)

A laboratory duplicate consists of a single sample to be analyzed twice internally (using the same techniques) as though it is two separate samples. The entire lab procedure is repeated twice, using two separate aliquots of water poured from the same sample bottle. Lab duplicates evaluate analytical precision and sample homogeneity, as well as consistency of lab and operator procedures. LDUPW1/LDUPW2 are the most frequent form of QC at DDMI and occur every day that samples are analyzed.

*in Monitor Pro 5 (MP5), under regular sample data entry, the sample that is to be the LDUP is assigned a sample type of “LDUPW1.” Then, in the data entry section for that day’s LDUPW1/LDUPW2, the corresponding sample site is to be assigned a sample type of “LDUPW2.”

Duplicate Readings (DUPRDG)

Duplicate readings are intentionally obtained during the analysis of samples, with a single sample being read twice. The only aspect of the lab procedure to be repeated is the actual measurement, with sample preparation occurring only once on a single sample. Variability between duplicate readings can be attributed to instrumentation or operator error, rather than variation in the sample. Note that field meters are included in DUPRDGS.

Allowable Discrepancy Limits between LDUPWs and DUPRDGs

If the relative percent difference (RPD) exceeds 20% when analyte concentrations are ≥ 5 times the detection limit (DL), the environment supervisor must be informed so that the data can be flagged and sampling/analytical methods and instrumentation performance can be reviewed. Relevant DLs for DDMI laboratory analysis are:

TSS – 0.3mg/L

Turbidity – 0.15 NTU

Conductivity – 0.9uS/cm

pH has no applicable detection limit.

Laboratory Splits (DLS)

A laboratory split consists of a single sample divided into two aliquots, one to be analyzed internally, and the other to be sent to an external lab using the same techniques to analyze their aliquot so that the two results would be compared. Variability of results must be considered carefully in light of analyte hold times. RPD between duplicate samples will be assessed by environment supervisor.

Equipment Blanks, Internal (EBINT)

An aliquot of DI water is subjugated, in the DDMI Environmental Laboratory, to all aspects of sample collection and analysis, using the same procedures that are utilized in the field, including contact with all sampling devices and apparatus (e.g. tubing, jars, samplers, filters). The purpose of the equipment blank is to determine if the sampling devices and apparatus for sample collection have been adequately cleaned before they are utilized at the field sampling location

6.3.4 Internal QC Scheduling

DDMI Environment internal QC falls under two schedules: Station-Dependent Internal QC and Station-Independent Internal QC. Station-Dependent Internal QC is tied to different sample matrices and is included in regular sampling schedules in MP5 (ex. samplers will be required to complete one EBINT with every set of monthly pond sampling.)

Station-Dependent Internal QC		QC Frequency per sampling event		
Sample Matrix	**Sampling Frequency***	**EBINT**	**DLS**	**DUPRDGS**
Ponds	Monthly	Every event	none	none
Diffuser	Monthly	Every event	none	none
PKC	Monthly	n/a	1 in 4	1 in 4
UG /clarifiers	Biweekly	n/a	none	none
NIWTP Influent/Effluent	6 days	n/a	none	none

*Note that sampling frequency refers to the frequency with which the entire set of samples is taken, and not the number of sites sampled (ex. the monthly pond sampling includes **10** sample sites but compromises **1** sampling event.)

Station-Independent Internal QC is not tied to any particular sample matrix and QC sample types are scheduled as stand-alone events in MP5.

Station-Independent Internal QC	Frequency
LABBW	Daily when samples collected
LDUPW	Daily when samples collected

6.3.5 External Quality Control (QC) Measures

External QC samples comprise ~ 10% of all samples analyzed and are spaced across sampling matrices and sample events to capture as much process homogeneity as possible. With the exception of Trip Blanks (below), external quality control samples are prepared by DDMI Environment staff, who subjugate them to the relevant procedures. All external QC samples are then shipped off-site to a qualified external laboratory, where all analysis is conducted.

External QC sample types consist of Trip Blanks (TBW), Equipment Blanks (EBW), Field Blanks (FBW), and Duplicates (DUPW1/DUPW2). Results of External Quality Control samples are recorded as per ENVI-670-0117 RO DDMI Environment Lab – Record Control, and reviewed by Environment Supervisors to detect trends.

Trip Blanks (TBW)

A Trip Blank is an aliquot of laboratory grade distilled water, which is received from an external lab, in the same type of container that is required for the analytical test. The trip blank is sealed and labelled in the external lab from which it originates. Upon our receipt of the trip blanks they are to be stored, sealed, at ~ 4°C until such a time as they are to be utilized (no longer than 1 month). When utilized, trip blanks travel with the sampling cooler from the laboratory to the sampling site and back to the laboratory without being opened. The trip blank is then packaged and shipped to the originating laboratory to be analyzed. The purpose of the trip blank is to verify that no sample contamination occurred during transportation or sampling operations.

Equipment Blanks (EBW)

An aliquot of DI water is subjugated, in the Environment laboratory, to all aspects of sample collection and analysis, using the same procedures that are utilized in the field, including contact with all sampling devices and apparatus (e.g. tubing, jars, samplers, filters). The purpose of the equipment blank is to determine if the sampling devices and

apparatus for sample collection have been adequately cleaned before they are utilized at the field sampling location.

Field Blanks (FBW)

An aliquot of DI water is subjugated, in the field, to all aspects of sample collection and analysis, using the same procedures that are utilized in the field, including contact with all sampling devices and apparatus (e.g. tubing, jars, samplers, filters). The purpose of the field blank is to demonstrate that sample contamination has not occurred during field sample collection and processing.

Duplicates (DUPW1/DUPW2)

Co-located samples are independent samples collected as close as possible to the same point in space and time and are intended to assess precision of the entire program (field and laboratory components). The use of replicates for this purpose assumes that the variability between DUPW1 and DUPW2 is affected by the sampling method or technician. In most cases natural variability between samples collected in close succession will be low. When performing duplicate samples, the second sample will consist of each bottle that is regularly collected for that station, including the DDMI internal routine bottle.

*in MP5, under regular sample data entry, the sample that is to be the DUPW is assigned a sample type of “DUPW1.” Then, in the data entry section for that day’s DUPW1/DUPW2, the corresponding sample site is to be assigned a sample type of “DUPW2.”

6.3.6 External QC Scheduling

DDMI Environment external QC is entirely station-dependent, and QC types have different frequencies for each sample matrix that are programmed into MP5.

External QC		QC Frequency per sampling event				
Sample Matrix*	**Sampling Frequency**	**DUPW**	**FB**	**TB**	**EB**	**Total % External QC (all types)**
Ponds	Monthly	1 in 2	1 in 6	1 in 6	1 in 3	**11.7**
Diffuser	Monthly	1 in 1	1 in 6	1 in 6	1 in 3	**11.1**
PKC	Monthly	1 in 2	1 in 8	None	n/a	**12.5**
UG /clarifiers	Biweekly	1 in 6	1 in 6	1 in 12	n/a	**10.4**

NIWTP Influent/Effluent	6 days	1 in 6	1 in 12	1 in 12	n/a	**11.1**
Total QC type per month**		**3.16**	**1.21**	**0.91**	**0.66**	**5.94 QC/month 11.2 % Ext. QC**

*See ENVR-477-0815 – SOP A21 DCMP for A21 QC instructions/schedule

Again, note that sampling frequency refers to the frequency with which the entire set of samples is taken, and not the number of sites sampled (ex. the monthly pond sampling includes **10 sample sites but compromises **1** sampling event.)

6.4 Data Management

6.4.1 External Sample Tracking – Chain of Custody

All samples collected, packaged and shipped to external laboratories are tracked via Chain of Custody documentation. The CoC record is used to document change in possession from sampling to delivery to receipt by the external analytical laboratory. CoC procedures are clearly outlined in ENVR-206-0112 - SOP- Chain of Custody.

6.4.2 Internal Sample Tracking

All samples collected are documented in Monitor Pro 5 on the Environment iPads as per the regular sampling schedule.

6.4.3 Data Recording/Record Keeping

The lab has a procedure in place (ENVI-670-0117 RO DDMI Environment Lab – Record Control), to ensure accurate and appropriate record keeping and review of records.

6.4.4 Data Reporting

Immediately following laboratory analyses, all records are transferred from the applicable field sheets, to their respective electronic databases.

Laboratory supervisors will regularly review the electronic databases to ensure that laboratory recordkeeping meets the aforementioned elements. Results can then be queried and exported as required from MP5 for reporting purposes.

Reporting considerations for individual methods can be found both in individual Method Validations and summarized in method SOPs.

6.5 Control of Nonconforming Testing and/or Calibration Work

The lab has procedures in place to define responses to nonconforming test or calibration work or results (ENVI-652-0117 DDMI Environment Lab – Control of Nonconformances) Testing and/or Calibration Work). This procedure covers responsibility and authority pertaining to management of nonconforming work, evaluation of non-conformance significance, and guidelines for corrective action. Environment Supervisors are to ensure that all employees are trained in this procedure.

6.5.1.1 Corrective and Preventive Action

The laboratory has procedures (ENVI-652-0117 DDMI Environment Lab – Control of Nonconformances) in place to provide guidelines for both corrective action (as per 6.4, above, and also pertaining to departures from policies and procedures in the management system or technical operations). Procedures also provide guidance on identifying and incorporating preventive action (addressing needed improvements and potential sources of management or technical nonconformities).

6.5.1.2 Continual Improvement

The laboratory shall continually improve the effectiveness of its QAQC system and produced data through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

6.6 Personnel

6.6.1 Competency – Certification of Analyst Proficiency

Certification of Analyst Proficiency is the process for assessing and recognizing the technical competence and the effective quality processes of the DDMI Environment Laboratory and staff.

Staff proficiency means that an individual is capable of performing specified test methods and procedures correctly, and familiar with all related policies and procedures pertaining to lab quality as referenced in the Quality Manual. Staff will be trained and tested so as to document their competence for the range of activities they will be expected to perform in the lab, in accordance with all method SOPs.. A performance evaluation will be conducted annually at a minimum, to ensure that staff are fully trained and competent.

Details on staff training are available in ENVI-656-0117 R0 DDMI Environment Lab – Training.

6.6.2 Ethics

Ethics is a set of moral principles, code for right and wrong, or behaviour which conforms to acceptable professional practices.

All employees at all times shall conduct themselves in an honest and ethical manner.

Examples of unethical behaviour include but are not limited to the following:

- Improper manipulation of data or software
- Improper handling of data errors, non-compliant data, or QC outliers
- Lack of reporting unethical behaviour of others
- Artificially fabricating results
- Misrepresenting data such as peak integration, calibration, tuning, or system suitability
- Improper clock setting to meet holding times
- Intentional deletion of non-compliant data

An employee must report any suspected unethical behaviour or fraudulent activities to the Environment Supervisor.

7 QUALITY OUTCOMES AND EXPECTATIONS

7.1 To safely complete the tasks outlined in this SOP, without incident.

7.2 Producing quality, accurate and repeatable results.

ERM has over 160 offices across the following countries and territories worldwide

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