

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site <i>CH-P-13-01/10</i> <i>CH-P-13-01-010</i>		Project Number 1343-005.27	Date <i>25-May-16</i>
Piezometer Diameter <i>2 1/2"</i>		Client GY - AAM	Samplers <i>NB / Mtd</i>
UTM Location Z: <i>08</i> , E: <i>0388654</i> , N: <i>6881121</i>		Project Name Mount Nansen 2016 GW Sampling Program	Weather/Temperature <i>Rainy / Snowy</i>
Waypoint GPS: <i>ELR</i> Name: <i>004</i>			Recovery <input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos Cam: <i>ELR</i> Nos: <i>419-421</i>		Purge Method	
Duplicate Collected <input type="checkbox"/> Yes Name: _____		Waterra	Peristaltic
Field Blank Collected <input type="checkbox"/> Yes Name: _____		Disp. Bailer	Other
Initial Depth to Water (m) <i>6.610 ice</i>	Purge Start Time: _____	Purge End Time: _____	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m) <i>FROZEN</i>	Purge Interval Time (____) min / Vol. (____) L		
Submerged Tubing Depth (m)	Depth to water (m)		
Well Stick-up Height (m) <i>0.50</i>	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.)		
	<u>Only for final readings</u> Sulphide (mg/L)		
	<u>Only for final readings</u> 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): A CH-P-13-01/10

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: slits on cap &

Head Space Gas Measurements

	Units	Values
Methane (CH ₄)	%LEL	0
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	200

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 @ 6.610m, attempt to thaw & break through w/ water for 20 minutes; attempt unsuccessful

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft ^(7.610m)
- 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	CH-P-13-03/50	Project Number	1343-005.27	Date	23-May-16
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MM
UTM Location	Z: 08, E: 0389148 N: 6881105	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rainy/Snowy
Waypoint	GPS: ELR Name: 0056			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: ELR Nos: 427-429.	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:			1" bailer	
Initial Depth to Water (m)	49.433	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro-Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	50.478	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.59	Temperature (°C) 3%			
Estimated Water Volume (L)	0.523	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: $\frac{50.478}{1.045} \times 0.5 = 0.5225$</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)	17:00			<input checked="" type="checkbox"/>	

INSUFFICIENT VOL
DISS METALS SAMPLED

Sample Site (Con't): CH-P-13-03150

Sample Date (Con't): 25-May-16 @ 17:20 + 26-May-16 @ 15:10

Well Head Seal: J-Plug PVC Cap Not Sealed Other clear soft plastic 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)	%	29.9
Carbon Dioxide (CO2)	PPM	200

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	@ 17:20
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	@ 15:10 on 26-May-16
2	500 ml (plastic)	General Chemistry	100 ml	-	-	100	@ 15:10 on 26-May-16
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:

- Direct Sampled w 1" bailer, unable to get water out w bailer. Will return with ^{a different} ~~same~~ bailer ~~same~~ for second attempt, assumed valve on bailer may not be closing properly.

- Second attempt @ 17:00 on 25-May-16 → able to direct sample the dissolved metals, will return tomorrow to check recharge level.

- DTN @ 49.524 @ 17:22.

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 x2 + bailer twine w _____
- 2" bailer _____
- other (describe) _____

- returned @ 15:10 on 26-May-16 → sampled min vols for diss, mercury & gen chem.

- well dry immediately after.

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	CH-P-13-04/10	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MM	
UTM Location	Z: 080 E: 0389136 N: 6881472	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast / ~4°C	
Waypoint	GPS: ELR Name: 010			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 437-440	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)	6.198 for ice.	Purge Start Time:		Purge End Time:	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m)	FROZEN	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	/	Depth to water (m)				
Well Stick-up Height (m)	0.630	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): CH-P-13-04/10

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	200

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 checked="" 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:

- Attempted to draw well for 30 minutes using boiling DI water, attempt unsuccessful
- Ice was found on the tip of the water level tape, indicating blockage was 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	CA-P-13-04/35	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB / MM	
UTM Location	Z: 089 E: 0389136 N: 681467	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast ~ -4	
Waypoint	GPS: ELR Name: 009	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: ELR Nos: 437-440	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)	6.492 to ice	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			
Submerged Tubing Depth (m)	/	Purge Interval Time () min / Vol. () L				
Well Stick-up Height (m)	0.62	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 (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>	pH (pH Units) ±0.1	<div style="font-size: 2em; opacity: 0.5;">FROZEN</div>				
	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): CH-P-13-04/35

Sample Date (Con't):

Well Head Seal: J-Plug PVC Cap Not Sealed Other clear cap → doesn't fit properly

Seal Replaced: J-Plug PVC Cap Not required Other

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

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	200

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:

- Attempted to draw well for 20 minutes, attempt unsuccessful.
 - ~~Depth~~ depth to ice (6.498m) is similar to well directly beside it (CH-P-13-04/10 @ 6.198 depth to ice), ~~that~~ therefore blockage is most likely 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	CH-P-B-05/50	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/MM	
UTM Location	Z: 08, E: 0388954 N: 6881466	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast	
Waypoint	GPS: N/A Name:			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: N/A Nos:	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:		
Depth to Bottom (m)					Pen or YSI:	
Submerged Tubing Depth (m)					<input type="checkbox"/> YSI Pro Plus	
Well Stick-up Height (m)					<input type="checkbox"/> Pen Unit	
Estimated Water Volume (L)						
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		Purge Interval Time () min / Vol. () L				
		Depth to water (m)				
	Temperature (°C) 3%					
	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					
Time logged on YSI (24hr)		Waterra	Peristaltic	Disp. Bailer	Other	
Sample Time (24hr)						



Sample Site (Con't): CH-P-B-05150

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	
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 (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:

- Not accessible, well located in the pit which is off limits due to overhead hazards as specified by YG (AAH)

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	GLL-07-01	Project Number	1343-005.27	Date	May 25, 2016
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB, PSC
UTM Location	Z: 08 E: 0388848 N: 6881783	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast
Waypoint	GPS: Hem Name: N/A	Purge Method	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: Jeremy Nos:	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:	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	13.853	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> (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.)	frozen			
	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	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	N/A				
Sample Time (24hr)	N/A				



Sample Site (Con't): GLL07-01

Sample Date (Con't): May 25, 2016

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	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 (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.
- did not attempt to thaw due to depth of 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	G L L 0 7 - 0 3	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NBIMM	
UTM Location	Z: 08, E: 6388059 N: 6881477	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rainy	
Waypoint	GPS: N/A Name:	Purge Method	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other			
Photos	Cam: N/A Nos:	Duplicate Collected	<input type="checkbox"/> Yes Name: _____			
Field Blank Collected	<input type="checkbox"/> Yes Name: _____	Field Blank Collected	<input type="checkbox"/> Yes Name: _____			
Initial Depth to Water (m)	/	Purge Start Time:		Purge End Time:		
Depth to Bottom (m)		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Submerged Tubing Depth (m)		Purge Interval	Time () min / Vol. () L			
Well Stick-up Height (m)		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 (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>		pH (pH Units) ±0.1	/ NOT ACCESSIBLE			
		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	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other				
Time logged on YSI (24hr)						
Sample Time (24hr)						



Sample Site (Con't): G1107-08

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	
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:

- unable to ~~locate~~ access wells in the pit due to overhead hazards as specified by YG.

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		GLL-07-02		Project Number	1343-005.27		Date	Aug 27 2016		
Piezometer Diameter		6"		Client	GY - AAM		Samplers	JC / KB		
UTM Location		Z: 08 E: 0389069 N: 6881703		Project Name	Mount Nansen 2016 GW Sampling Program		Weather/Temperature		11° Sunny	
Waypoint		GPS: Hem Name: N/A					Recovery		<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos		Cam: Jeremy Nos: _____		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)		7.125		Pen or YSI:		<input type="checkbox"/> YSI Pro-Plus		<input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)		_____		Purge Interval Time () min / Vol. () L						
Well Stick-up Height (m)		1.351		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 (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>		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 checked="" type="checkbox"/> No		Waterra		Peristaltic		Disp. Bailer		Other
Time logged on YSI (24hr)		_____		_____		_____		_____		_____
Sample Time (24hr)		_____		_____		_____		_____		_____



Sample Site (Con't): GLL-07-02

Sample Date (Con't): May 27 2016

Well Head Seal: J-Plug PVC Cap Not Sealed Other Metal Flip 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	300

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 is dry
Dedicated Bailer in well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwater tubing) _____ ft
- 5/8" HDPE (water 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	675I-DC-01B1A	Project Number	1343-005.27	Date	May 25 2016
Piezometer Diameter	1-inch	Client	GY - AAM	Samplers	Schva K Beckman
UTM Location	Z: 08 E: 0387672 N: 6881126	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	7° Light Rain
Waypoint	GPS: Name:	Purge Method	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: <i>Screen Phone</i> Nos:	Water	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name:		<input checked="" type="checkbox"/>		
Field Blank Collected	<input type="checkbox"/> Yes Name:				
Initial Depth to Water (m)	B=1.345 A=0.929	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	B=1.536 A=1.200	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)	1.536	Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	B=0.936 A=0.923	Depth to water (m)			
Estimated Water Volume (L)	0.047L	Temperature (°C) 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: $(1.536 - 1.345) \times 0.25 = 0.047L$</p> <p><i>1/2" diameter</i></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	N/A	Sample Method:			
Logged Field Parameters	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	N/A		<input checked="" type="checkbox"/>		
Sample Time (24hr)	8:40				



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

Sample Date (Con't): May 25 2016

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 in cap

Head Space Gas Measurements well B

	Units	Values
Methane (CH4)	%LEL	B=0 A=0
Oxygen (O2)	%	B=20.9 A=20.9
Carbon Dioxide (CO2)	PPM	B=300 A=300

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)	50	insufficient vol.
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:

- camera battery dying + memory full ~~Sample not Representative~~
 - used Jeremy's camera on phone, will upload tonight
 - wells not labeled, assumed well to flagging tape was well B
 - Returned May 27, well was dry.
 - well assumed frozen + sampled water above ice

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 7 ft
- 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	GSI-DC-02B/A	Project Number	1343-005.27	Date	May 25 2016	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	Schwan K Beckman	
UTM Location	Z: 08 E: 0387838 N: 6881129	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	80 Light Rain	
Waypoint	GPS: Hem Name: N/A	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: Jimmy Nos:	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)	B = Frozen/A = Dry	Purge Start Time:		Purge End Time:		
				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m)	B = 0.923/A = 1.69	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)		Depth to water (m)				
Well Stick-up Height (m)	B = 0.827/A 0.989	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	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)						
Sample Time (24hr)						



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

Sample Date (Con't): May 25 2016

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 in cap

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	A=0 B=0
Oxygen (O2)	%	A=20.9 B=20.9
Carbon Dioxide (CO2)	PPM	A=400 B=400

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 A was observed Dry
 Attempted to thaw well B, unsuccessful

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 4 ft
- 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	GSI-DC-BBB	Project Number	1343-005.27	Date	25-Mar-16
Piezometer Diameter	0.5" DP	Client	GY - AAM	Samplers	NB/PM
UTM Location	Z:082 E:0388107 N:6881079	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Sunny
Waypoint	GPS: ELR Name: 003	Purge Method	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other		
Photos	Cam: ELR Nos: 416-418	Duplicate Collected	<input type="checkbox"/> Yes Name: _____		
Field Blank Collected	<input type="checkbox"/> Yes Name: _____	Field Blank Collected	<input type="checkbox"/> Yes Name: _____		
Initial Depth to Water (m)	B 0.924 A 1.010	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	B FROZEN A FROZEN	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)		Depth to water (m)			
Well Stick-up Height (m)	0.79 (to 10) B 0.85	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:	<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 checked="" type="checkbox"/> No	Time logged on YSI (24hr)			
Sample Time (24hr)					



Sample Site (Con't): COI-DC-028

Sample Date (Con't): _____

Well Head Seal: J-Plug PVC Cap Not Sealed Other screw cap on B

Seal Replaced: J-Plug PVC Cap Not required Other plastic bag on A

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

Head Space Gas Measurements

	Units	Values	
Methane (CH4)	%LEL	0	0
Oxygen (O2)	%	20.9	20.9
Carbon Dioxide (CO2)	PPM	200	300

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 @ 0.029 m, attempt defrost for 20 minutes; attempt unsuccessful, still frozen
 - Lots of snow + ice in creek bed surrounding DP

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-05 B/A	Project Number	1343-005.27	Date	25-May-16
Piezometer Diameter	0.5' DP	Client	GY - AAM	Samplers	NB/MHT
UTM Location	Z: 0200 E: 0388722 N: 6880836	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rainy / snowy
Waypoint	GPS: EIR Name: 005	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos	Cam: EIR Nos: 422-426	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)	A = 0.548	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	FROZEN (A)	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)		Depth to water (m)			
Well Stick-up Height (m)	to 0.398 to ice	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%	CANNOT LOCATE Pumped UNDER ICE?			
	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)				
	<input type="checkbox"/> Only for final readings 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): GSI-DR-051/B

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

For A

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	30.9
Carbon Dioxide (CO2)	PPM	200

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:

(pics 422-426)
- B is buried under ice + snow, attempted to dig / chop away at ice, after 20 minutes still unable to locate. A is frozen @ 0.543m.
- lots of flowing water, both DB buried under lots of ice + 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	GSI-DC-06B/A	Project Number	1343-005.27	Date	26-May-16		
Piezometer Diameter	0.5 DP	Client	GY - AAM	Samplers	NB/MMW		
UTM Location	Z:08 E:0389788 N:6880567	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Sunny, light breeze		
Waypoint	GPS: ELR Name: 024			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: ELR Nos: 477 - 479	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)	B/ 1.813 A/ 1.433	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth to Bottom (m)	B/ FROZEN A/ FROZEN	Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m)		Depth to water (m)					
Well Stick-up Height (m)	B/ 0.247 A/ 0.840	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>	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	Waterra	Peristaltic	Disp. Bailer	Other		
Time logged on YSI (24hr)							
Sample Time (24hr)							



Sample Site (Con't): CS1-DC-06B

Sample Date (Con't): _____

Well Head Seal: J-Plug PVC Cap Not Sealed Other SCREW 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	A
Methane (CH4)	%LEL	0	0
Oxygen (O2)	%	49.0	49.0 50.5
Carbon Dioxide (CO2)	PPM	200	200

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 @ 1.2Bm → attempted to thaw for 20 minutes, unsuccessful attempt
 - Peri tubing frozen (stuck in well)
 - Rainbow shear on water standing beside well, creek levels lower than usual

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-67B/A		Project Number	1343-005.27	Date	27-May-16
Piezometer Diameter		0.5" DP		Client	GY - AAM	Samplers	NB/MM
UTM Location		Z: 08 E: 0390062 N: 6880642		Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	
Waypoint		GPS: ELR Name: 025				SUMM	
Photos		Cam: ELR Nos: 0487-489		Purge Method			
Duplicate Collected		<input type="checkbox"/> Yes Name: /		Waterra		Peristaltic	
Field Blank Collected		<input type="checkbox"/> Yes Name: /		Disp. Bailer		Other	
Initial Depth to Water (m)		B) 0.922 A) 0.922		Purge Start Time:		Purge End Time:	
Depth to Bottom (m)		B) FROZEN A) FROZEN		Pen or YSI:		<input type="checkbox"/> YSI Pro Plus	
Submerged Tubing Depth (m)				<input type="checkbox"/> Pen Unit			
Well Stick-up Height (m)		B) 0.855 ice A) 0.805		Purge Interval			
Estimated Water Volume (L)				Time () min / Vol. () L			
<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>				Depth to water (m)			
				Temperature (°C) 3%			
				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)		FROZEN			
		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): GSI-DC-07B/A

Sample Date (Con't): _____

Well Head Seal: J-Plug PVC Cap Not Sealed Other screw 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	A 0
Oxygen (O2)	%	20.9	20.9
Carbon Dioxide (CO2)	PPM	1500	200

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 ~~and~~ ice surrounding stick-up
 - peri tubing frozen in well attempt to thaw for 20 minutes, attempt unsuccessful, there was 6cm of water in DP'B
 - stick-up height taken from top of 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-088/A		Project Number	1343-005.27		Date	27-May-16	
Piezometer Diameter	0.5" DP		Client	GY - AAM		Samplers	NB/MLK	
UTM Location	Z: 081E: 0390310 N: 6880583		Project Name	Mount Nansen 2016 GW Sampling Program		Weather/Temperature	Sunny	
Waypoint	GPS: ELR Name: 026					Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 492-496		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)	B 0.593	A 1.317	Purge Start Time:	/		Purge End Time:	/	
Depth to Bottom (m)	B FROZEN	A FROZEN	Purge Interval Time () min / Vol. () L					
Submerged Tubing Depth (m)			Depth to water (m)					
Well Stick-up Height (m)	B 0.330	A 0.995	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.)					
			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): GSI-DC-0881A

Sample Date (Con't): May 27 2016

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

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

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

Head Space Gas Measurements

	Units	Values	A
Methane (CH4)	%LEL	0	0
Oxygen (O2)	%	20.9	20.9
Carbon Dioxide (CO2)	PPM	400	200

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:

-creek levels very low; lots of ice + snow covering bed (photo #492)
 -Frozen @ 0.593m w 3cm of water, peritubing frozen in well; attempt to thaw for 20 minutes; attempt unsuccessful

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/B	Project Number	1343-005.27	Date	May 27 2016
Piezometer Diameter	1/2"	Client	GY - AAM	Samplers	JC / KB
UTM Location	Z: 08 E: 390614 N: 6880494	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10°C overcast
Waypoint	GPS: Hem Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Sony Nos:	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)	B: Frozen A: Frozen	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	B: 1.155 A: 1.182			Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Submerged Tubing Depth (m)		Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	B: 0.891 A: 0.947	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 (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>		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				
Time logged on YSI (24hr)		Waterra	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)					

Sample Site (Con't): GSI-DC-09 A1B

 Sample Date (Con't): May 27 2016.

 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	B=0 A=0
Oxygen (O2)	%	B=20.9 A=200
Carbon Dioxide (CO2)	PPM	B=300 A=300

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:

- Tubing frozen in well
 - Attempted to thaw well, unsuccessful

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/B	Project Number	1343-005.27	Date	May 27, 2016
Piezometer Diameter	1/2-inch	Client	GY - AAM	Samplers	SC/KB
UTM Location	Z: 68 E: 0390858 N: 688450	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10° overcast
Waypoint	GPS: Ham Name: 101A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Sammy Nos:	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)	A = Frozen B = 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)	A = 1.431 B = 1.314	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	—	Depth to water (m)			
Well Stick-up Height (m)	A = 1.178 B = 1.095	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.)				
	<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): GSI-DC-10A/B

Sample Date (Con't): May 27, 2016

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	B=0 A=0
Oxygen (O2)	%	B=20.9 A=20.9
Carbon Dioxide (CO2)	PPM	B=300 A=300

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:

- Tubing Frozen in well
 - Attempted to thaw, unsuccessful

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-HA-01A	Project Number	1343-005.27	Date	May 25 2016
Piezometer Diameter	1" Well	Client	GY - AAM	Samplers	KB/JS
UTM Location	Z: 08 E: 0387843 N: 6881133	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	snow/rain
Waypoint	GPS: Hem. Name: N/A	Purge Method	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: Jer Nos:	Waterra	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name: _____				
Field Blank Collected	<input type="checkbox"/> Yes Name: _____				
Initial Depth to Water (m)	2.219	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	2.790 3.122	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	2.790 3.122	Depth to water (m)			
Well Stick-up Height (m)	1.163	Temperature (°C) 3%			
Estimated Water Volume (L)	0.286L	pH (pH Units) ±0.1			
Calculations: $(2.790 - 2.219) = 0.571 \times 0.5$ $0.286L + 3$	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.)				direct sample
	Only for final readings	Sulphide (mg/L)	0.06		
		Turbidity (NTU)	76.1		
	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)	10:25		✓		



Sample Site (Con't): C75L-HA-01A

Sample Date (Con't): May 25 2016

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	400

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	May 25
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input type="checkbox"/> HCL (Hydrochloric)	20	May 25
2	500 ml (plastic)	General Chemistry	100 ml	-	-	100 250	May 25
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	100	May 25
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	60	May 25
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	50	May 25
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	50	May 25

General Notes and Observations:

-photos- Jeremy phone

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 @ 0.7 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	65I-HA-02A	Project Number	1343-005.27	Date	May 25 2016
Piezometer Diameter	1/2"	Client	GY - AAM	Samplers	J. Chen, K. Beckmann
UTM Location	Z: 08 E: 0387863 N: 6881131	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	7°C light snow
Waypoint	GPS: Horn Name: N/A	Purge Method	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: J. Chen Nos:	Water	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name:	Water	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:	Water	Peristaltic	Disp. Bailer	Other
Initial Depth to Water (m)	3-Frozen 2.98	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	2.391	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)		Depth to water (m)			
Well Stick-up Height (m)	1.552	Temperature (°C) 3%			
Estimated Water Volume (L)		pH (pH Units) ±0.1			
Calculations: $(DTB - DTW) \times (\pi r^2) 1000$ (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 checked="" type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)		Water	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)		Water	Peristaltic	Disp. Bailer	Other



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

Sample Date (Con't): May 25 2006

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	300

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, tubing in well Frozen in well.
 Attempting Round 1 of Thawing depth to bottom unchanged
 Round 2 of Thawing depth to bottom unchanged

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 7 ft
- 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	GSI-HA-03A	Project Number	1343-005.27	Date	May 25, 2016
Piezometer Diameter	1-inch	Client	GY - AAM	Samplers	KB/BC
UTM Location	Z: 08 E: 0387879 N: 6881131	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Snow/rain
Waypoint	GPS: Name: N/A	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos	Cam: Nos:	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)	0.973	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	1.349	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	1.349	Depth to water (m)			
Well Stick-up Height (m)	0.960	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: $\begin{array}{r} 1.349 \\ - 0.973 \\ \hline 0.376 \times 0.5 = 0.188 \end{array}$	Cond. (µs/cm) 3%	FROZEN direct sample			
	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)				
	<input type="checkbox"/> Only for final readings 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)	12:30				



Sample Site (Con't): GSI-HA-03A

Sample Date (Con't): May 25, 2016

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

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

Well properly sealed for gas monitoring: Yes No Details: slit in cap

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	400

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)	80 ml	insufficient sample
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15 ml	
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

- 1/4 inch tubing in well - frozen

- water sampled above frozen section

- Checked again on May 27, 2016 → insufficient water; Frozen

** Samples not Representative*

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 6 ft (+)
- 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	GISI - HA - 04A	Project Number	1343-005.27	Date	May 25 2016
Piezometer Diameter	1"	Client	GY - AAM	Samplers	John / K. Beckman
UTM Location	Z: 08 E: 6387915 N: 6881132	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10° overcast
Waypoint	GPS: Hem Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Jeremy Nos:	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name:		<input checked="" type="checkbox"/>		
Initial Depth to Water (m)	1.615	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	1.854	Purge Interval Time () min / Vol. () L		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Submerged Tubing Depth (m)	1.854	Depth to water (m)			
Well Stick-up Height (m)	0.609	Temperature (°C) 3%			
Estimated Water Volume (L)	0.180	pH (pH Units) ±0.1			
Calculations: $(1.854 - 1.615) \times 0.5 = 0.1195$ (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	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)	14:10		<input checked="" type="checkbox"/>		





Sample Site (Con't): GSI-MA-04A

Sample Date (Con't): May 25 2016

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 in Cap

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.7
Carbon Dioxide (CO2)	PPM	400

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)	100ml	May 25 @ 14:10
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	20ml	May 25 @ 14:10
2	500 ml (plastic)	General Chemistry	100 ml	-	-	~200	May 27 @ 8:10
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	May 27 @ 8:10
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input type="checkbox"/> H ₂ SO ₄ (Sulfuric)	70	May 27 @ 16:10
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input type="checkbox"/> HNO ₃ (Nitric)	100 100	May 27 @ 16:10
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	100	May 27 @ 16:10

General Notes and Observations:

Low producing well.

-PCS - Jeremy phone.

- May 27 - sampled again, cyanide + Gen Chem.

- May 27 @ 16:10; w/ tubing stuck in well, able to pull out + get NH₃, SCN, TIC

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 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	GSI-HA-05A	Project Number	1343-005.27	Date	May 25, 2016	
Piezometer Diameter	1-inch	Client	GY - AAM	Samplers	KB/SC	
UTM Location	Z: 08 E: 0387890 N: 6881122	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast	
Waypoint	GPS: Name: N/A	Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad			
Photos	Cam: Serenitas	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)	0.966	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m)	1.519	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)	1.519	Depth to water (m)				
Well Stick-up Height (m)	1.188	Temperature (°C) 3%				
Estimated Water Volume (L)	0.115	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%	 MOUNT NANSEN direct 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)
						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)	13:40					

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

 Sample Date (Con't): May 25, 2016

 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 in cap
Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	Ø
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	300

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	May 25
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	May 25
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:

- 1/4 inch tubing frozen inside well
- direct sampled water w new tubing.
- water on top of frozen ice
- in soft vol to complete^{all} samples
- pics Jeremy phone

*all samples
not representative*

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 6 ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 1/2 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-02B		Project Number	1343-005.27		Date	May 27 2016			
Piezometer Diameter			Client	GY - AAM		Samplers	SC / KB			
UTM Location	Z:	E:	N:	Project Name	Mount Nansen 2016 GW Sampling Program		Weather/Temperature			
Waypoint	GPS:	Name:					Recovery		<input type="checkbox"/> Good	<input type="checkbox"/> Bad
Photos	Cam:	Nos:		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						
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						
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%			Destroyed			
				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)										



Sample Site (Con't): CSI-PC-02B

Sample Date (Con't): May 27 2016

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:

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	1343-005.27	Date	May 27 2016
Piezometer Diameter	1/2"	Client	GY - AAM	Samplers	SL/KB
UTM Location	Z: 08 E: 0389258N: 6881710	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	12° Sunny
Waypoint	GPS: Hem Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Jeremy Nos:	Purge Method			
Duplicate Collected	<input type="checkbox"/> Yes Name: _____	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input checked="" type="checkbox"/> Yes Name: FB-4				
Initial Depth to Water (m)	B = 1.075 A = 0.955	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	B = 2.833 A = 1.234	Purge Interval Time () min / Vol. () L			Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Submerged Tubing Depth (m)	#	Depth to water (m)			
Well Stick-up Height (m)	B = 1.008 A = 0.972	Temperature (°C) 3%			
Estimated Water Volume (L)	0.4395	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: $(2.833 - 1.075) \times 0.25 = 0.4395 \text{ L}$</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)	12:50				

direct sample partial



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

Sample Date (Con't): May 27 2016

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	B=0 B=0
Oxygen (O2)	%	B=20.9 B=20.9
Carbon Dioxide (CO2)	PPM	B=500 B=300

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)	15	
2	500 ml (plastic)	General Chemistry	100 ml	-	-	150	
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:

well labeled as GSI-PC03-MP-B/A
 re-labeled well as: GSI-PC-03-A/B
 - PVC cap on well B, no cap (glove) on well A

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 3 ft
- 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	GSI-PC-04B/A	Project Number	1343-005.27	Date	27-may-16
Piezometer Diameter	0.5" DP	Client	GY - AAM	Samplers	NB/MK
UTM Location	Z:08N E:0389584 N:6881659	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	☒ Cloudy to Sun
Waypoint	GPS: ELR Name: G27			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR Nos: 497-499	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)	B 1.278 A 1.257	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	B FROZEN A FROZEN	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)		Depth to water (m)			
Well Stick-up Height (m)	B 0.985 A 0.978	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): GSI-PC-04B/A

Sample Date (Con't): _____

Well Head Seal: J-Plug PVC Cap Not Sealed Other screw 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	A
Methane (CH ₄)	%LEL	0	0
Oxygen (O ₂)	%	20.9	20.9
Carbon Dioxide (CO ₂)	PPM	200	300

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:

-Peri tubing frozen in well, frozen @ _____ m; attempted to thaw for 20 mins; attempt unsuccessful

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-05B/A	Project Number	1343-005.27	Date	27-May-16	
Piezometer Diameter	0.5" DP	Client	GY - AAM	Samplers	NB/MM	
UTM Location	Z: 08 E: 0389712 N: 6891661	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	cloudy to sun breaks	
Waypoint	GPS: ELR Name: 028			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 500-502	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)	B 1.52 A 1.119	Purge Start Time:		Purge End Time:		
				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit	
Depth to Bottom (m)	B FROZEN A FROZEN	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)		Depth to water (m)				
Well Stick-up Height (m)	B A 0.919	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					
Time logged on YSI (24hr)		Waterra	Peristaltic	Disp. Bailer	Other	
Sample Time (24hr)						

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

Sample Date (Con't): _____

Well Head Seal: J-Plug PVC Cap Not Sealed Other SCREW 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 (CH ₄)	%LEL	0	A 0
Oxygen (O ₂)	%	20.9	20.8
Carbon Dioxide (CO ₂)	PPM	300	9600

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 @ 1.15 am; perit tubing frozen in well; attempt to defrost for 20 mins, attempt unsuccessful.

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	MP 09-02	Project Number	1343-005.27	Date	May 27 2016
Piezometer Diameter		Client	GY - AAM	Samplers	SEJ KB
UTM Location	Z: E: N:	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	
Waypoint	GPS: Name:	Purge Method	<input type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos	Cam: Nos:	Waterra	Peristaltic	Disp. Bailer	Other
Duplicate Collected	<input type="checkbox"/> Yes Name:				
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			
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%			<p style="font-size: 2em; font-family: cursive;">Destroyed</p>
		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)			
		<input type="checkbox"/> Only for final readings 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): MP09-02

Sample Date (Con't): May 27 2016

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:

Destroyed

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	1343-005.27	Date	07 - May - 16
Piezometer Diameter	0.5" DP	Client	GY - AAM	Samplers	NB/MM
UTM Location	Z: 08 E: 0388957 N: 6881743	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	sunny w clouds
Waypoint	GPS: ELR Name: 009			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR Nos: 504-505	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)	1.618	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
Submerged Tubing Depth (m)		Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	0.620	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 (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>		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.)			
		<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				
Time logged on YSI (24hr)		Waterra	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)					

Sample Site (Con't): MP09-03

Sample Date (Con't): _____

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

Seal Replaced: J-Plug PVC Cap Not required Other do not have right cap

Well properly sealed for gas monitoring: Yes No Details: not sealed

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	29.9
Carbon Dioxide (CO2)	PPM	500

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:

- watterra tubing frozen (stuck) in well; peri tubing loose in well; possibly sitting above ice.
 - ~~DP~~ Depth measured @ ± 1.618m; no water detected; assumed frozen due to watterra tubing being stuck; attempt to thaw for 20 mins; attempt unsuccessful
 - standing water surrounding DP

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwatterra tubing) _____ ft
- 5/8" HDPE (watterra 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	1343-005.27	Date	May 26, 2016
Piezometer Diameter	1.5-inch	Client	GY - AAM	Samplers	KB/JC
UTM Location	Z: 08 E: 0389567 N: 6880616	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast
Waypoint	GPS: Hemm Name: N/A	Purge Method	<input type="checkbox"/> Waterra <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: Jeremy Nos:			Duplicate Collected	<input type="checkbox"/> Yes Name: _____
Initial Depth to Water (m)	2.035	Purge Start Time:	08:22	Purge End Time:	08:40
Depth to Bottom (m)	2.214	Purge Interval Time () min / Vol. () L	8:24	8:27	8:30
Submerged Tubing Depth (m)	2.2	Depth to water (m)	2.111	2.080	2.081
Well Stick-up Height (m)	1.234	Temperature (°C) 3%	2.96	2.87	2.52
Estimated Water Volume (L)	0.1969	pH (pH Units) ±0.1	5.45	6.45	6.62
(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: $\begin{array}{r} 2.214 \\ - 2.035 \\ \hline 0.179 \\ \times 1.1 \\ \hline 0.1969 \end{array}$	Conductivity (µs/cm) 3%	0.753	0.708	0.704	0.697
	Specific Cond. (µs/cm) 3%	1.209	1.234	1.233	1.237
	Redox (mV) 10%	279.5	241.0	228.6	217.0
	DO (mg/L) 10%	7.44	5.50	5.28	5.26
	DO (%) 10%	51.1	40.6	38.9	38.4
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear
	Only for final readings	Sulphide (mg/L)	/	/	/
	Turbidity (NTU)	/	/	/	/
	Interval Purge Volume (L)	0.20	0.3	0.35	0.45
	Cumulative Purge Volume (L):	0.20	0.50	0.85	1.30
YSI ID	13F19509-9ine	Sample Method:	<input type="checkbox"/> Waterra <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other		
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Time logged on YSI (24hr)	08:42	Sample Time (24hr)	08:50

pne4DI (556)

Sample Site (Con't): MPO9-04

Sample Date (Con't): May 26, 2016

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	Ø
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 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 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:

- ~0.2 m of water above frozen section, HDPE tubing was frozen in well, but we dis-lodged it
 - sampled w/ tubing, well had good re-charge.

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 1/2 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	MP09-05	Project Number	1343-005.27	Date	26 May -16	
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MU	
UTM Location	Z:08, E:0389560 N: 6880558	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast, snow	
Waypoint	GPS: ELR Name: 014			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 450-452	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			
Initial Depth to Water (m)	1.447	Purge Start Time:	7:58	Purge End Time:	8:13	
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m)	1.829	Purge Interval Time (3) min / Vol. () L	8:01	8:04	8:07	
Submerged Tubing Depth (m)	~1.6	Depth to water (m)	1.463	1.463	1.463	
Well Stick-up Height (m)	1.048	Temperature (°C) 3%	2.2	1.9	1.7	
Estimated Water Volume (L)	0.419 0.4202	pH (pH Units) ±0.1	5.67	6.61	6.71	
<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: $\frac{1.829 - 1.447}{0.5} \times 0.4202 = 0.419$</p>	Cond. (µs/cm) 3%	1269	1199	1177	1168	
	Specific Cond. (µs/cm) 3%	2263	2144	219	212	
	Redox (mV) 10%	37.5	-19.3	-34.1	-46.5	
	DO (mg/L) 10%	3.50	1.19	1.00	1.0	
	DO (%) 10%	28.0	8.9	7.3	7.6	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	slightly turbid	same	clear	slightly turbid	
	Only for final readings	Sulphide (mg/L)	/	/	/	0.01
		Turbidity (NTU)	/	/	/	2.66
		Interval Purge Volume (L)	/	0.6	0.35	0.35
		Cumulative Purge Volume (L):	/	0.6	0.95	1.30
YSI ID	MP09-05	Sample Method:				
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	8:24		X			
Sample Time (24hr)	8:20					

Sample Site (Con't): MP09-05

Sample Date (Con't): 25 May 16 @ 8:20

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)	%	31 30.49
Carbon Dioxide (CO ₂)	PPM	200

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)	20	+ Dup-2
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	40	+ Dup-2
2	500 ml (plastic)	General Chemistry	100 ml	-	-	500	+ Dup-2
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	2 Dup-2
4	120 ml (glass)	Ammonia (NH ₃)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	20	+ Dup-2
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	120	+ Dup-2
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	120	+ Dup-2

} full vol's

General Notes and Observations:

- guys from Deneon started pump ^{from seepage pond} during purge

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft (25m)
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 6.5 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	MPO9-08	Project Number	1343-005.27	Date	May 27, 2016
Piezometer Diameter	5/8 tubing	Client	GY - AAM	Samplers	KB/SC
UTM Location	Z: 08 E: 0389160 N: 6881718	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Sunny
Waypoint	GPS: Hemmi - Name: n/a	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos	Cam: Jeremy Nos:	Purge Method			
Duplicate Collected	<input checked="" type="checkbox"/> Yes Name: DUP-3	Waterra	Peristaltic	Disp. Bailer	Other
Field Blank Collected	<input type="checkbox"/> Yes Name: XXXXXXXXXX		<input checked="" type="checkbox"/>		
Initial Depth to Water (m)	0.548	Purge Start Time:	11:39	Purge End Time:	
				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	1.971	Purge Interval Time (3) min / Vol. () L	11:41	11:44	11:47
Submerged Tubing Depth (m)	1.9	Depth to water (m)	\	\	\
Well Stick-up Height (m)	0.796	Temperature (°C) 3%	3.71	3.18	2.94
Estimated Water Volume (L)	0.35575	pH (pH Units) ±0.1	6.16	6.50	6.66
(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		Cond. (µs/cm) 3%	0.450	0.420	0.411
		Specific Cond. (µs/cm) 3%	0.759	0.729	0.710
		Redox (mV) 10%	23.3	-0.7	-12.5
		DO (mg/L) 10%	1.01	0.60	2.04
		DO (%) 10%	7.4	4.5	15.8
		Appearance & Odour (Clear, Silty, HC odours, etc.)	grey/clear	grey/clear	grey/clear
Calculations: 1.971 - 0.548 ----- 1.423 0.25 ----- 1.715 2.8460 ----- 0.35575	= 0.35575	Only for final readings	Sulphide (mg/L)	/	/
			Turbidity (NTU)	/	/
		Interval Purge Volume (L)	0.300	0.4	0.5
		Cumulative Purge Volume (L):	0.3	0.7	1.20
YSI ID	MPO9-08-	Sample Method:			
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	11:56		<input checked="" type="checkbox"/>		
Sample Time (24hr)	11:50				



Sample Site (Con't): MPO9-08

Sample Date (Con't): May 27, 2016

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	300

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:

- not enough space in well to measure DTB while doing parameters (5/8)
- purged > 3 well volumes before sampling; DO + ORP still not stable.
- no cap on 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 0.5 ft
- High Capacity .45 micron filters 1
- 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	MPO9-09	Project Number	1343-005.27	Date	26-May-16
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MM
UTM Location	Z: 08, E: 0389239 N: 6880681	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	OVER CAST / WINDY
Waypoint	GPS: ELR Name: 023			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: ELR Nos: 441-443	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)	3.052 to ice	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		
Submerged Tubing Depth (m)	/	Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	2.552	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 (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>	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 checked="" type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)	/				

Sample Site (Con't): MPO9-09

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: lid was loose
Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	30.9
Carbon Dioxide (CO2)	PPM	300

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 checked="" 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 at 3.05am. → Attempted to draw for 20 minutes, attempt unsuccessful.
 - Ice found on water level tape.

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	1343-005.27	Date	26-May-16
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MM
UTM Location	Z: 081 E: 0384239 N: 6880681	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast to breeze
Waypoint	GPS: ELR Name: 023			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR Nos: 441-443	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)	3.502	Purge Start Time:		Purge End Time:	
				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	3.948 to ice	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	2.255	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: 3.948 3.502 0.446 x 0.5 =</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): WPOA-10

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	300

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 @ 3.948m the DTB previously recorded was 5.3m, therefore water detected was sitting above the ice.
 - Attempted to draw well after trying to remove standing water w/ bailer. Attempt unsuccessful.

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) _____

Sample Site (Con't): WPO9-11

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	18.2 99
Oxygen (O2)	%	18.2 17.2
Carbon Dioxide (CO2)	PPM	1600

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 @ 2.75 m → attempted to draw well for 30 minutes, attempt unsuccessful.
 - Pen tubing ≠ stuck (frozen) in 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	MPO9-12	Project Number	1343-005.27	Date	26-May-16
Piezometer Diameter	1"	Client	GY - AAM	Samplers	NB/MM
UTM Location	Z: 08, E: 0800000 N: 6800612	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	windy w sunbreaks
Waypoint	GPS: ELR Name: 032	Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos	Cam: ELR Nos: 471-473	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)	2.664 to ice	Purge Start Time:	/	Purge End Time:	/
		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth to Bottom (m)	FROZEN	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	2.0	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	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	/				
Sample Time (24hr)	/				

Sample Site (Con't): MD09-18

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	300

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 checked="" 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 @ 2.664 m → DTB previously record 4.2m
 ↳ attempted to thaw the well, attempt is unsuccessful.
 - Per tubing stuck (frozen) in 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		MPO9-14		Project Number		1343-005.27		Date		26 May 16	
Piezometer Diameter		1" DP 0.5" DP		Client		GY - AAM		Samplers		NB/NH	
UTM Location		Z: 000 E: 6389139 N: 6880719		Project Name		Mount Nansen 2016 GW Sampling Program		Weather/Temperature		rainy/snowy/windy	
Waypoint		GPS: ELR Name: 020		Recovery		<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad					
Photos		Cam: ELR Nos: 0465-467		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)		1.140 0.915 to 0.920		Purge Start Time:				Purge End Time:		Pen or YSI:	
Depth to Bottom (m)		2.100 1.610		Purge Interval Time () min / Vol. () L						<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Submerged Tubing Depth (m)				Depth to water (m)							
Well Stick-up Height (m)		0.72 (above water)		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: $\frac{1.610}{1.140} = 0.370$</p>		Cond. (µs/cm) 3%		DIRECT SAMPLES							
		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					
Sample Time (24hr)		12:45									

Sample Site (Con't): MP 09 - 14

Sample Date (Con't): 20 May - 16

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

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

Well properly sealed for gas monitoring: Yes No Details: plastic bag

Head Space Gas Measurements

	Units	Values
Methane (CH ₄)	%LEL	0
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	300

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 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:

- Hydrocarbon ~~stare~~ sheer on surface of water surrounding DP
 - water tubing stuck in well; attempts to remove it resulted in stick up pull up; stick up unstable + moves a lot
 - able to fit water level into the tubing
 - Attempt to direct sample went dry almost immediately; waited briefly for recharge; ~~insufficient volume collected for metals;~~
 - able to collect enough water for diss. metals min vol (100 ml);

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft (2 m)
- 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) _____

Insufficient vol for full sample.

- very slow recharge, will not return to ~~full~~ sample more.

GROUNDWATER SAMPLE COLLECTION SHEET

Sample Site	MW09-02	Project Number	1343-005.27	Date	May 26, 2016					
Piezometer Diameter	2"	Client	GY - AAM	Samplers	JC / KB					
UTM Location	Z: 08 E: 0389395 N: 6880558	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10°C Sunny					
Waypoint	GPS: Hem Name:			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos	Cam: Jony Nos:	Purge Method								
Duplicate Collected	<input type="checkbox"/> Yes Name:	Waterra	Peristaltic	Disp. Bailer	Other					
Field Blank Collected	<input type="checkbox"/> Yes Name:		<input checked="" type="checkbox"/>							
Initial Depth to Water (m)	3.420	Purge Start Time:	11:08	Purge End Time:	11:24					
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus 556 <input type="checkbox"/> Pen Unit					
Depth to Bottom (m)	4.728	Purge Interval Time (3) min / Vol. () L	11:12	11:15	11:18	11:21	11:24			
Submerged Tubing Depth (m)	4.528	Depth to water (m)	3.75	3.79	3.87	3.92	3.95			
Well Stick-up Height (m)	0.725	Temperature (°C) 3%	2.66	2.55	2.64	2.60	2.53			
Estimated Water Volume (L)	2.616 L	pH (pH Units) ±0.1	7.04	7.14	7.18	7.21	7.22			
Calculations: $(4.728 - 3.420) = 1.308$ $1.308 \times 2 = 2.616 L$	Cond. (µs/cm) 3%	1.384	1.390	1.390	1.388	1.387				
	Specific Cond. (µs/cm) 3%	2.418	2.424	2.426	2.426	2.425				
	Redox (mV) 10%	-76.1	-83.9	-90.4	-88.2	-87.2				
	DO (mg/L) 10%	5.19	0.87	0.30	0.29	0.39				
	DO (%) 10%	36.2	6.2	2.2	2.1	3.0				
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear slat/white	Same	Same	Same	Same				
	Only for final readings	Sulphide (mg/L)	/	/	/	/	/	0.05		
		Turbidity (NTU)	/	/	/	/	/	11.83		
		Interval Purge Volume (L)	0.200	0.200	0.300	0.300	0.200			
		Cumulative Purge Volume (L):	0.200	0.400	0.700	1.00	1.200			
YSI ID	MW09-03 (556)	Sample Method:								
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other					
Time logged on YSI (24hr)	11:27		<input checked="" type="checkbox"/>							
Sample Time (24hr)	11:40									

Sample Site (Con't): MW09-02

Sample Date (Con't): May 26, 2016

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	Ø
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	400

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 (NH ₃)	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:

Good productivity well
 Note YSI save file is MW09-03 (could not change in field)
 will save

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 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	MW09-03	Project Number	1343-005.27	Date	May 26, 2016
Piezometer Diameter	2"	Client	GY - AAM	Samplers	KB/SC
UTM Location	Z: 08 E: 0389419 N: 6880556	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	partly cloudy
Waypoint	GPS: Hehm Name: N/A	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos	Cam: Xamp Nos:	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)	7.714	Purge Start Time:	12:03	Purge End Time:	12:35
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	9.927	Purge Interval Time (3) min / Vol. () L	12:17	12:20	12:23
Submerged Tubing Depth (m)	9.727	Depth to water (m)	7.86	7.86	same
Well Stick-up Height (m)	0.415	Temperature (°C) 3%	3.61	3.85	4.10
Estimated Water Volume (L)	4.426	pH (pH Units) ±0.1	8.11	8.27	8.37
(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: (9.927 - 7.714) x 2 = 4.426	Cond. (µs/cm) 3%	1.498	1.495	1.502	1.508
	Specific Cond. (µs/cm) 3%	2.591	2.567	2.501	2.500
	Redox (mV) 10%	-111.7	-113.3	-94.6	-87.2
	DO (mg/L) 10%	0.96	0.61	0.43	0.47
	DO (%) 10%	7.1	4.6	3.3	3.6
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear
	Only for final readings	Sulphide (mg/L)	/	/	/
	Turbidity (NTU)	/	/	/	0.02
	Interval Purge Volume (L)	0.200	0.200	0.200	0.200
	Cumulative Purge Volume (L):	0.200	0.400	0.600	0.800
YSI ID	MW09-04 (656)	Sample Method:			
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	12:36		✓		
Sample Time (24hr)	12:40				

Sample Site (Con't): MW 09-03

Sample Date (Con't): May 26, 2016

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	300

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 ml	
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 (NH ₃)	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:

Water table is deep, need to run peristaltic pump @ higher speed to start water flow. speed turned down once water reached XSI flow cell.

good productivity well

XSI Saved as MW09-04

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 30 ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 10.5 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	MW09-04	Project Number	1343-005.27	Date	May 26, 2016					
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB/SC					
UTM Location	Z: 08 E: 0389420 N: 6880556	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Sunny					
Waypoint	GPS: Hemm Name: N/A	Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad							
Photos	Cam: Jeremy Nos:	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)	4.983	Purge Start Time:	12:54	Purge End Time:	13:18					
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus ⁵⁵⁶ <input type="checkbox"/> Pen Unit					
Depth to Bottom (m)	7.666	Purge Interval Time () min / Vol. () L	12:59	13:02	13:05	13:08	13:12	13:16		
Submerged Tubing Depth (m)	7.100	Depth to water (m)	5.28	5.44	5.412	5.545	5.59	5.61		
Well Stick-up Height (m)	0.333	Temperature (°C) 3%	3.80	3.39	3.77	3.89	3.82	3.56		
Estimated Water Volume (L)	5.366	pH (pH Units) ±0.1	8.26	8.31	8.32	8.31	8.32	8.32		
(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: $\begin{array}{r} 7.666 \\ - 4.983 \\ \hline 2.683 \\ 2 \\ \times \\ \hline 5.366 \end{array}$	Cond. (µs/cm) 3%	1.499	1.486	1.493	1.497	1.499	1.481			
	Specific Cond. (µs/cm) 3%	2.518	2.529	2.510	2.509	2.510	2.509			
	Redox (mV) 10%	19.1	15.8	11.0	8.5	7.4	7.9			
	DO (mg/L) 10%	3.33	0.25	0.20	0.15	0.20	0.19			
	DO (%) 10%	84.3	1.9	1.5	1.2	1.9	1.4			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear	clear	clear	clear	clear	clear			
	Only for final readings	Sulphide (mg/L)	/	/	/	/	/	0.00		
		Turbidity (NTU)	/	/	/	/	/	0.21		
	Interval Purge Volume (L)	0.10	0.50	0.25	0.20	0.20	0.25			
	Cumulative Purge Volume (L):	0.10	0.60	0.85	1.05	1.25	1.50			
YSI ID	MW09-03R	Sample Method:								
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other					
Time logged on YSI (24hr)	13:18									
Sample Time (24hr)	13:40									



Sample Site (Con't): MW09-04

Sample Date (Con't): May 26, 2016

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	Ø
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	300

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:


good productivity well

FSI saved as MW09-03r

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	NW004-05	Project Number	1343-005.27	Date	26 - May - 16
Piezometer Diameter	2	Client	GY - AAM	Samplers	NB / MP
UTM Location	Z: 080E: 6399413 N: 68801656	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	windy / overcast
Waypoint	GPS: ELR Name: 018	Purge Method	<input type="checkbox"/> Waterra <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR Nos: 462-464				
Duplicate Collected	<input type="checkbox"/> Yes Name: /				
Field Blank Collected	<input type="checkbox"/> Yes Name: /				
Initial Depth to Water (m)	DRY	Purge Start Time:	/	Purge End Time:	/
Depth to Bottom (m)	7.570	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)	/	Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	1.420	Depth to water (m)			
Estimated Water Volume (L)	/	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	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)				
	<input type="checkbox"/> Only for final readings 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	<input type="checkbox"/> Waterra <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other			
Time logged on YSI (24hr)	/				
Sample Time (24hr)	/				



Sample Site (Con't): MW09-05

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: slits on cap

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	21.2
Carbon Dioxide (CO2)	PPM	2400

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:

Dry @ 7.57m

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	NW09-06	Project Number	1343-005.27	Date	26 May -16					
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/MM					
UTM Location	Z: 08, E: 08944, N: 6880655	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Windy / overcast					
Waypoint	GPS: ELD, Name: 019			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos	Cam: ELD, Nos: 462-464	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)	3.161	Purge Start Time:	11:05	Purge End Time:	11:27					
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit					
Depth to Bottom (m)	6.048	Purge Interval Time (8) min / Vol. () L	11:07	11:10	11:13	11:16	11:19	11:21	11:24	11:27
Submerged Tubing Depth (m)	~ 5.0	Depth to water (m)	3.310	3.348	3.367	3.380	3.342	3.396	3.398	3.430
Well Stick-up Height (m)	1.75 2	Temperature (°C) 3%	3.7	3.4	3.4	3.3	3.3	3.1	3.1	3.2
Estimated Water Volume (L)	3.8	pH (pH Units) ±0.1	7.05	7.22	7.18	7.17	7.18	7.14	7.16	7.16
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 $\frac{6.048 \times 2}{2.887} \times 2 = 3.774$	Cond. (µs/cm) 3%	1181	1168	1165	1162	1158	1153	1148	1146	
	Specific Cond. (µs/cm) 3%	1996	1986	1984	1990	1981	1980	1970	1969	
	Redox (mV) 10%	108.9	112.7	114.6	116.3	117.7	118.4	118.9	118.6	
	DO (mg/L) 10%	1.20	0.67	0.60	0.56	0.52	0.52	0.52	0.52	
	DO (%) 10%	16.3	5.0	4.5	4.3	3.9	3.8	4.0	4.0	
	Appearance & Odour (Clear, Silty, HC odours, etc.)	sl. grey turbid	same	same	clear	same	same	same	same	
	Only for final readings	Sulphide (mg/L)	/	/	/	/	/	/	/	0.07
		Turbidity (NTU)	/	/	/	/	/	/	/	24.7
		Interval Purge Volume (L)	/	0.7	0.45	0.4	0.5	0.4	0.5	0.5
		Cumulative Purge Volume (L):	/	0.7	1.15	1.55	2.05	2.45	2.95	3.45
YSI ID	NW09-06	Sample Method:								
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other					
Time logged on YSI (24hr)	11:27		X							
Sample Time (24hr)	11:30		X							



Sample Site (Con't): MW09-06

Sample Date (Con't): 26 May -16 @ 11:30

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 cap

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	34.9
Carbon Dioxide (CO2)	PPM	300

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 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:

- Stick up very high, had to stand on barrel to take water level.

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 UWD9-07		Project Number 1343-005.27		Date 25-May-16		
Piezometer Diameter 2"		Client GY-AAM		Samplers NB/MM		
UTM Location Z: 080 E: 0389 322 N: 6890698		Project Name Mount Nansen 2016 GW Sampling Program		Weather/Temperature Windy Overcast		
Waypoint GPS: ELR Name: 012				Recovery <input type="checkbox"/> Good <input type="checkbox"/> Bad		
Photos Cam: ELR Nos: 444-446		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) 8 DRY		Purge Start Time: _____	Purge End Time: _____	Pen or YSI: <input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Depth to Bottom (m) 3.405		Purge Interval Time (____) min / Vol. (____) L				
Submerged Tubing Depth (m) _____		Depth to water (m) _____				
Well Stick-up Height (m) 1.395		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): W09-07

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: electrical tape @ top; possibly covering slits.

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	400

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><u>Dry @ 3.405 m</u></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	1343-005.27	Date	May 26, 2016					
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB/SC					
UTM Location	Z: 08 E: 0389620 N: 6880577	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast					
Waypoint	GPS: Hemm Name: n/a			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad					
Photos	Cam: Scram Nos:	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)	1.990	Purge Start Time:	09:18	Purge End Time:	09:36					
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro-Plus ^{55b} <input type="checkbox"/> Pen Unit					
Depth to Bottom (m)	3.901	Purge Interval Time (3) min / Vol. () L	9:20	9:23	9:26	9:30	9:33	9:36		
Submerged Tubing Depth (m)	3.300	Depth to water (m)	1.29	1.30	Same	Same	same			
Well Stick-up Height (m)	1.139	Temperature (°C) 3%	2.56	2.38	2.06	1.69	1.59	1.87		
Estimated Water Volume (L)	3.822	pH (pH Units) ±0.1	7.63	6.76	6.72	6.69	6.67	6.65		
(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: $\begin{array}{r} 3.901 \\ - 1.990 \\ \hline 1.911 \\ \times 2 \\ \hline 3.822 \end{array}$	Cond. (µs/cm) 3%	0.357	0.358	0.357	0.359	0.360	0.373			
	Specific Cond. (µs/cm) 3%	0.626	0.631	0.636	0.648	0.650	0.669			
	Redox (mV) 10%	-65.4	-60.1	-66.0	-62.2	-60.4	-59.2			
	DO (mg/L) 10%	5.17	0.86	0.30	0.21	0.28	0.51			
	DO (%) 10%	35.7	6.0	2.0	1.5	2.1	3.7			
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear following	clear	Same	Same	clear	clear			
	Only for final readings	Sulphide (mg/L)	/	/	-	-	/	0.11		
		Turbidity (NTU)	/	/	-	-	-	3.94		
		Interval Purge Volume (L)	0.200	0.400	0.300	0.550	0.550	0.500		
		Cumulative Purge Volume (L):	0.200	0.600	0.900	1.450	2.00	2.500		
YSI ID	MW09-08	Sample Method:								
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other					
Time logged on YSI (24hr)	09:36		✓							
Sample Time (24hr)	09:45									



Sample Site (Con't): MW09-08

Sample Date (Con't): May 26, 2016

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 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:

- replaced tubing
- good producing well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 15 ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft
- 1/4" Silicon tubing 1/2 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 MW09-11		Project Number 1343-005.27		Date 25-Mar-16		
Piezometer Diameter 2"		Client GY - AAM		Samplers NB/MA		
UTM Location Z: 08 E: 0389038 N: 6880712		Project Name Mount Nansen 2016 GW Sampling Program		Weather/Temperature Partly Overcast		
Waypoint GPS: ELR Name: 011				Recovery <input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad		
Photos Cam: ELR Nos: 441-443		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) 4.926 DRY		Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m) 4.926		Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m) /		Depth to water (m)				
Well Stick-up Height (m) 0.808		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		Waterra	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)						
Sample Time (24hr)						



Sample Site (Con't): MW09-11

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: slits in PVC

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.7
Carbon Dioxide (CO2)	PPM	1000

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:

Dry @ 4.926m → sand + ice on water level (ice most likely from condensation).

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	1343-005.27	Date	05-May-16
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB / MW
UTM Location	Z: 08, E: 0289005 N: 688149	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast, cold
Waypoint	GPS: ELR Name: 008	Purge Method	<input type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other		
Photos	Cam: ELR Nos: 433-435	Duplicate Collected	<input type="checkbox"/> Yes Name: _____		
Field Blank Collected	<input type="checkbox"/> Yes Name: _____	Purge Start Time:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Initial Depth to Water (m)	5.942 to water 5.945 to ice	Purge End Time:	_____		
Depth to Bottom (m)	5.945 FROZEN	Purge Interval Time () min / Vol. () L	_____		
Submerged Tubing Depth (m)	_____	Depth to water (m)	_____		
Well Stick-up Height (m)	0.760	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>	Conductivity (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	_____				
Logged Field Parameters	<input type="checkbox"/> Yes <input type="checkbox"/> No				
Time logged on YSI (24hr)	_____				
Sample Time (24hr)	_____				



Sample Site (Con't): MW09-13

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: slits in PVC

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	39.9
Carbon Dioxide (CO2)	PPM	300

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:

- 0.003m of water above ice; attempted to draw well for 20 mins using DI water (boiling) + watterra tubing; attempt was unsuccessful

- Placer miner actively working around well;

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwatterra tubing) _____ ft
- 5/8" HDPE (watterra tubing) _____ ft (6m)
- 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	1343-005.27	Date	25-May-16	
Piezometer Diameter	8	Client	GY - AAM	Samplers	NB / MM	
UTM Location	Z: 08 E: 03 89004 N: 6881665	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rainy / overcast	
Waypoint	GPS: ELR Name: 007	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: ELR Nos: 430-432	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)	5.070 to ice	Purge Start Time:	Purge End Time:	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit	
Depth to Bottom (m)	FROZEN	Purge Interval Time () min / Vol. () L				
Submerged Tubing Depth (m)		Depth to water (m)				
Well Stick-up Height (m)	0.742	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%	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): NW09-14

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	200

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:

- Attempted to throw for 20 minutes using boiling D.I. water + watererra tubing; attemp was unsuccessful.

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	MW09-15	Project Number	1343-005.27	Date	May 25, 2016
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB/SC
UTM Location	Z: 08 E: 6388920 N: 6881723	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10°C overcast
Waypoint	GPS: Hemmera Name: N/A	Purge Method		Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Jeremy Nos:	Watera		Peristaltic	Disp. Bailer
Duplicate Collected	<input type="checkbox"/> Yes Name:	Other			
Field Blank Collected	<input type="checkbox"/> Yes Name:				
Initial Depth to Water (m)	14.030	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	14.151	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)	-	Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	0.876	Depth to water (m)			
Estimated Water Volume (L)	0.842	Temperature (°C) 3%			
<p>Calculations:</p> $\frac{14.151 - 14.030}{0.121} \times \frac{2}{2} = 24.2L$	<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>	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 checked="" type="checkbox"/> No				
Time logged on YSI (24hr)	-	Watera	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)	15:36			✓	

Frozen

~~Direct sample~~



Sample Site (Con't): MW09-15

Sample Date (Con't): May 25, 2016

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	Ø
Oxygen (O2)	%	20.6
Carbon Dioxide (CO2)	PPM	300

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 type="checkbox"/> HNO ₃ (Nitric)	70 ml	
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:

TPICS - Jeremy phone
 - 0.242 L of water on top of frozen ice
 - A sample is not representative

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	MW09-16	Project Number	1343-005.27	Date	May 24, 2016	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	1 NB, UM, JC, KB	
UTM Location	Z: 08, E: 0387990 N: 6881097	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	same, overcast	
Waypoint	GPS: ELR Name: MW09-16	Purge Method	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: ELR Nos: 404-406	Water	Peristaltic	Disp. Bailer	Other	
Duplicate Collected	<input type="checkbox"/> Yes Name: _____					
Field Blank Collected	<input checked="" type="checkbox"/> Yes Name: FB-1		X			
Initial Depth to Water (m)	1.956	Purge Start Time:	16:20	Purge End Time:	4:45	
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit	
Depth to Bottom (m)	2.707 2.707	Purge Interval Time (3) min / Vol. () L	4:21	4:25	4:30	
Submerged Tubing Depth (m)	~2.5	Depth to water (m)	1.959	1.959	1.956	
Well Stick-up Height (m)	1.378	Temperature (°C) 3%	4.6	4.2	4.8	
Estimated Water Volume (L)	1.542	pH (pH Units) ±0.1	6.08	6.56	6.64	
(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: $\frac{1.956}{0.771} * 2 = 1.542$	Conductivity (µs/cm) 3%	1323	1287	1288	1284	
	Specific Cond. (µs/cm) 3%	2182	2127	2091	2093	2085
	Redox (mV) 10%	217.2	206.2	196.8	185.0	179.3
	DO (mg/L) 10%	2.08	1.43	1.31	1.29	1.14
	DO (%) 10%	16.0	11.1	10.4	10.0	8.9
	Appearance & Odour (Clear, Silty, HC odours, etc.)	clear no smell	clear no smell	clear no smell	clear no smell	clear no smell
	Only for final readings	Sulphide (mg/L)	/	/	/	/
		Turbidity (NTU)	/	/	/	0.71
		Interval Purge Volume (L)	0.3	0.35	0.6	0.45
		Cumulative Purge Volume (L):	0.3	0.65	1.25	1.70
YSI ID	MW09-16	Sample Method:				
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	16:47		X			
Sample Time (24hr)	16:50					



Sample Site (Con't): MW09-16

Sample Date (Con't): 25 May - 16

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 the side

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.3
Carbon Dioxide (CO2)	PPM	2800

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 (NH ₃)	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	-	-	180	

General Notes and Observations:

First well sampled as a full team to learn sampling procedure.

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) 2 ft
- 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	MW09-17	Project Number	1343-005.27	Date	25-May-16
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB, RM
UTM Location	ZOB, E: 0388075 N: 6880974	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Sunny
Waypoint	GPS: ELP Name: 002	Purge Method			
Photos	Cam: ELP Nos: 410-412	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)	1.310 bentonite	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)		Purge Interval Time () min / Vol. () L		Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Submerged Tubing Depth (m)		Depth to water (m)		<div style="font-size: 2em; opacity: 0.5;">BENTONITE BLOCKAGE</div>	
Well Stick-up Height (m)	0.975	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	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)					
Sample Time (24hr)					



Sample Site (Con't): MW09-17

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)	%	30.9
Carbon Dioxide (CO2)	PPM	2500

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:

- Bentonite @ 1.31m unable to get the tubing ^{or water level} into the well (possible frozen bentonite)
 - existing tubing was present, however once adjusted to get water level in, unable to get tubing back in; bentonite most likely collapsed on the tubing at concrete level (1.310m)

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		1343-005.27		Date		May 05 2008			
Piezometer Diameter		2"		Client		GY - AAM		Samplers		NB, MM			
UTM Location		Z: 08, E: 0388054 N: 6880985		Project Name		Mount Nansen 2016 GW Sampling Program		Weather/Temperature		Raining heavily			
Waypoint		GPS: EIR Name: 001		Purge Method				Recovery		<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos		Cam: EIR Nos: 407-409		Watterra		Peristaltic		Disp. Bailer		Other			
Duplicate Collected		<input type="checkbox"/> Yes Name: —				X							
Field Blank Collected		<input type="checkbox"/> Yes Name: —											
Initial Depth to Water (m)		4.320		Purge Start Time:		8:11		Purge End Time:		8:37			
								Pen or YSI:		<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Depth to Bottom (m)		7.787		Purge Interval Time (3) min / Vol. () L		8:13		8:16		8:19			
Submerged Tubing Depth (m)		~6.79		Depth to water (m)		4.324		4.324		4.324			
Well Stick-up Height (m)		0.9		Temperature (°C) 3%		1.8		0.9		0.7			
Estimated Water Volume (L)		~6.934		pH (pH Units) ±0.1		5.77		6.44		6.65			
<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: $\frac{7.787 - 4.320}{3.467} \times 2 = 6.934$</p>		Cond. (µs/cm) 3%		1521		1492		1471		1466			
		Specific Cond. (µs/cm) 3%		2798		2765		2743		2743		2747	
		Redox (mV) 10%		254.0		314.5		210.8		207.1		201.5	
		DO (mg/L) 10%		8.76		3.64		3.21		2.964		2.70	
		DO (%) 10%		76.95		25.9		22.8		20.6		18.6	
		Appearance & Odour (Clear, Silty, HC odours, etc.)		turbid (grey)		same		clear no smell		same		same	
		Only for final readings		Sulphide (mg/L)		/		/		/		/	
				Turbidity (NTU)		/		/		/		/	
				Interval Purge Volume (L)		0		0.32		0.36		0.36	
				Cumulative Purge Volume (L):		0		0.32		0.68		1.04	
YSI ID		MW09-18		Sample Method:									
Logged Field Parameters		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Watterra		Peristaltic		Disp. Bailer		Other			
Time logged on YSI (24hr)		8:39				X							
Sample Time (24hr)		8:40 8:45											



Sample Site (Con't): MW09-18

Sample Date (Con't): 25 - May - 16

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 electrical tape over them

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	200

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) 2624 ft (Bart)
- 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-R1	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	2	Client	GY - AAM	Samplers	NB/MMJ	
UTM Location	Z: 58 E: 5388000 N: 6921016	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rain (snow)	
Waypoint	GPS: FRL Name: N/A	Purge Method	<input type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: F12 Nos: 415	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)	2.025 ice	Purge Start Time:		Purge End Time:		
Depth to Bottom (m)	2.025 ice	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Submerged Tubing Depth (m)		Purge Interval	Time () min / Vol. () L			
Well Stick-up Height (m)	0.991	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 (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>		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	Water	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)						
Sample Time (24hr)						



Sample Site (Con't): NW09-19

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: slits w electrical tape over top.

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	300

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 @ 2.025 m, ice found on water level tape.
 - spent 20 minutes defrosting w DI water and a long used watterra to try to break thru ice; unsuccessful attempt

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwatterra tubing) _____ ft
- 5/8" HDPE (watterra 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	MW09-20	Project Number	1343-005.27	Date	25-May-16	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/MKL	
UTM Location	Z:08, E:0389589 N: 6880586	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast, windy	
Waypoint	GPS: ELR Name: 013	Purge Method	<input type="checkbox"/> Waterra <input checked="" type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad	
Photos	Cam: ELR Nos: 447-449					
Duplicate Collected	<input type="checkbox"/> Yes Name:					
Field Blank Collected	<input type="checkbox"/> Yes Name:					
Initial Depth to Water (m)	DR4	Purge Start Time:		Purge End Time:		
Depth to Bottom (m)	3.690			Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input checked="" type="checkbox"/> Pen Unit	
Submerged Tubing Depth (m)	/	Purge Interval Time () min / Vol. () L				
Well Stick-up Height (m)	0.912	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 (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>		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 checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Waterra <input type="checkbox"/> Peristaltic <input type="checkbox"/> Disp. Bailer <input type="checkbox"/> Other				
Time logged on YSI (24hr)						
Sample Time (24hr)						



Sample Site (Con't): MW09-20

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: slits in PVC

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	200

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:

Dry @ 3.962m

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	1343-005.27	Date	26 May - 16
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/ MM
UTM Location	Z: 08, E: 6889535 N: 6880576	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast, ~20c
Waypoint	GPS: ELR Name: 015	Purge Method			
Photos	Cam: ELR Nos: 453, 455	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)	1.149	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	1.958 to ice	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)		Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	0.82	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 (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>	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	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)					
Sample Time (24hr)					

Sample Site (Con't): MW09-21

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 (CH ₄)	%LEL	0
Oxygen (O ₂)	%	20.9
Carbon Dioxide (CO ₂)	PPM	200

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:

- Transducer frozen in well; Frozen @ 1.958m
- Attempt to draw for 20 minutes, attempt unsuccessful.
- Pen tubing frozen in 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	MW09-20	Project Number	1343-005.27	Date	26 May - 16
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/ML
UTM Location	Z: 08 E: 0389498 N: 6886550	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	overcast ~20°C
Waypoint	GPS: ELR Name: 046	Purge Method			
Photos	Cam: ELR Nos: 456 - 458	Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad		
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)	5.107	Purge Start Time:		Purge End Time:	
Depth to Bottom (m)	5.280	Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit		
Submerged Tubing Depth (m)	~5.20	Purge Interval Time () min / Vol. () L			
Well Stick-up Height (m)	0.867	Depth to water (m)			
Estimated Water Volume (L)	0.346	Temperature (°C) 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: $\frac{5.280 - 5.107}{0.173} \times 2 = 0.346$</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)			X		
Sample Time (24hr)	9:30				

Sample Site (Con't): MW09-22

Sample Date (Con't): 26-May-16 @ 9:20

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: _____

No → slits in PVC

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	300

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	27-May-16 @ 10:10
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" type="checkbox"/> Field Filtered	<input checked="" type="checkbox"/> HCL (Hydrochloric)	15	27-May-16 @ 10:10
2	500 ml (plastic)	General Chemistry	100 ml	-	-	150	27-May-16 @ 16:25
3	145 ml (plastic)	Cyanide (total, free, weak acid dissociable)	100 ml	-	<input checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	100	27-May-16 @ 10:10
4	120 ml (glass)	Ammonia (NH3)	60 ml	-	<input checked="" type="checkbox"/> H ₂ SO ₄ (Sulfuric)	60	27-May-16 @ 10:10
5	120 ml (plastic)	Thiocyanate (SCN)	50 ml	-	<input checked="" type="checkbox"/> HNO ₃ (Nitric)	50	27-May-16 @ 10:10
6	120 ml (glass amber)	Total Inorganic Carbon (TIC)	50 ml	-	-	70	27-May-16 @ 16:25

General Notes and Observations:

- small water column, attempt to direct sample.
- dry @ 5.280 m, will wait to see if recharge occurs; 5.272 m recharge, will return tomorrow to collect a representative sample.
- returned on 27-May-16 @ 10:10 to sample min vol of diss metals, mercury, cyanide, NH₃ + SCN.
- sample for gen chem + TIC collected 27-May-16 @ 16:25

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft (4.5m)
- 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	MW09-23	Project Number	1343-005.27	Date	26-May-16	
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB/MM	
UTM Location	Z: 08 E: 0389460 N: 6980555	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Windy, overcast	
Waypoint	GPS: EL7 Name: 017	Purge Method	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad			
Photos	Cam: FLIR Nos: 459-461	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)	13.428	Purge Start Time:	9:50	Purge End Time:		
Depth to Bottom (m)	15.928	Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit			
Submerged Tubing Depth (m)	~ 14.9	Purge Interval Time () min / Vol. () L	9:52	9:53	9:55	
Well Stick-up Height (m)	0.185	Depth to water (m)	/	/	/	
Estimated Water Volume (L)	5.0	Temperature (°C) 3%	1.8	1.0	0.8	
(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: $\frac{15.928 - 13.428}{2.5} \times 2 = 5$	pH (pH Units) ±0.1	6.95	6.98	6.99	6.93	
	Cond. (µs/cm) 3%	855	840	830	864	861
	Specific Cond. (µs/cm) 3%	1536	1566	1547	1616	1609
	Redox (mV) 10%	10.3	-18.0	-22.1	-25.8	-28.1
	DO (mg/L) 10%	4.63	2.99	3.91	2.46	2.43
	DO (%) 10%	35.3	21.5	27.6	16.7	17.6
	Appearance & Odour (Clear, Silty, HC odours, etc.)	turbid	same	same	same	same
	Only for final readings	Sulphide (mg/L)	/	/	/	/
	Turbidity (NTU)	/	/	/	/	0.2
	Interval Purge Volume (L)	1	1	1	6.95	1
Cumulative Purge Volume (L):	1	2	3	9	10	
YSI ID	MW09-23	Sample Method:				
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water	Peristaltic	Disp. Bailer	Other	
Time logged on YSI (24hr)	15:02					
Sample Time (24hr)	10:10					



Sample Site (Con't): MN09-23

Sample Date (Con't): 26-May-16 @ 11:10

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	200

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:

- Not monitoring draw down due to friction from twisting.

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 1
- D-25 (for 2" wells, use with 5/8") foot valves 1x
- 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	MW 09-24	Project Number	1343-005.27	Date	May 25, 2016						
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB/SC						
UTM Location	Z:08 E:0389558 N:6880621	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	partly cloudy						
Waypoint	GPS: Hemm Name: N/A			Recovery	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Bad						
Photos	Cam: Jeremy Nos:	Purge Method									
Duplicate Collected	<input checked="" type="checkbox"/> Yes Name: DUP-1	Waterra	Peristaltic	Disp. Bailer	Other						
Field Blank Collected	<input checked="" type="checkbox"/> Yes Name: FB-2	<input checked="" type="checkbox"/>									
Initial Depth to Water (m)	9.663	Purge Start Time:	17:02	Purge End Time:	17:38						
				Pen or YSI:	<input checked="" type="checkbox"/> YSI Pro Plus 556 <input type="checkbox"/> Pen Unit						
Depth to Bottom (m)	11.631	Purge Interval Time () min / Vol. (10) L	17:20	17:25	17:30	17:38	18:00				
Submerged Tubing Depth (m)	11.6	Depth to water (m)	9.677	9.689	9.70	9.685	same				
Well Stick-up Height (m)	0.645	Temperature (°C) 3%	3.16	1.38	1.11	0.91	2.06				
Estimated Water Volume (L)	3.936	pH (pH Units) ±0.1	7.55	7.49	7.34	7.28	7.41				
(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: $\begin{array}{r} 11.631 \\ - 09.663 \\ \hline 1.968 \\ \times 2 \\ \hline 3.936 \end{array}$	Cond. (µs/cm) 3%	0.596	0.576	0.560	0.560	0.572					
	Specific Cond. (µs/cm) 3%	1.016	1.049	1.030	1.037	1.012					
	Redox (mV) 10%	88.5	123.4	129.2	141.4	141.1					
	DO (mg/L) 10%	4.70	4.99	4.96	4.42	4.33					
	DO (%) 10%	35.3	35.4	35.0	31.0	31.7					
	Appearance & Odour (Clear, Silty, HC odours, etc.)	dirty silty	clear	clear	clear	clear					
	Only for final readings	Sulphide (mg/L)	/	/	/	/	0.14				
		Turbidity (NTU)	/	/	/	/	27.4				
	Interval Purge Volume (L)	10.0	10.0	10	10	5					
	Cumulative Purge Volume (L):	10.0	20.0	30.0	40.0	45.0					
YSI ID	13F100509-Pine	Sample Method:									
Logged Field Parameters	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Waterra	Peristaltic	Disp. Bailer	Other						
Time logged on YSI (24hr)	18:05	<input checked="" type="checkbox"/>									
Sample Time (24hr)	17:20										



Sample Site (Con't): MW09-24

Sample Date (Con't): May 25, 2016

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	Ø
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	900

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 type="checkbox"/> HNO ₃ (Nitric)	120	
1b	40 ml (glass)	Dissolved Mercury	15 mL	<input checked="" 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 checked="" type="checkbox"/> NaOH (Sodium Hydroxide)	145	
4	120 ml (glass)	Ammonia (NH ₃)	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:

Good producing well

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) 37 ft
- 1/4" Silicon tubing _____ ft
- High Capacity .45 micron filters 1
- D-25 (for 2" wells, use with 5/8") foot valves 1
- 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	1343-005.27	Date	May 25, 2016
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB / SC
UTM Location	Z: 09 E: 0389520 N: 6880668	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	partly cloudy
Waypoint	GPS: Hemm Name: N/A			Recovery	<input type="checkbox"/> Good <input checked="" type="checkbox"/> Bad
Photos	Cam: Scramy Nos:	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)	6.529	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	-	Depth to water (m)			
Well Stick-up Height (m)	0.630	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 checked="" type="checkbox"/> No				
Time logged on YSI (24hr)	-	Waterra	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)	-				



Sample Site (Con't): W14163083 BHO1

Sample Date (Con't): May 25, 2016

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	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:

Well was frozen
 did not attempt to thaw due to low
 DE and historical frozen 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	W14103083B40Z	Project Number	1343-005.27	Date	May 25, 2016
Piezometer Diameter	2"	Client	GY - AAM	Samplers	J. Chua / K. Beckmann
UTM Location	Z: 08 E: 0389561 N: 6880665	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	10°C overcast
Waypoint	GPS: hem Name: NIA	Purge Method			
Photos	Cam: Jeremy Nos:	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)	6.729	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	-	Depth to water (m)			
Well Stick-up Height (m)	0.788	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.)				
	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	Water	Peristaltic	Disp. Bailer	Other
Time logged on YSI (24hr)	-				
Sample Time (24hr)	-				



Sample Site (Con't): W1410 3083 BHO 2
Sample Date (Con't): May 25, 2016

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.7
Carbon Dioxide (CO2)	PPM	400

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: Equipment and wires down hole.

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 is Frozen
Did not attempt to thaw due to low DI water
and historical frozen 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	W141030838403	Project Number	1343-005.27	Date	26 - May - 16
Piezometer Diameter	2"	Client	GY - AAM	Samplers	NB / MM
UTM Location	Z: 08, E: 0389132 N: 6880731	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	Rain/snow/wind
Waypoint	GPS: ELR Name: 021			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: ELR Nos: 468-470	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)	1.774	Purge Start Time:	/	Purge End Time:	/
				Pen or YSI:	<input type="checkbox"/> YSI Pro Plus <input type="checkbox"/> Pen Unit
Depth to Bottom (m)	4.537	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	/	Depth to water (m)			
Well Stick-up Height (m)	1276	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)	/				
Sample Time (24hr)	/				

Sample Site (Con't): W14103083BH03

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: unable to fit gas meter into metal measurement fully, no cap on well

Head Space Gas Measurements

	Units	Values
Methane (CH4)	%LEL	0
Oxygen (O2)	%	20.9
Carbon Dioxide (CO2)	PPM	200

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:

- Some perit tubing ~~from~~ stuck in well; another piece was easy to move & pull out
- Frozen @ 4.537m → spent 20 mins attempting thaw; purged cold water out for well first using waterz; attempt unsuccessful.
- Attempt to purge by adding extension onto existing perit tubing, attempt unsuccessful.
- Removed perit tubing that we were able to move from well bc it was just sitting over ice
- previously record DTB was 10m,

Consumables Used:

- 1/4" HDPE (peristaltic pump tubing) _____ ft (5.0m)
- 3/8" HDPE (microwaterra tubing) _____ ft
- 5/8" HDPE (waterra tubing) _____ ft ~~(4.7m)~~ (5.5m)
- 1/4" Silicon tubing 0.5 ft
- High Capacity .45 micron filters _____
- D-25 (for 2" wells, use with 5/8") foot valves 1
- 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 BH04	Project Number	1343-005.27	Date	May 25, 2016
Piezometer Diameter	2-inch	Client	GY - AAM	Samplers	KB YSC
UTM Location	Z: 08 E: 0389543N: 6280662	Project Name	Mount Nansen 2016 GW Sampling Program	Weather/Temperature	partly cloudy
Waypoint	GPS: Hemm. Name: N/A			Recovery	<input type="checkbox"/> Good <input type="checkbox"/> Bad
Photos	Cam: Jeremy Nos:	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)	6.515	Purge Interval Time () min / Vol. () L			
Submerged Tubing Depth (m)	N/A	Depth to water (m)			
Well Stick-up Height (m)	0.77 @ 0.765	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 checked="" type="checkbox"/> No				
Time logged on YSI (24hr)	—	Waterra	Peristaltic	Disp. Bailer	Other
Sample Time (24hr)	—				



Sample Site (Con't): W14103083 B104

Sample Date (Con't): May 25, 2016

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	Ø
Oxygen (O2)	%	20.6
Carbon Dioxide (CO2)	PPM	300

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 was frozen
 did not attempt to thaw due to low
 DT and historical frozen 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) _____