

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site		CHP-13-01/10		Project Number	1343-005.29		Date	Jan 30, 2017			
Piezometer Diameter		3" 1.5"		Client	GY - AAM		Samplers	JC + JC			
UTM Location		Z: 08 E: 0388654 N: 6881117		Project Name	Mount Nansen 2017 GW Sampling Program		Weather/Temperature	-15 sunny			
Waypoint		GPS: HEM Name: N/A					Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos		Cam: ELRI Nos: 078-080		Purge Method							
Duplicate Collected		<input type="checkbox"/> Yes Name: X		Waterra	Peristaltic	Disp. Bailer	Other				
Field Blank Collected		<input type="checkbox"/> Yes Name: X		X	X	X	X				
Initial Depth to Water (m)		FROZEN		Purge Start Time:	X	Purge End Time:	X	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit		
Depth to Bottom (m)		6.585		Purge Interval							
Depth recorded from		<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Time () min / Vol. () L							
Submerged Tubing Depth (m)		N/A		Depth to water (m)							
Well Stick-up Height (m)		0.476		Temperature (°C) 3%							
Estimated Water Volume (L)		N/A		pH (pH Units) ±0.1							
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%									
		Specific Cond. (µs/cm) 3%									
		Redox (mV) 10%									
		DO (mg/L) 10%									
		DO (%) 10%									
		Appearance & Odour (Clear, Silty, HC odours, etc.)									
		Only for final readings		Sulphide (mg/L)				WELL FROZEN			
				Turbidity (NTU)							
		Interval Purge Volume (L)									
		Cumulative Purge Volume (L):									
YSI ID		N/A		Sample Method:							
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other				
Time logged on YSI (24hr)		X		X	X	X	X				
Sample Time (24hr)		X		X	X	X	X				

Sample Site (Con't): CHP-13-01/10

Sample Date (Con't): Not sampled

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.4
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		_____
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

... snow depth ~ 0.315m

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site CH-P-13-03/50		Project Number 1343-005.29		Date 30-Jan-17			
Piezometer Diameter 1"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 38943 E: 38943 N: 688110		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature ~ -16°C			
Waypoint GPS: ELR Name: N/A				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 516-518		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: _____				X			
Initial Depth to Water (m) 48.701		Purge Start Time: _____	Purge End Time: _____	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth to Bottom (m) 49.815		Purge Interval Time () min / Vol. () L					
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Depth to water (m)					
Submerged Tubing Depth (m) -		Temperature (°C) 3%					
Well Stick-up Height (m) 0.525 to surface		pH (pH Units) ±0.1					
Estimated Water Volume (L) 0.55		Cond. (µs/cm) 3%					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)		UNABLE TO SAMPLE SEE BACK	
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
		YSI ID		Sample Method:			
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)				X			
Sample Time (24hr) 15:40							

Sample Site (Con't): CH-P-B-03/50

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

*** Head Space Gas Measurements**

	Units	Values
Methane (CH4)	%LEL	
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	100	30-Jan-17
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	30-Jan-17
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

* PID not calibrating → constantly showing over range DO in clean air, ~~for~~ attempts made to zero + calibrate unsuccessful ∴ will return later w/ different PID.

- Direct sample → ~~water sample was pulled from well & attempted to be collected in 500 ml bottle. The bottle was full of water & the sample was not collected. The bottle was then discarded. The sample was then pulled from the well & collected in a 120 ml bottle. The sample was then analyzed.~~

~~the sample, could potentially be a very small amount of water. Keeping water in? when sample pulled up the bottle was extra weight calibrating this to see what collecting in water.~~

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer 1
- 2" bailer _____
- other (describe) twine

- filled gen chem + will filter @ pump house → able to collect diss. metals, diss. mercury.

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site CH-P-13-04/10		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 1.75 1.50		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08, E: 389138 N: 6881472		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature ~16°C, cloudy			
Waypoint GPS: ELR Name: NIA				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 528-530		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: /		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: /							
Initial Depth to Water (m) FROZEN 6.019		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) FROZEN				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Temperature (°C) 3%					
Well Stick-up Height (m) 0.61		pH (pH Units) ±0.1					
Estimated Water Volume (L) /		Cond. (µs/cm) 3%					
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
		YSI ID		Sample Method:			
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): CH-9-13-04/112

 Sample Date (Con't): 31-Jan-17

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other _____

 Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	530

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:
Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	CH-P-13-04135	Project Number	1343-005.29	Date	31-Jan-17.
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/MD
UTM Location	Z: 08J E: 389138 N: 6881472.	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-16°C, windy
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: 2 Nos: 528-530	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: _____	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: _____				
Initial Depth to Water (m)	FROZEN @ 0.562	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	N/A FROZEN	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L	FROZEN		
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	0.60	Temperature (°C) 3%			
Estimated Water Volume (L)	/	pH (pH Units) ±0.1			
(DTB - DTW) x (πr ²) 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations:		Cond. (µs/cm) 3%			
		Specific Cond. (µs/cm) 3%			
		Redox (mV) 10%			
		DO (mg/L) 10%			
		DO (%) 10%			
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)	/				

Sample Site (Con't): HP-13-04135

 Sample Date (Con't): 31-3-17

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other _____

 Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH ₄)	%LEL	0
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	530

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:
Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GLL07-01	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JH/MM
UTM Location	Z: 08, E: 0388851 N: 6881782	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	~ -15°C
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: 0 Nos: 505-527	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: /	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: /				
Initial Depth to Water (m)	13.87	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	13.879	Purge Interval			
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Time () min / Vol. () L			
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	0.77	Temperature (°C) 3%			
Estimated Water Volume (L)	/	pH (pH Units) ±0.1			
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	<u>Only for final readings</u> Sulphide (mg/L)				
	Turbidity (NTU)				
	Interval Purge Volume (L)				
	Cumulative Purge Volume (L):				
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)					

Sample Site (Con't): GLL07-01

 Sample Date (Con't): 30-Jan-17

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other _____

 Well properly sealed for gas monitoring: Yes No Details: slits in PVC
Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	11.0
Carbon Dioxide (CO2)	PPM %	4.37%

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

-Returned to collect gases on 31-Jan-17 @ 09:55 due to PID to working properly at time of first visit

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	G1107-02	Project Number	1343-005.29	Date	Feb. 1, 2017
Piezometer Diameter	6"	Client	GY - AAM	Samplers	JC + JH
UTM Location	Z: 08 E: 6889069 N: 6881703	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sun/clouds
Waypoint	GPS: Name:			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR2 Nos: 575-577	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	DRY	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	7.045	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	1.35	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
	Interval Purge Volume (L)				
	Cumulative Purge Volume (L):				
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): GLL07-02

 Sample Date (Con't): NOT SAMPLED

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other _____

 Well properly sealed for gas monitoring: Yes No Details: well sitting open
Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	730

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:
Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-01A	Project Number	1343-005.29	Date	Jan 30, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0387674 N: 6881127	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sunny	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELRI Nos: 063-065	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)	0.866	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	N/A	Depth to water (m)				
Well Stick-up Height (m)	0.66	Temperature (°C) 3%				
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1				
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%					
	Specific Cond. (µs/cm) 3%					
	Redox (mV) 10%					
	DO (mg/L) 10%					
	DO (%) 10%					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Only for final readings	Sulphide (mg/L)				
		Turbidity (NTU)				
	Interval Purge Volume (L)					
	Cumulative Purge Volume (L):					
YSI ID	X	Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	X					
Sample Time (24hr)	Not Sampled	X	X	X	X	

Sample Site (Con't): GSI-DC-01A

Sample Date (Con't): Not Sampled

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- snow is ~ 42cm deep
- Monitor only

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-01B	Project Number	1343-005.29	Date	Jan 30, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 6387675 N: 6881128	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15 sunny
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELRI Nos: 066-068	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	0.834	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.734	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	X	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	X	X	X	X	X
Sample Time (24hr)	Not Sampled	X	X	X	X

Sample Site (Con't): GSI-DC-01B

Sample Date (Con't): Not Sampled

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.2
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Monitor only
- Approx 42cm of snow

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GI-DC-02B/A	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/MM
UTM Location	Z:08v E:0287041 N:681132	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	~20°C, slight breeze
Waypoint	GPS: ELR Name: NIK			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: 2 Nos: 492-494	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: _____	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: _____		X/A		
Initial Depth to Water (m)	B) 2.370 A) 2.716 DRY/FROZEN	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	B) 2.716 A) 1.869	Purge Interval		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Time () min / Vol. () L			
Submerged Tubing Depth (m)	N 3	Depth to water (m)	DIRECT SAMPLE		
Well Stick-up Height (m)	B) 0.275 A) 0.35	Temperature (°C) 3%			
Estimated Water Volume (L)	0.67	pH (pH Units) ±0.1			
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume</p> <p>(DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>(DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>3.716</p> <p>2.370</p> <p>1.346</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
<input type="checkbox"/> Only for final readings Sulphide (mg/L) Turbidity (NTU)					
Interval Purge Volume (L)					
Cumulative Purge Volume (L):					
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)					
Sample Time (24hr)	12:40		X		

Sample Site (Con't): GSI-DC-02B/A

Sample Date (Con't): 30-Jan-17 @ 12:40

Well Head Seal: J-Plug PVC Cap Not Sealed Other twist cap

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values	
Methane (CH4)	%LEL	10	20
Oxygen (O2)	%	20.9	17.5
Carbon Dioxide (CO2)	PPM	900	2000

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	100	30-Jan-17 2 used
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	3 from
2	500 ml (plastic)	General Chemistry	100 ml	-	-	100 250	"
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	100	"
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	60	"
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	50	"
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	50	"

General Notes and Observations:

- will return to direct sample

- able to fill entire gen chem bottle @ 12:40;
will filter at bunk house due to freezing conditions.

~~- return to attempt to sample more @ 16:45~~

- Returned to sample 30-Jan-17 @ 16:45 - unable to get water

- Returned to sample @ 09:30 on 31-Jan-17 - able to purge ~ 400 ml more
↳ completed sample set.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 8m ~~4m~~
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing ~~0.5~~ 1 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-G3B/A	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter		Client	GY - AAM	Samplers	JH/MM
UTM Location	Z: 08, E: 0888105, N: 6881089	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C
Waypoint	GPS: EUR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: 2 Nos: 514-515	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:				
Initial Depth to Water (m)		Purge Start Time:		Purge End Time:	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)		Purge Interval Time () min / Vol. () L			
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Depth to water (m)			
Submerged Tubing Depth (m)		Temperature (°C) 3%			
Well Stick-up Height (m)		pH (pH Units) ±0.1			
Estimated Water Volume (L)		Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%			
		Redox (mV) 10%			
		DO (mg/L) 10%			
		DO (%) 10%			
		Appearance & Odour (Clear, Silty, HC odours, etc.)			
		Only for final readings	Sulphide (mg/L)		
			Turbidity (NTU)		
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
	YSI ID		Sample Method:		
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)					
Sample Time (24hr)					

CANNOT LOCATE TO GLACIATION FROM CREEK DUE

Sample Site (Con't): GSI-DC-05B/A

Sample Date (Con't): Jan. 20, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Cannot located due to glaciation from dome creek, large amount of ice covering DP, reference to UTM.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-05 A / B	Project Number	1343-005.29	Date	Feb 1, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JH	
UTM Location	Z: 08 E: 0388725 N: 6880836	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-10°C sun, clouds	
Waypoint	GPS: ELR Name:			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR2 Nos: 559-561	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name:	X	X	X	X	
Initial Depth to Water (m)	(A) - (B)	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)	(A) - (B)	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	X	Depth to water (m)				
Well Stick-up Height (m)	X	Temperature (°C) 3%				
Estimated Water Volume (L)	X	pH (pH Units) ±0.1				
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Specific Cond. (µs/cm) 3%	COULD NOT LOCATE WELL, SUSPECTED OF BEING FROZEN OVER				
	Redox (mV) 10%					
	DO (mg/L) 10%					
	DO (%) 10%					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Only for final readings	Sulphide (mg/L)				
		Turbidity (NTU)				
	Interval Purge Volume (L)					
	Cumulative Purge Volume (L):					
	YSI ID	X	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	X	X	X	X	X	
Sample Time (24hr)	X	X	X	X	X	

Sample Site (Con't): GSI-DC-OSA/B

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	X
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- well below ice, could not locate

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GS1-DC-06A	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389788 N: 6880567	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A	Purge Method			
Photos	Cam: ELRI Nos: 90-92	Water	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	0.900	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.813	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): GSI-DC-06A

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.5
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

• snow depth ~ 0.41 m

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	G51-DC-06B	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389788 N: 6880567	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 93-95	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	0.530	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.488	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	<u>Only for final readings</u> Sulphide (mg/L)				
	Turbidity (NTU)				
	Interval Purge Volume (L)				
	Cumulative Purge Volume (L):				
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	X	X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): GSI-DC-06B

Sample Date (Con't): NOT SAMPLED

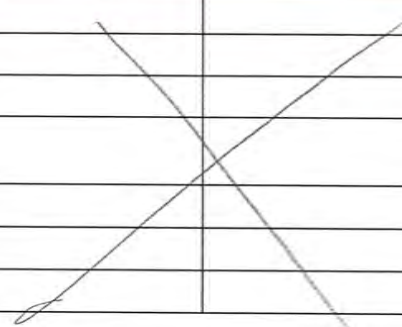
Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH ₄)	%LEL	0
Oxygen (O ₂)	%	22.4
Carbon Dioxide (CO ₂)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

• snow depth ~ 0.41 m

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-07A	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0390064 N: 688089	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR1 Nos: 96-99	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	X	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)					Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
			Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%				
			Redox (mV) 10%			
			DO (mg/L) 10%			
			DO (%) 10%			
			Appearance & Odour (Clear, Silty, HC odours, etc.)			
			Only for final readings			
			Sulphide (mg/L)			
			Turbidity (NTU)			
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID		Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)		X	X	X	X	
Sample Time (24hr)		X	X	X	X	

NOT SAMPLED, COULD NOT LOCATE WELL, SUSPECTED FROZEN OVER

Sample Site (Con't): GSI-DC-07A

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Could not locate well
- Water / ice level seemed higher than normal

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-07B	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0390064 N: 6880639	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 96-99	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	<div style="font-size: 4em; opacity: 0.5;">X</div>	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)					Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
			Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%				
			Redox (mV) 10%			
			DO (mg/L) 10%			
			DO (%) 10%			
			Appearance & Odour (Clear, Silty, HC odours, etc.)			
			Only for final readings			
			Sulphide (mg/L)			
			Turbidity (NTU)			
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID	<div style="font-size: 4em; opacity: 0.5;">X</div>	Sample Method:				
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)						
Sample Time (24hr)			X	X	X	X

NOT SAMPLED, COULD NOT LOCATE WELL SUSPECTED FROZEN OVER

Sample Site (Con't): GSI-DC-07B

Sample Date (Con't): NAT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	X
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- could not locate well
- water / ice seemed higher than normal

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-08A	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0390310 N: 6880585	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR 1 Nos: 100-102	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.141	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.02 (ice)	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): GSI-DC-08A

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other Bag

Seal Replaced: J-Plug PVC Cap Not required Other Glove + tape (inside)

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.2
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		XXXXXXXXXX
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- only a very small (2 cm) portion of well above ice.
- chipped ice away with hammer to confirm ID and remove cover

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-08B	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0390310 N: 6880585	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR1 Nos: 103-104	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	<div style="font-size: 4em; opacity: 0.5;">X</div>	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)					Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
			Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%				
			Redox (mV) 10%			
			DO (mg/L) 10%			
			DO (%) 10%			
			Appearance & Odour (Clear, Silty, HC odours, etc.)			
			Only for final readings			
			Sulphide (mg/L)			
			Turbidity (NTU)			
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID	<div style="font-size: 4em; opacity: 0.5;">X</div>	Sample Method:				
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)			X	X	X	X
Sample Time (24hr)			X	X	X	X

COULD NOT LOCATE WELL, BELOW ICE

Sample Site (Con't): GSI-DC-08B

 Sample Date (Con't): NOT SAMPLED

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other _____

 Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	X
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

could not locate well, be low ice

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-09A	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC+JC	
UTM Location	Z: 08 E: 0390614 N: 6880494	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELRI Nos: 105-107	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	<div style="font-size: 4em; color: red; opacity: 0.5;">X</div>	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)					Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
			Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%				
		Redox (mV) 10%				
		DO (mg/L) 10%				
		DO (%) 10%				
		Appearance & Odour (Clear, Silty, HC odours, etc.)				
		Only for final readings	Sulphide (mg/L)			
			Turbidity (NTU)			
		Interval Purge Volume (L)				
		Cumulative Purge Volume (L):				
		YSI ID	<div style="font-size: 4em; color: red; opacity: 0.5;">X</div>	Sample Method:		
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra		Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X		X	X	X
Sample Time (24hr)		X		X	X	X

COULD NOT LOCATE WELL
SUSPECTED FROZEN OVER

Sample Site (Con't): GSI-DC-09A

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	 	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Could not locate well, suspected frozen over

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves _____
- D-16 (for 1" wells, use with 5/8" foot valves _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-09B	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0390614 N: 6880494	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELRI Nos: 105-107	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	 [Redacted] 	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)					Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
<p>Calculations:</p> <p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%				
		Specific Cond. (µs/cm) 3%				
		Redox (mV) 10%				
		DO (mg/L) 10%				
		DO (%) 10%				
		Appearance & Odour (Clear, Silty, HC odours, etc.)				
		Only for final readings	Sulphide (mg/L)			
			Turbidity (NTU)			
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID	 [Redacted] 	Sample Method:				
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)			X	X	X	X
Sample Time (24hr)		X	X	X	X	

COULD NOT LOCATE WELL
SUSPECTED FROZEN OVER

Sample Site (Con't): GSI-DC-09B

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	
Oxygen (O2)	%	
Carbon Dioxide (CO2)	PPM	

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	 	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- could not locate well, suspected frozen over

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-10A	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0390859 N: 688 0447	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 109-111	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.051	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.77	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	X	Sample Method:			
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer
Time logged on YSI (24hr)					Other
Sample Time (24hr)			X	X	X

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-DC-106	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0390859 N: 6880447	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELRI Nos: 112-114	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.051 0.203	Pen or YSI:	<input type="checkbox"/> YSI-Pro Plus	<input type="checkbox"/> Pen Unit	X
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.76	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	X	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	X	X	X	X	X
Sample Time (24hr)	X	X	X	X	X

Sample Site (Con't): GSI-DC-10B

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.7
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- snow depth ~ 0.23m
- well frozen

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GS1-HA-01A	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/NM
UTM Location	Z: 080 E: 6387844 N: 6881133	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C, slight breeze
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: 2 Nos: 493-2447	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:		N/A		
Initial Depth to Water (m)	2.411	Purge Start Time:	/	Purge End Time:	/
Depth to Bottom (m)	3.132	Purge Interval Time () min / Vol. () L		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Depth to water (m)	DIRECT SAMPLE		
Submerged Tubing Depth (m)	~3	Temperature (°C) 3%			
Well Stick-up Height (m)	0.445	pH (pH Units) ±0.1			
Estimated Water Volume (L)	0.36	Cond. (µs/cm) 3%			
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume $\frac{2.411}{0.721}$	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	<input type="checkbox"/> Only for final readings Sulphide (mg/L) Turbidity (NTU)				
Interval Purge Volume (L)					
Cumulative Purge Volume (L):					
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)	10:50		X		

Sample Site (Con't): GSI-HA-GIA

Sample Date (Con't): 30 Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other stainless cap

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	690

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	100	30-Jan-17
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	"
2	500 ml (plastic)	General Chemistry	100 ml	-	-	175	"
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	100	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	60	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	50	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	60	

General Notes and Observations:

- Direct sample → filled gen chem bottle w apt ~0.3L;
will filter @ dunnhouse due to freezing conditions.
→ tubing iced up fairly quickly → had to replace & purge again.
→ returned to continue sampling on 31-Jan-17 @ 09:35 → able to collect ~200ml
→ returned to collect final vol @ 09:00 on 01-Feb-17

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft ^{7.2m x 2} ~~3.4m~~ 14.4m
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing ~~1.5 ft~~ 1.5 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-HA-02A	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/MM
UTM Location	Z: 0387863 E: 0387863 N: 688128	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C, slight breeze
Waypoint	GPS: EUR Name: NIA			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: 2 Nos: 498-500	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: _____	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: _____				
Initial Depth to Water (m)	FROZEN	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	2.158	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	58.1518	Temperature (°C) 3%			
Estimated Water Volume (L)	/	pH (pH Units) ±0.1			
(DTB - DTW) x (πr ²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations:	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	/	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)	/				

Sample Site (Con't): GBI-HA-02A

Sample Date (Con't): 30-Jun-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other twist

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	490

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

FROZEN

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	19 GSI-HA-03A	Project Number	1343-005.29	Date	30-Jan-17	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/MM	
UTM Location	Z: 081 E: 0387882 N: 6881129	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C	
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: 2 Nos: 501-503	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name:					
Initial Depth to Water (m)	FROZEN	Purge Start Time:		Purge End Time:		
Depth to Bottom (m)	0.925	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	/	Depth to water (m)				
Well Stick-up Height (m)	0.910	Temperature (°C) 3%				
Estimated Water Volume (L)	/	pH (pH Units) ±0.1				
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Cond. (µs/cm) 3%				
			Specific Cond. (µs/cm) 3%			
			Redox (mV) 10%			
			DO (mg/L) 10%			
			DO (%) 10%			
			Appearance & Odour (Clear, Silty, HC odours, etc.)			
			Only for final readings	Sulphide (mg/L)		
				Turbidity (NTU)		
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID		Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)						
Sample Time (24hr)						

Sample Site (Con't): 651-HA-05A
651-2

Sample Date (Con't): 30-JUN-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other twist cap

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	530

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

FROZEN

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	G51-HA-04A	Project Number	1343-005.29	Date	30-Jan-17
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JH/MM
UTM Location	Z: 081E: 0287915 N: 6881129	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C
Waypoint	GPS: ELR Name: N/A	Purge Method			
Photos	Cam: 2 Nos: 507-510	Water	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name:				
Field Blank Collected	<input type="checkbox"/> Yes Name:				
Initial Depth to Water (m)	FROZEN	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	0.200	Purge Interval Time () min / Vol. () L			
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Depth to water (m)			
Submerged Tubing Depth (m)		Temperature (°C) 3%			
Well Stick-up Height (m)	0.64	pH (pH Units) ±0.1			
Estimated Water Volume (L)		Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%			
			Redox (mV) 10%		
			DO (mg/L) 10%		
			DO (%) 10%		
			Appearance & Odour (Clear, Silty, HC odours, etc.)		
			Only for final readings	Sulphide (mg/L)	
				Turbidity (NTU)	
			Interval Purge Volume (L)		
			Cumulative Purge Volume (L):		
	YSI ID		Sample Method:		
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)					
Sample Time (24hr)					

Sample Site (Con't): GD1-HA-04A

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other twist cap

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	780

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

[A large diagonal line is drawn across this section, indicating no notes were recorded.]

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site GSL HA-05A		Project Number 1343-005.29		Date 30-Jan-17			
Piezometer Diameter 1"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08VE:0382898 N: 588881105		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -20°			
Waypoint GPS: FLR Name:		Purge Method		Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2. Nos: 504-506		Waterra		Peristaltic			
Duplicate Collected <input type="checkbox"/> Yes Name:		Disp. Bailer		Other			
Field Blank Collected <input type="checkbox"/> Yes Name:							
Initial Depth to Water (m) 1.304 FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 1.304				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 0.623 - twice bot		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra		Peristaltic			
Time logged on YSI (24hr)		Disp. Bailer		Other			
Sample Time (24hr)							

Sample Site (Con't): GS1-HA-05A

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other twot cap.

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	660

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- FROZEN; attempted to pull tubing but stuck.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-PC-03A/B	Project Number	1343-005.29	Date	Feb 1, 2017	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JH	
UTM Location	Z: 08 E: 0389256 N: 6881706	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sun / clouds	
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR2 Nos: 569-571	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	X	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth recorded from		<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)			Depth to water (m)			
Well Stick-up Height (m)			Temperature (°C) 3%			
Estimated Water Volume (L)			pH (pH Units) ±0.1			
			Cond. (µs/cm) 3%			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Specific Cond. (µs/cm) 3%				
			Redox (mV) 10%			
			DO (mg/L) 10%			
			DO (%) 10%			
			Appearance & Odour (Clear, Silty, HC odours, etc.)			
			Only for final readings	Sulphide (mg/L)		
				Turbidity (NTU)		
			Interval Purge Volume (L)			
			Cumulative Purge Volume (L):			
YSI ID	X	Sample Method:				
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)			X	X	X	X
Sample Time (24hr)		X	X	X	X	

COULD NOT LOCATE WELLS
SUSPECTED BELOW ICE

Sample Site (Con't): GSI-PC-03A/B

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	350

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

<p>General Notes and Observations:</p> 	<p>Consumables Used:</p> <input type="checkbox"/> 1/4" HDPE (peristaltic pump tubing) _____ ft <input type="checkbox"/> 3/8" HDPE (microwaterra tubing) _____ ft <input type="checkbox"/> 5/8" HDPE (waterra tubing) _____ ft <input type="checkbox"/> 1/4" Silicon tubing _____ ft <input type="checkbox"/> High Capacity .45 micron filters _____ <input type="checkbox"/> D-25 (for 2" wells, use with 5/8" foot valves) _____ <input type="checkbox"/> D-16 (for 1" wells, use with 5/8" foot valves) _____ <input type="checkbox"/> SS-10 (for 5/8" wells, use with 3/8" foot valves) _____ <input type="checkbox"/> 1" bailer _____ <input type="checkbox"/> 2" bailer _____ <input type="checkbox"/> other (describe) _____
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GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-PC-04 A/B		Project Number	1343-005.29		Date	Feb 1, 2017	
Piezometer Diameter	1"		Client	GY - AAM		Samplers	JC + JH	
UTM Location	Z: 08 E: 0389586 N: 6881656		Project Name	Mount Nansen 2017 GW Sampling Program		Weather/Temperature	-15°C sun / clouds	
Waypoint	GPS: ELR Name: N/A					Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR 2 Nos: 566-568		Purge Method					
Duplicate Collected	<input type="checkbox"/> Yes Name: X		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected	<input type="checkbox"/> Yes Name: X		X	X	X	X		
Initial Depth to Water (m)	[ⓐ] FROZEN	[ⓑ] FROZEN	Purge Start Time:	X	Purge End Time:	X	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit
Depth to Bottom (m)	0.845	0.690	Purge Interval Time () min / Vol. () L					
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		Depth to water (m)					
Submerged Tubing Depth (m)	N/A		Temperature (°C) 3%					
Well Stick-up Height (m)	[Ⓐ] 0.74	[ⓑ] 0.835	pH (pH Units) ±0.1					
Estimated Water Volume (L)	N/A		Cond. (µs/cm) 3%					
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>			Specific Cond. (µs/cm) 3%					
			Redox (mV) 10%					
			DO (mg/L) 10%					
			DO (%) 10%					
			Appearance & Odour (Clear, Silty, HC odours, etc.)					
			Only for final readings	Sulphide (mg/L)				
				Turbidity (NTU)				
			Interval Purge Volume (L)					
			Cumulative Purge Volume (L):					
	YSI ID	X		Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)	X		X	X	X	X		
Sample Time (24hr)	X		X	X	X	X		

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	GSI-PC-05A/B	Project Number	1343-005.29	Date	Feb 1, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389713 N: 6881661	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	sun / clouds -15°C
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR 2 Nos: 562-565	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:	X	X	X	X
Initial Depth to Water (m)	(A) FROZEN / (B) FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	(A) 0.838 / (B) 1.770	Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	(A) 0.60 / (B) 0.65	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)					

Head Space Gas Measurements

Values	Units	Methane (CH4)	Oxygen (O2)	Carbon Dioxide (CO2)
0	%LEL	0	20.9	650
0	%	0	16.0	9100

Sample Date (Cont): Not sampled

Sample Site (Cont): 9S1-PC-05A/B

Well Head Seal: J-Plug PVC Cap Not Sealed Other bag

Seal Replaced: J-Plug PVC Cap Not required Other

Well properly sealed for gas monitoring: Yes No Details: _____

A - sealed in plastic bag
B - PVC cap

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment	Preservative Added	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml				
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml		<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml		<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml		<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml				

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity 45-micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MP09-03	Project Number	1343-005.29	Date	Feb 1, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JH
UTM Location	Z: 08 E: 0388956 N: 6881739	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sun/clouds
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR 2 Nos: 578-580	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.455	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.41	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
	Interval Purge Volume (L)				
	Cumulative Purge Volume (L):				
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): MP09-03

 Sample Date (Con't): NOT SAMPLED

 Well Head Seal: J-Plug PVC Cap Not Sealed Other (tubing sticking out)

 Seal Replaced: J-Plug PVC Cap Not required Other GLOVE

 Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	650

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	_____	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- removed tubing to insert water level tape, ~~put back in~~

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MP09-04	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1.5"	Client	GY - AAM	Samplers	JC + Jc
UTM Location	Z: 08 E: 0389575 N: 6880609	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun / clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 118-120	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.646	Pen or YSI:		<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	1.225	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	X	X	X	X	X
Sample Time (24hr)		X	X	X	X

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MP09-05	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1.5"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389548 N: 6880590	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 127-129	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	1.333	Pen or YSI:		<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.299	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): MP09-05

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.2
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity 45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MP09-08	Project Number	1343-005.29	Date	Feb 1, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JH
UTM Location	Z: 08 E: 0389160 N: 6881718	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sun / clouds
Waypoint	GPS: ELR Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR2 Nos: 572-574	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	CAN'T GET PROBE INTO MW	Pen or YSI:		<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.22	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): MP 09-08

 Sample Date (Con't): NOT SAMPLED

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other did not replace, tubing sticking out

 Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH ₄)	%LEL	0
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	580

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- could not get water level tape down well. 1/4" HDPE in well, could not remove as frozen into ice

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MP09-09	Project Number	1343-005.29	Date	31-Jan-17		
Piezometer Diameter	1.5	Client	GY - AAM	Samplers	JH / MM		
UTM Location	Z: 08V E: 078938 N: 6880682	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-20°C		
Waypoint	GPS: FLP Name: N/A	Purge Method	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other				
Photos	Cam: 2 Nos: 345-347	Field Blank Collected	<input checked="" type="checkbox"/> Yes Name: FB-2				
Duplicate Collected	<input type="checkbox"/> Yes Name:	Initial Depth to Water (m)	4.010 FROZEN	Purge Start Time:			
		Depth to Bottom (m)	5.698	Purge End Time:			
		Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
		Submerged Tubing Depth (m)	/	Depth to water (m)			
		Well Stick-up Height (m)	2.58	Temperature (°C) 3%			
		Estimated Water Volume (L)	~ 1.9	pH (pH Units) ±0.1			
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume 5.698 4.010 1.688 1.1 =			Cond. (µs/cm) 3%	DIRECT WATER SAMPLE			
			Specific Cond. (µs/cm) 3%				
			Redox (mV) 10%				
			DO (mg/L) 10%				
			DO (%) 10%				
			Appearance & Odour (Clear, Silty, HC odours, etc.)				
			Only for final readings			Sulphide (mg/L)	0.80*
						Turbidity (NTU) Av	900
			Interval Purge Volume (L)				
			Cumulative Purge Volume (L):				
YSI ID		Sample Method:	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Time logged on YSI (24hr)					
Sample Time (24hr)	13:10						

Sample Site (Con't): LPOA-09

Sample Date (Con't): 31-Jan-17 @ 13:10

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	550

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	400	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

~~Sens:~~ direct sample → able to collect full sample
 get & collect turbidity & sulphide → not enough water
 for YSI parameter collection

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer 1
- 2" bailer _____
- other (describe) twice

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MPO9-10		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 1.5		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08, E: 0380238, N: 6880682		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature - 00°C			
Waypoint GPS: ELR Name: N/A				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 345-347		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name:		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name:							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 3.238		Pen or YSI:		<input type="checkbox"/> YSI Pro Plus			
Depth recorded from <input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		<input type="checkbox"/> Pen Unit					
Submerged Tubing Depth (m) /		Purge Interval Time () min / Vol. () L					
Well Stick-up Height (m) 2.21		Depth to water (m)					
Estimated Water Volume (L) /		Temperature (°C) 3%					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume</p> <p>(DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>(DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		pH (pH Units) ±0.1					
		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
		Cumulative Purge Volume (L):					
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): MP09-10

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9-20.3
Carbon Dioxide (CO2)	PPM	610

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

10 08V 389220 6880619

Sample Site		MPOA-11		Project Number		1343-005.29		Date		31-Jan-17			
Piezometer Diameter		1.5		Client		GY - AAM		Samplers		JH/MM			
UTM Location		Z: 080 E: 509000 N: 6880619		Project Name		Mount Nansen 2017 GW Sampling Program		Weather/Temperature		-20°C			
Waypoint		GPS: ELR Name: N/A		Purge Method				Recovery		<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos		Cam: 2 Nos: 531-533		Watera		Peristaltic		Disp. Bailer		Other			
Duplicate Collected		<input type="checkbox"/> Yes Name:											
Field Blank Collected		<input type="checkbox"/> Yes Name:											
Initial Depth to Water (m)		FROZEN		Purge Start Time:				Purge End Time:		Pen or YSI:			
Depth to Bottom (m)		2.183								<input type="checkbox"/> YSI Pro Plus			
Depth recorded from		<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L						<input type="checkbox"/> Pen Unit			
Submerged Tubing Depth (m)				Depth to water (m)									
Well Stick-up Height (m)		1.960		Temperature (°C) 3%									
Estimated Water Volume (L)				pH (pH Units) ±0.1									
<p>Calculations:</p> <p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>				Cond. (µs/cm) 3%									
				Specific Cond. (µs/cm) 3%									
				Redox (mV) 10%									
				DO (mg/L) 10%									
				DO (%) 10%									
				Appearance & Odour (Clear, Silty, HC odours, etc.)									
				Only for final readings		Sulphide (mg/L)							
						Turbidity (NTU)							
						Interval Purge Volume (L)							
						Cumulative Purge Volume (L):							
YSI ID				Sample Method:									
Logged Field Parameters		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Watera		Peristaltic		Disp. Bailer		Other			
Time logged on YSI (24hr)													
Sample Time (24hr)													

Sample Site (Con't): MPO9-11

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.6
Carbon Dioxide (CO2)	PPM	580

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MPO9-10		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 1.5		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08U E: 880220 N: 680619		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -19°C			
Waypoint GPS: ELR Name: N/A				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 531-533		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: /		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: /							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 2.070				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 2.085		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID /		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr) /							
Sample Time (24hr) /							

Sample Site (Con't): MPO9-10

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	560

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MPO9-14		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 1"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 082 E: 0289130 N: 6880722		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -19°C			
Waypoint GPS: ELR Name: N/A		Purge Method		Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 539-540		Waterra		Peristaltic			
Duplicate Collected <input type="checkbox"/> Yes Name: /		Disp. Bailer		Other			
Field Blank Collected <input type="checkbox"/> Yes Name: /							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 0.505				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 0.69		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra		Peristaltic			
Time logged on YSI (24hr)		Disp. Bailer		Other			
Sample Time (24hr)							

Sample Site (Con't): MP09-14

 Sample Date (Con't): 31-Jan-17

 Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

 Seal Replaced: J-Plug PVC Cap Not required Other see below

 Well properly sealed for gas monitoring: Yes No Details: no seal

↳ no cap that fits.

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	520

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:
Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

sampled
Feb 1, 2017

Sample Site		MW09-082		Project Number		1343-005.29		Date		31-Jan-17			
Piezometer Diameter		2"		Client		GY - AAM		Samplers		JH/MM			
UTM Location		Z: 08 E: 0389393 N: 6880559		Project Name		Mount Nansen 2017 GW Sampling Program		Weather/Temperature		-20°C			
Waypoint		GPS: ELR Name: N/A		Purge Method				Recovery		<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos		Cam: 2 Nos: 555-557		Water		Peristaltic		Disp. Bailer		Other			
Duplicate Collected		<input type="checkbox"/> Yes Name:											
Field Blank Collected		<input checked="" type="checkbox"/> Yes Name: FB-3 <small>Als batch 26 Jan 2017</small>											
Initial Depth to Water (m)		3.012		Purge Start Time:		15:26		Purge End Time:		15:3			
Depth to Bottom (m)		5.635		Purge Interval						Pen or YSI:			
Depth recorded from		<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Time () min / Vol. () L		15:27 15:28 15:32				<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Submerged Tubing Depth (m)		N/A		Depth to water (m)		-							
Well Stick-up Height (m)		0.74		Temperature (°C) 3%		15.7 15.9 15.4							
Estimated Water Volume (L)		~5.2		pH (pH Units) ±0.1		7.01 6.95 6.97							
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>3.012 5.635 2.623 x 2 5.246</p>		Cond. (µs/cm) 3%		1130 1194 1198									
		Specific Cond. (µs/cm) 3%		211 224 226									
		Redox (mV) 10%		87.8 57.6 47.3									
		DO (mg/L) 10%		6.07 5.03 5.69									
		DO (%) 10%		42.7 35.0 39.6									
		Appearance & Odour (Clear, Silty, HC odours, etc.)		slightly turbid									
		Only for final readings		Sulphide (mg/L)						0.03			
				Turbidity (NTU)						3.65			
				Interval Purge Volume (L)		1 1.5 0.8							
				Cumulative Purge Volume (L):		4 5.5 6.3							
YSI iD				Sample Method:									
Logged Field Parameters		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Water		Peristaltic		Disp. Bailer		Other			
Time logged on YSI (24hr)													
Sample Time (24hr)		10:20 on Feb 1, 2017											

Sample Site (Con't): MW 09-02

Sample Date (Con't): 31-Jan-17 → Feb 1, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	550

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- well purged dry → DTW most likely not accurate because J-plug was on tight, therefore well was under pressure & most likely still dropping when DTW was taken.
- will return to sample tomorrow
- on Feb 1, 2017, DTW = 3.665m

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft 1m
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 0.5 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site		Project Number	Date		
MWO9-03		1343-005.29	Jan 31 / Feb 1, 2017		
Piezometer Diameter		Client	Samplers		
2"		GY - AAM	MA SH		
UTM Location		Project Name	Weather/Temperature		
Z: E: 389421 N: 6880557			Mount Nansen 2017 GW Sampling Program	Cloudy / -19°C	
Waypoint		Purge Method	Recovery		
GPS: ELR Name: 178			<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos		Cam: ELR Nos: 558-960			
Duplicate Collected		<input type="checkbox"/> Yes Name:	<input type="checkbox"/> Bad		
Field Blank Collected		<input type="checkbox"/> Yes Name:			
Initial Depth to Water (m)		Purge Start Time:	Purge End Time:		
6.680		10:12	10:35		
Depth to Bottom (m)		Pen or YSI:			
9.965		<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from		Purge Interval			
<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Time () min / Vol. () L			
Submerged Tubing Depth (m)		10:20	10:23		
~ 9		10:26	10:29		
Well Stick-up Height (m)		10:32	10:35		
30.7m 6.307cm		7:005	7:020		
Estimated Water Volume (L)		7:028	7:035		
6.6		7:010	6:985		
(DTB - DTW) x (πr ²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations: $\frac{8.1}{9.965} \times 6.680 = 3.285$ $\frac{2}{9.965} \times 6.680 = 1.34$ $3.285 + 1.34 = 4.625$		Temperature (°C) 3%			
		0	0.4	0.4	0.2
		pH (pH Units) ±0.1		8.35	8.40
		8.35	8.40	8.38	8.34
		Cond. (µs/cm) 3%		1256	2400
		1256	2400	1301	1308
		Specific Cond. (µs/cm) 3%		2402	1271
		2402	1271	2455	2485
		Redox (mV) 10%		122.2	125.0
		122.2	125.0	127.2	121.1
DO (mg/L) 10%		3.68	3.55		
3.68	3.55	3.21	3.05		
DO (%) 10%		25.5	24.0		
25.5	24.0	22.4	21.2		
Appearance & Odour (Clear, Silty, HC odours, etc.)		clear	clear		
clear	clear	same	same		
Only for final readings		Sulphide (mg/L)			
		/	/		
		Turbidity (NTU)			
		/	/		
Interval Purge Volume (L)		1	0.4		
1	0.4	0.4	0.4		
Cumulative Purge Volume (L):		1	1.4		
1	1.4	1.8	2.2		
YSI ID		Sample Method:			
MWO9-03					
Logged Field Parameters		Water			
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Peristaltic			
Time logged on YSI (24hr)		Disp. Bailer			
10:35		Other			
Sample Time (24hr)					
10:00 on Feb 01					

Sample Site (Con't): MW09-03

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: cap 1605c

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- Monitored on 31-Jan-17; returned to sample on 01-Feb-17.
 - pH dropping drastically no need to pump speed; VSI starting to freeze up; due to slow recharge in well + ORP, cond being w/in range GW sample collected was representative

MW094
 ATW 4.594
 DTB 7.715
 CH4 0
 O2 20.9
 CO2 0
 stick up 0.26m
 Photos

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

2 Feb 01, 2017

Sample Site MWO9-04		Project Number 1343-005.29		Date 31-Jan-17	
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM	
UTM Location Z: 08V E: 399401 N: 6880557		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -19°C	
Waypoint GPS: ELR Name: 128				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad <i>Clay</i>	
Photos Cam: ELR Nos: 558-560		Purge Method			
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected <input type="checkbox"/> Yes Name: _____			X		
Initial Depth to Water (m) 4.594		Purge Start Time: 09:42	Purge End Time: 09:56	Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m) 7.715		Purge Interval Time (min / Vol. (L))	09:44	09:47	09:50
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		09:53	09:56		
Submerged Tubing Depth (m) ~7		Depth to water (m)	/	4.970	5.050
Well Stick-up Height (m) 0.26		Temperature (°C) 3%	2.2	2.3	1.9
Estimated Water Volume (L) 6.2		pH (pH Units) ±0.1	7.35	7.91	8.10
		Cond. (µs/cm) 3%	1395	1363	1349
		Specific Cond. (µs/cm) 3%	2512	2402	2412
		Redox (mV) 10%	130.1	130.6	130.2
		DO (mg/L) 10%	5.32	1.33	1.07
		DO (%) 10%	36.6	9.7	7.8
		Appearance & Odour (Clear, Silty, HC odours, etc.)	<i>Slightly Silty</i>	same	same
Calculations: $\frac{7.715 \times 4.594 \times 3.1416}{3.1416} \times 0.6243$		Only for final readings	Sulphide (mg/L)	/	/
			Turbidity (NTU)	/	/
				/	/
		Interval Purge Volume (L)	0.2	0.4	0.4
		Cumulative Purge Volume (L):	0.6	1.0	1.4
YSI ID MWO9-01		Sample Method:			
Logged Field Parameters <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr) 9:54			X		
Sample Time (24hr) 09:40 on 01-Feb-17					

Sample Site (Con't): KW09-04

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: cap loose

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	100	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- Monitored on 31-Jan-17; returned to sample on 01-Feb-17
 - Well drawing down, unable to purge sludges; parameters appear stable → temp is not reliable parameters due to extreme cold.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft 8m
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 0.5 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MW09-05		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 68 E: 0389411 N: 6880653		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -20°C			
Waypoint GPS: ELR Name: N/A		Purge Method		Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos:		Waterra		Peristaltic			
Duplicate Collected <input type="checkbox"/> Yes Name:		Disp. Bailer		Other			
Field Blank Collected <input type="checkbox"/> Yes Name:							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 8.875				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 1.320		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra		Peristaltic			
Time logged on YSI (24hr)		Disp. Bailer		Other			
Sample Time (24hr)							

Sample Site (Con't): UG09-05

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	18.4
Carbon Dioxide (CO2)	PPM	3000

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml				
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

sampled
Feb 1, 2017

Sample Site: MRC9-06		Project Number: 1343-005.29		Date: 31-Jan-17			
Piezometer Diameter: 2"		Client: GY - AAM		Samplers: JH/MM			
UTM Location: Z:08, E: 0289411 N: 6080653		Project Name: Mount Nansen 2017 GW Sampling Program		Weather/Temperature: -20°C			
Waypoint: GPS: ELR Name: N/A		Purge Method:		Recovery: <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos: Cam: 2 Nos:		Watterra		Peristaltic			
Duplicate Collected: <input type="checkbox"/> Yes Name:		Disp. Bailer		Other			
Field Blank Collected: <input type="checkbox"/> Yes Name:				X			
Initial Depth to Water (m): 4.750		Purge Start Time: 14:26		Purge End Time: 14:37			
Depth to Bottom (m): 6.073		Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit					
Depth recorded from: <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L		14:26 14:30 14:34 14:36			
Submerged Tubing Depth (m): /		Depth to water (m)		/ / / /			
Well Stick-up Height (m): 2.35		Temperature (°C) 3%		1.7 2.0 2.0 1.9			
Estimated Water Volume (L): 2.6		pH (pH Units) ±0.1		6.12 6.67 6.74 6.89			
<p>Calculations:</p> $\frac{5.673 - 4.750}{1.323} \times 2$		Cond. (µs/cm) 3%		848 851 864 878			
		Specific Cond. (µs/cm) 3%		1530 1514 1541 1571			
		Redox (mV) 10%		252 230 250.4 230.9			
		DO (mg/L) 10%		2.66 3.67 3.97 2.87			
		DO (%) 10%		26.2 25.0 22.9 20.7			
		Appearance & Odour (Clear, Silty, HC odours, etc.)		/ / / /			
		Only for final readings		Sulphide (mg/L)		/ / / / 0	
				Turbidity (NTU)		/ / / / 1.42	
				Interval Purge Volume (L)		1 1 0.5 0.5	
				Cumulative Purge Volume (L):		/ 2 2.5 3	
YSI ID: /		Sample Method:					
Logged Field Parameters: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Watterra		Peristaltic			
Time logged on YSI (24hr): /		Disp. Bailer		Other			
Sample Time (24hr): 09:20 on Feb 1, 2017							

Sample Site (Con't): MW9-06

Sample Date (Con't): 31-Jan-17 → 01-Feb-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	18.3
Carbon Dioxide (CO2)	PPM	5000

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	110	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	250	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- Rugged auger suspended sediment thick & ~~not~~ visible; will return to sample.
- Sample clear with trace fine black sediment

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer 1
- Other (describe) twine

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MW09-07		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08V E: 0389320 N: 68 80201		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -20°C			
Waypoint GPS: ELR Name: N/A				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 548-550		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: _____							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 3.428				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) _____		Depth to water (m)					
Well Stick-up Height (m) 1.24		Temperature (°C) 3%					
Estimated Water Volume (L) _____		pH (pH Units) ±0.1					
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): MW09-07

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	860

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-			

<p>General Notes and Observations:</p>	<p>Consumables Used:</p> <p><input type="checkbox"/> 1/4" HDPE (peristaltic pump tubing) _____ ft</p> <p><input type="checkbox"/> 3/8" HDPE (microwaterra tubing) _____ ft</p> <p><input type="checkbox"/> 5/8" HDPE (waterra tubing) _____ ft</p> <p><input type="checkbox"/> 1/4" Silicon tubing _____ ft</p> <p><input type="checkbox"/> High Capacity .45 micron filters _____</p> <p><input type="checkbox"/> D-25 (for 2" wells, use with 5/8" foot valves) _____</p> <p><input type="checkbox"/> D-16 (for 1" wells, use with 5/8" foot valves) _____</p> <p><input type="checkbox"/> SS-10 (for 5/8" wells, use with 3/8" foot valves) _____</p> <p><input type="checkbox"/> 1" bailer _____</p> <p><input type="checkbox"/> 2" bailer _____</p> <p><input type="checkbox"/> other (describe) _____</p>
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GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-08	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC+JC	
UTM Location	Z: 08 E: 0389620 N: 6880576	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELRI Nos: 124-126	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)	1.206	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit		
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	N/A	Depth to water (m)				
Well Stick-up Height (m)	1.052	Temperature (°C) 3%				
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1				
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%					
	Specific Cond. (µs/cm) 3%					
	Redox (mV) 10%					
	DO (mg/L) 10%					
	DO (%) 10%					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Only for final readings	Sulphide (mg/L)				
		Turbidity (NTU)				
		Interval Purge Volume (L)				
		Cumulative Purge Volume (L):				
YSI ID		Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)		X	X	X	X	
Sample Time (24hr)		X	X	X	X	

Sample Site (Con't): MW09-08

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.0
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MR MW09-11		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08V E: 0389037 N: 6880711		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature ~ -20°C			
Waypoint GPS: ELR Name: N/A				Recovery <input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad			
Photos Cam: 2 Nos: 541-543		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: _____							
Initial Depth to Water (m) DRY		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 4.940				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) _____		Depth to water (m)					
Well Stick-up Height (m) 0.82		Temperature (°C) 3%					
Estimated Water Volume (L) _____		pH (pH Units) ±0.1					
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations: _____</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): MW09-11

Sample Date (Con't): 31-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	550

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site		MW09-13		Project Number		1343-005.29		Date		30-Jan-17			
Piezometer Diameter		2"		Client		GY - AAM		Samplers		JH/MM			
UTM Location		Z:08 E:0389007 N:6081664		Project Name		Mount Nansen 2017 GW Sampling Program		Weather/Temperature		~ -16c			
Waypoint		GPS: ELR Name: NIA		Recovery		<input type="checkbox"/> Good <input type="checkbox"/> Bad							
Photos		Cam: 2 Nos: 500-501		Purge Method									
Duplicate Collected		<input type="checkbox"/> Yes Name:		Waterra		Peristaltic		Disp. Bailer		Other			
Field Blank Collected		<input type="checkbox"/> Yes Name:											
Initial Depth to Water (m)		FROZEN		Purge Start Time:		Purge End Time:		Pen or YSI:		<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth to Bottom (m)		28.135		Purge Interval									
Depth recorded from		<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Time () min / Vol. () L									
Submerged Tubing Depth (m)		/		Depth to water (m)									
Well Stick-up Height (m)		0.80		Temperature (°C) 3%									
Estimated Water Volume (L)		/		pH (pH Units) ±0.1									
<p>Calculations:</p> <p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume</p> <p>(DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume</p> <p>(DTB - DTW) x 2 (for 2" well diameter) = 1 well volume</p> <p>(DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume</p> <p>(DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Specific Cond. (µs/cm) 3%											
		Redox (mV) 10%											
		DO (mg/L) 10%											
		DO (%) 10%											
		Appearance & Odour (Clear, Silty, HC odours, etc.)											
		Only for final readings		Sulphide (mg/L)									
				Turbidity (NTU)									
		Interval Purge Volume (L)											
		Cumulative Purge Volume (L):											
		YSI ID				Sample Method:							
Logged Field Parameters		<input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra		Peristaltic		Disp. Bailer		Other			
Time logged on YSI (24hr)													
Sample Time (24hr)													

Sample Site (Con't): MN09-13

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: slits on side

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	610

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Returned to sample gases on 31-Jan-17 @ 10.00 due to battery issues on first day

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves _____
- D-16 (for 1" wells, use with 5/8" foot valves _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MW09-14		Project Number 1343-005.29		Date 30-Jan-16			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08, E: 030008, N: 6881665		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature ~-16°C			
Waypoint GPS: ELR Name: NIA				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2, Nos: 520-521		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: /		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: /							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 5.514				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 0.73		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%		<div style="font-size: 2em; font-weight: bold; opacity: 0.5;">FROZEN</div>			
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings				Sulphide (mg/L)	
						Turbidity (NTU)	
						Interval Purge Volume (L)	
						Cumulative Purge Volume (L):	
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): MWO9 # 14

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: Slits on side of PVC

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	6
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	550

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field-Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Returned to sample gases on 31-Jan-17 @ 10:00 due to tubing issues w PID

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MWB9-15	Project Number	1343-005.29	Date	30-Jan-17	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JH/MM	
UTM Location	Z:081 E:0388920 N:6881700	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	~-16°C	
Waypoint	GPS: ELR Name: N/A.			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: 2 Nos: 500-524	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: /	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: /					
Initial Depth to Water (m)	FROZEN	Purge Start Time:		Purge End Time:		
Depth to Bottom (m)	14.050			Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth recorded from	<input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	/	Depth to water (m)				
Well Stick-up Height (m)	1.90	Temperature (°C) 3%				
Estimated Water Volume (L)	/	pH (pH Units) ±0.1				
<p>(DTB - DTW) x (πr²)1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations: /</p>	Cond. (µs/cm) 3%	FROZEN				
	Specific Cond. (µs/cm) 3%					
	Redox (mV) 10%					
	DO (mg/L) 10%					
	DO (%) 10%					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Only for final readings					Sulphide (mg/L)
						Turbidity (NTU)
	Interval Purge Volume (L)					
	Cumulative Purge Volume (L):					
YSI ID		Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	/					
Sample Time (24hr)	/					

Sample Site (Con't): MN09-15

Sample Date (Con't): 30-Jan-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	700

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- Frozen, ~~parts~~ ~~at~~ slushion to of the ice + on the water level tip.

- Returned to sample headspace gas on 31-Jan-17 @ 09:56 due to ^{dirty} issues w PID on first visit.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site MW09-16		Project Number 1343-005.29		Date 30-Jan-17			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08 E: 0387991 N: 6881099		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -20°C			
Waypoint GPS: ELR Name: 51-513 N/A				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 511-513		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: _____							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
Depth to Bottom (m) 2.040				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from <input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m)		Depth to water (m)					
Well Stick-up Height (m) 1.378		Temperature (°C) 3%					
Estimated Water Volume (L)		pH (pH Units) ±0.1					
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): NW09-16

Sample Date (Con't): 3-2-2009-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: slit on side

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.5
Carbon Dioxide (CO2)	PPM	650

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field-Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves _____
- D-16 (for 1" wells, use with 5/8" foot valves _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-17	Project Number	1343-005.29	Date	Jan 30, 2017
Piezometer Diameter	2" PVC	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389076 N: 6890970	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sun / clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELRI Nos: 075-077	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	5.704	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.93	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
(DTB - DTW) x (πr ²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations:	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): Not Sampled

Sample Date (Con't):

Well Head Seal: J-Plug PVC Cap Not Sealed Other

Seal Replaced: J-Plug PVC Cap Not required Other

Well properly sealed for gas monitoring: Yes No Details:

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	 	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- well frozen, not sampled

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-18	Project Number	1343-005.29	Date	Jan 30, 2017					
Piezometer Diameter	2" PVC	Client	GY - AAM	Samplers	JC + JC					
UTM Location	Z: 08 E: 0388052 N: 6890985	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sunny					
Waypoint	GPS: HEM Name: NA			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos	Cam: ELRI Nos: 072-074	Purge Method								
Duplicate Collected	<input checked="" type="checkbox"/> Yes Name: Dup-1	Waterra	Peristaltic	Disp. Bailer	Other					
Field Blank Collected	<input type="checkbox"/> Yes Name:			X						
Initial Depth to Water (m)	5.102	Purge Start Time:	13:57	Purge End Time:	14:17					
Depth to Bottom (m)	7.769			Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit					
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. (2) L	13:59	14:02	14:05	14:07	14:09	14:11	14:14	14:17
Submerged Tubing Depth (m)	~7	Depth to water (m)	5.120 1.20	5.120	5.120	5.120	5.120	5.120	5.120	5.120
Well Stick-up Height (m)	0.858	Temperature (°C) 3%	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Estimated Water Volume (L)	~5.4 L	pH (pH Units) ±0.1	7.12	7.04	6.91	6.92	6.93	6.92	6.90	6.93
(DTB - DTW) x (πr ²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations: $\frac{5.102}{7.769} \times 2.7 \times 2 \frac{L}{m} = \sim 6L$	Cond. (µs/cm) 3%	1163	1184	1409	1420	1412	1420	1254	1383	
	Specific Cond. (µs/cm) 3%	2290	2326	2767	2789	2772	2789	2462	2714	
	Redox (mV) 10%	-37.9	1.7	24.0	33.9	42.1	48.0	44.9	49.0	
	DO (mg/L) 10%	3.22	4.26	1.34	1.64	1.83	1.85	1.40	2.76	
	DO (%) 10%	21.4	28.7	8.9	11.2	12.4	12.3	9.4	18.1	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear colourless	" "	" "	" "	" "	" "	" "	brown turbid	clear, slightly yellow-brown
	Only for final readings	Sulphide (mg/L)								0.13
		Turbidity (NTU)								49.4
		Interval Purge Volume (L)	2	2	2	2	2	2	2	
		Cumulative Purge Volume (L):								
YSI ID	Pine 023735	Sample Method:								
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other					
Time logged on YSI (24hr)	—			X						
Sample Time (24hr)	14:18			X						



Sample Site (Con't): MW09-18

Sample Date (Con't): Jan 30, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.2
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer 1
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-19	Project Number	1343-005.29	Date	Jan 30, 2017
Piezometer Diameter	2" PVC	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0388051 N: 6881014	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C sunny
Waypoint	GPS: Hem Name: N/A			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad (not great)
Photos	Cam: ELR 1 Nos: 069-071	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input checked="" type="checkbox"/> Yes Name: FB-1		X	X	
Initial Depth to Water (m)	3.029	Purge Start Time:	12:49	Purge End Time:	13:32
Depth to Bottom (m)	5.887	Purge Interval Time (3) min / Vol. (2) L	12:54	13:23	13:25
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point		12:59	13:29	13:32
Submerged Tubing Depth (m)	~5	Depth to water (m)	3.367	3.720	4.32
Well Stick-up Height (m)	0.888	Temperature (°C) 3%	-0.3	-0.5	-0.5
Estimated Water Volume (L)	~5.7 L	pH (pH Units) ±0.1	6.77	6.86	6.80
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations: $\frac{5.887}{3.029} \times 2.85 \times 2.5 = \sim 6L$</p>	Cond. (µs/cm) 3%	1149	1044	1049	1085
	Specific Cond. (µs/cm) 3%	2236	1961	2046	2121
	Redox (mV) 10%	-83.6	-60.1	-57.9	-61.5
	DO (mg/L) 10%	2.46	1.55	2.21	1.77
	DO (%) 10%	15.5	11.3	15.3	11.9
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear, yellowish	" "	" "	" "
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			0.17
	Interval Purge Volume (L)	0.5	2	2	7
	Cumulative Purge Volume (L):	0.5	2.5	4.5	6.5
YSI ID	PINE 023735	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	-			X	
Sample Time (24hr)	13:36				

Sample Site (Con't): MW69-19

Sample Date (Con't): Jan 30, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.3
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- DI used for FBI was from ALS batch 20 Jan 2017
- Began purging with peristaltic pump, water froze in tubing and in YSI
↳ replaced tubing, thawed YSI, tried again. Got 1 reading, tubing froze
- Began purging w bailer
- well nearly totally below snow
- sulfur odour

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 23 ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 1 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer 1
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-20	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	1"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389592 N: 6880586	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 121-123	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	3.67	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.935	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)					

Sample Site (Con't): MW 09-20

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-21	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter		Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389536 N: 6880577	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 130-132	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:	_____	_____	_____	_____
Initial Depth to Water (m)	FROZEN	Purge Start Time:	_____	Purge End Time:	_____
Depth to Bottom (m)	1.338	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.405	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Estimated Water Volume (L)	Cond. (µs/cm) 3%			
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	_____	Sample Method:			
Logged Field Parameters		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer
Time logged on YSI (24hr)					Other
Sample Time (24hr)			_____	_____	_____

Sample Site (Con't): MW09-21

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: * aircraft cable going down well, cap on, slightly angled

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.1
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	X	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-22	Project Number	1343-005.29	Date	Jan 31, 2017
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389497 N: 6880553	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: ELR1 Nos: 133-135	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X			X	
Initial Depth to Water (m)	4.719	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	5.275	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus	<input checked="" type="checkbox"/> Pen Unit	
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time (___) min / Vol. (___) L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.777	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>Calculations:</p> <p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p>	Cond. (µs/cm) 3%				DIRECT SAMPLE MIN
	Specific Cond. (µs/cm) 3%				VOLUMES
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	<u>Only for final readings</u> Sulphide (mg/L)				
	Turbidity (NTU)				
	Interval Purge Volume (L)				
	Cumulative Purge Volume (L):				
YSI ID	N/A	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	—			X	
Sample Time (24hr)	16:02				

* + Feb 1, 2017 (Gen Chem)

Sample Site (Con't): MW 09-22

Sample Date (Con't): Jan 31, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.1
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	100 mL	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)	20 mL	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	130 mL	resampled Feb 1 2017 @09:03
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)	100 mL	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)	60 mL	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)	50 mL	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	50 mL	

General Notes and Observations:

- snow depth ~ 0.312
- Gen Chem bottle very turbid, returned Feb 1, 2017 to re-collect. 09:03
- Not enough water for sulfides or turbidity

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer 1
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-23	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC+JC	
UTM Location	Z: 08 E: 0389458 N: 6880555	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-16, sun / clouds	
Waypoint	GPS: HEM Name: N/A			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR1 Nos:	Purge Method				
Duplicate Collected	<input checked="" type="checkbox"/> Yes Name: DUP-2	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X				
Initial Depth to Water (m)	12.688	Purge Start Time:	17:00	Purge End Time:	17:22	
Depth to Bottom (m)	15.895	Pen or YSI:				<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. (5) L	17:04	17:11	17:15	
Submerged Tubing Depth (m)	~ 15.395	Depth to water (m)	12.725	12.830	12.750	
Well Stick-up Height (m)	0.17	Temperature (°C) 3%	-0.7	-0.6	-0.6	
Estimated Water Volume (L)	6.5 L	pH (pH Units) ±0.1	7.28	7.12	7.19	
(DTB - DTW) x (πr ²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume Calculations: 15.895 12.688 ~ 3.2 * 2 $\frac{L}{m}$ = 6.5 L * 3 = 19.5	Cond. (µs/cm) 3%	516	611	655	655	
	Specific Cond. (µs/cm) 3%	1012	1196	1284	1283	
	Redox (mV) 10%	-107.6	-98.6	-77.6	-78.3	
	DO (mg/L) 10%	7.33	2.24	0.96	2.09	
	DO (%) 10%	49.5	15.1	6.1	13.9	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear yellowish	" "	" "	" "	
	Only for final readings	Sulphide (mg/L)				0.26
		Turbidity (NTU)				17.7
		Interval Purge Volume (L)	5	5	5	5
		Cumulative Purge Volume (L):	5	10	15	20
YSI ID	PINE 023735	Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	N/A	X				
Sample Time (24hr)	17:30					

Sample Site (Con't): MW09-23

Sample Date (Con't): Jan 31, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.8
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-24	Project Number	1343-005.29	Date	Jan 31, 2017	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC + JC	
UTM Location	Z: 08 E: 0389132 N: 6880730	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-13°C sun/clouds	
Waypoint	GPS: HEM Name:	Purge Method				
Photos	Cam: ELR1 Nos: 115-117	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X				
Initial Depth to Water (m)	9.273	Purge Start Time:	14:00	Purge End Time:	14:19	
Depth to Bottom (m)	11.957	Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L	14:04	14:07	14:10	
Submerged Tubing Depth (m)	~ 11.457	Depth to water (m)	9.273	9.277	9.277	
Well Stick-up Height (m)	0.663	Temperature (°C) 3%	-0.6	-0.6	-0.6	
Estimated Water Volume (L)	~ 5.4L	pH (pH Units) ±0.1	8.75	9.08	9.07	
<p>(DTB - DTW) x (πr²) 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations: 11.957 9.273 ~ 2.7 x 2 $\frac{L}{m}$ = 5.4L x 3 = ~16L</p>	Cond. (µs/cm) 3%	286.0	311.9	302.4	269.2	
	Specific Cond. (µs/cm) 3%	562.5	610.0	592.2	526.8	496.0
	Redox (mV) 10%	76.6	86.0	88.1	86.4	83.7
	DO (mg/L) 10%	7.69	4.92	9.92	9.34	10.86
	DO (%) 10%	48.2	33.1	62.1	62.6	72.8
	Appearance & Odour (Clear, Silty, HC odours, etc.)	slightly turbid	" "	" "	" "	" "
	Only for final readings	Sulphide (mg/L)				0.15
		Turbidity (NTU)				106.7
		Interval Purge Volume (L)	4	4	4	4
		Cumulative Purge Volume (L):	4	8	12	16
YSI ID	PINE 023735	Sample Method:				
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	N/A	X				
Sample Time (24hr)	14:25					

Sample Site (Con't): MW09-24

Sample Date (Con't): Jan 31, 2017

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.2
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	120	
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	

General Notes and Observations:

- some sand in bottom of bottles

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	W14103083BH01	Project Number	1343-005.29	Date	Jan 30, 2017
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 038452 N: 6880671	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C clear
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR I Nos: 81-83	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	6.447	Pen or YSI:		<input type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.575	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB - DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB - DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID	X	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	X	X	X	X	X
Sample Time (24hr)	X	X	X	X	X

Sample Site (Con't): W14103083B401

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: wires in well

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.0
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		_____
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

wires and instruments down well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	W14103083 BHO2	Project Number	1343-005.29	Date	Jan 30, 2017
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC + JC
UTM Location	Z: 08 E: 0389 560 N: 6880665	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C clear
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: ELR 1 Nos: 87-89	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:	X	X	X	X
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X
Depth to Bottom (m)	6.743	Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus	<input type="checkbox"/> Pen Unit	
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.778	Temperature (°C) 3%			
Estimated Water Volume (L)	N/A	pH (pH Units) ±0.1			
<p>(DTB - DTW) x (πr²) 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations:</p>	Cond. (µs/cm) 3%				
	Specific Cond. (µs/cm) 3%				
	Redox (mV) 10%				
	DO (mg/L) 10%				
	DO (%) 10%				
	Appearance & Odour (Clear, Silty, HC odours, etc.)				
	Only for final readings	Sulphide (mg/L)			
		Turbidity (NTU)			
		Interval Purge Volume (L)			
		Cumulative Purge Volume (L):			
YSI ID		Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		X	X	X	X
Sample Time (24hr)		X	X	X	X

Sample Site (Con't): W14103083BH02

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: wires in well

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.9
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	 	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

wires and instruments down well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site W141030838703		Project Number 1343-005.29		Date 31-Jan-17			
Piezometer Diameter 2"		Client GY - AAM		Samplers JH/MM			
UTM Location Z: 08, E: 389182 N: 6880330		Project Name Mount Nansen 2017 GW Sampling Program		Weather/Temperature -19°C			
Waypoint GPS: ELR Name: NIA				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos Cam: 2 Nos: 336-338		Purge Method					
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic	Disp. Bailer	Other		
Field Blank Collected <input type="checkbox"/> Yes Name: _____							
Initial Depth to Water (m) FROZEN		Purge Start Time:		Purge End Time:			
				Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth to Bottom (m) 1.498		Purge Interval					
Depth recorded from <input type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input checked="" type="checkbox"/> Highest Point		Time () min / Vol. () L					
Submerged Tubing Depth (m) /		Depth to water (m)					
Well Stick-up Height (m) 0.73		Temperature (°C) 3%					
Estimated Water Volume (L) /		pH (pH Units) ±0.1					
<p>(DTB - DTW) x (πr²) * 1000 (for well diameter) = 1 well volume (DTB - DTW) x 8.1 (for 4" well diameter) = 1 well volume (DTB - DTW) x 2 (for 2" well diameter) = 1 well volume (DTB-DTW) x 1.1 (for 1.5" diameter) = 1 well volume (DTB-DTW) x 0.5 (for 1" diameter) = 1 well volume</p> <p>Calculations: _____</p>		Cond. (µs/cm) 3%					
		Specific Cond. (µs/cm) 3%					
		Redox (mV) 10%					
		DO (mg/L) 10%					
		DO (%) 10%					
		Appearance & Odour (Clear, Silty, HC odours, etc.)					
		Only for final readings		Sulphide (mg/L)			
				Turbidity (NTU)			
				Interval Purge Volume (L)			
				Cumulative Purge Volume (L):			
YSI ID		Sample Method:					
Logged Field Parameters <input type="checkbox"/> Yes <input type="checkbox"/> No		Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							

Sample Site (Con't): W1410383 B403

Sample Date (Con't): 31-JAN-17

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: _____

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	530

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)		
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8" foot valves) _____
- D-16 (for 1" wells, use with 5/8" foot valves) _____
- SS-10 (for 5/8" wells, use with 3/8" foot valves) _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	W14103083BH04	Project Number	1343-005.29	Date	Jan 30, 2017	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC+JC	
UTM Location	Z: 08 E: 0389544 N: 6880672	Project Name	Mount Nansen 2017 GW Sampling Program	Weather/Temperature	-15°C clear	
Waypoint	GPS: HEM Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELRI Nos: 84-86	Purge Method				
Duplicate Collected	<input type="checkbox"/> Yes Name: X	Waterra	Peristaltic	Disp. Bailer	Other	
Field Blank Collected	<input type="checkbox"/> Yes Name: X	X	X	X	X	
Initial Depth to Water (m)	FROZEN	Purge Start Time:	X	Purge End Time:	X	
Depth to Bottom (m)	6.662	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit			
Depth recorded from	<input checked="" type="checkbox"/> Black Marking <input type="checkbox"/> Bottom of Notch <input type="checkbox"/> Highest Point	Purge Interval				
Submerged Tubing Depth (m)	N/A	Time () min / Vol. () L				
Well Stick-up Height (m)	0.740	Depth to water (m)				
Estimated Water Volume (L)	N/A	Temperature (°C) 3%				
Calculations: $(DTB - DTW) \times (\pi r^2) \times 1000$ (for well diameter) = 1 well volume $(DTB - DTW) \times 8.1$ (for 4" well diameter) = 1 well volume $(DTB - DTW) \times 2$ (for 2" well diameter) = 1 well volume $(DTB - DTW) \times 1.1$ (for 1.5" diameter) = 1 well volume $(DTB - DTW) \times 0.5$ (for 1" diameter) = 1 well volume	pH (pH Units) ±0.1	WELL FROZEN				
	Cond. (µs/cm) 3%					
	Specific Cond. (µs/cm) 3%					
	Redox (mV) 10%					
	DO (mg/L) 10%					
	DO (%) 10%					
	Appearance & Odour (Clear, Silty, HC odours, etc.)					
	Only for final readings					Sulphide (mg/L)
						Turbidity (NTU)
						Interval Purge Volume (L)
	Cumulative Purge Volume (L):					
YSI ID	Sample Method:					
Logged Field Parameters						<input type="checkbox"/> Yes <input type="checkbox"/> No
Time logged on YSI (24hr)	Waterra	Peristaltic	Disp. Bailer	Other		
Sample Time (24hr)	X	X	X	X		

Sample Site (Con't): W14103083BH04

Sample Date (Con't): NOT SAMPLED

Well Head Seal: J-Plug PVC Cap Not Sealed Other _____

Seal Replaced: J-Plug PVC Cap Not required Other _____

Well properly sealed for gas monitoring: Yes No Details: wires in well

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	22.0
Carbon Dioxide (CO2)	PPM	0

Priority	Bottle Type	Parameters Analyzed	Min. Volume	Treatment <input checked="" type="checkbox"/>	Preservative Added <input checked="" type="checkbox"/>	Vol. Collected (ml)	Comments
1a	120 ml (plastic)	Dissolved Metals	100 ml	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HNO ₃ (Nitric)	 	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)		
2	500 ml (plastic)	General Chemistry	100 ml	-	-		
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input type="checkbox"/> NaOH (Sodium Hydroxide)		
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)		
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)		
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-		

General Notes and Observations:

- wires and instruments down well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves _____
- D-16 (for 1" wells, use with 5/8") foot valves _____
- SS-10 (for 5/8" wells, use with 3/8") foot valves _____
- 1" bailer _____
- 2" bailer _____
- other (describe) _____