Attachment 1: Summary of Monitoring Stations & Monitoring Requirements

Wastewater Treatment System (WWTS)

WWTS
Surface Water Discharge Monitoring
SD001

Weekly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Arsenic	500	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Arsenic	1000	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Cadmium	50	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Cadmium	100	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Calcium	Monitor only	mg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	
Calcium	Monitor only	mg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	
Copper	150	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Copper	300	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Hardness (Ca + Mg)	Monitor only	mg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	
Hardness (Ca + Mg)	Monitor only	mg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	
Lead	300	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Lead	600	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Magnesium	Monitor only	mg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	
Magnesium	Monitor only	mg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	
Mercury	1000	ng/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Mercury	2000	ng/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Nickel	Monitor only	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	
Nickel	Monitor only	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	
pH	6.0	SU	Calendar Month Min	Jan - Dec	Continuous	1 x week	TBEL
pH	9.0	SU	Calendar Month Max	Jan - Dec	Continuous	1 x week	TBEL
Specific Conductance	Monitor only	umh/cm	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	
Specific Conductance	Monitor only	umh/cm	Daily Max	Jan - Dec	24-hr composite	1 x week	

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Weekly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Total Suspended Solids (TSS)	20.0	mg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Total Suspended Solids (TSS)	30.0	mg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Zinc	500	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x week	TBEL
Zinc	1000	µg/L	Daily Max	Jan - Dec	24-hr composite	1 x week	TBEL
Flow	Monitor only	Mgd	Calendar Month Avg	Jan - Dec	Measurement	1 x day	
Flow	Monitor only	Mgd	Daily Max	Jan - Dec	Measurement	1 x day	
Flow	Monitor only	MG	Calendar Month Total	Jan - Dec	Measurement	1 x day	

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Aluminum, Dissolved	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Antimony	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Beryllium	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Bicarbonates	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Boron	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Chloride	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Chromium	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Cobalt	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Fluoride	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Iron	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Manganese	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Selenium	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Silver	Monitor only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Sodium	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jan - Dec	24-hr composite	1 x month	
Total Dissolved Solids (TDS)	Monitor only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	

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Quarterly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Dissolved Mercury	Monitor only	ng/L		Jan – Dec	24-hr composite	1 x quarter	Sample to be taken at same time as TSS

2 x Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Nitrite + Nitrate Nitrogen	Monitor Only	mg/L	Calendar Month Avg	March, September	24-hr composite	2 x year	
Total Kjeldahl Nitrogen	Monitor Only	mg/L	Calendar Month Avg	March, September	24-hr composite	2 x year	
Total Nitrogen	Monitor Only	mg/L	Calendar Month Avg	March, September	24-hr composite	2 x year	
Total Phosphorus	Monitor Only	mg/L	Calendar Month Avg	March, September	24-hr composite	2 x year	

WET Testing							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
WET Testing - Chronic	Monitor Only	TuC	Calendar Quarter Average	Jan – Dec	24-hr composite	1 x quarter	Quarterly for first year after initiation of operation
WET Testing - Chronic	Monitor Only	TuC	Calendar Year Average	Jan – Dec	24-hr composite	1 x year	Annually after quarterly monitoring has ceased

WWTS

Surface Water Discharge Monitoring

SD002, SD003, SD004. SD005, SD006, SD007, SD008, SD009, SD010, SD011

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Flow	Monitor Only	Mgd	Calendar Month Avg	Jan - Dec	Measurement, Instantaneous	1 x day	Report 1 x month
Flow	Monitor Only	MG	Daily Maximum	Jan - Dec	Measurement, Instantaneous	1 x day	Report 1 x month
Flow	Monitor Only	MG	Calendar Month Total	Jan - Dec	Measurement, Instantaneous	1 x month	

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WWTS
Internal Waste Stream - Internal Performance Monitoring (Sulfate, Copper)
WS074

Weekly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Sulfate, Total	9.0	mg/L	Calendar Month Avg Intervention	Jan – Dec	24-hr composite	1 x week	Operating Target
Sulfate, Total	10.0	mg/L	Average of previous 12 monthly averages	Jan – Dec	24-hr composite	1 x week	Operating Limit
Copper, Total	9.3	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	Operating Limit

WWTS
Internal Waste Stream Monitoring – Influent to WWTS (from FTB seepage capture systems)
WS015

Weekly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Calcium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x week	

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Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Boron	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Iron	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Manganese	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Silver	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Sodium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	24-hr composite	1 x month	

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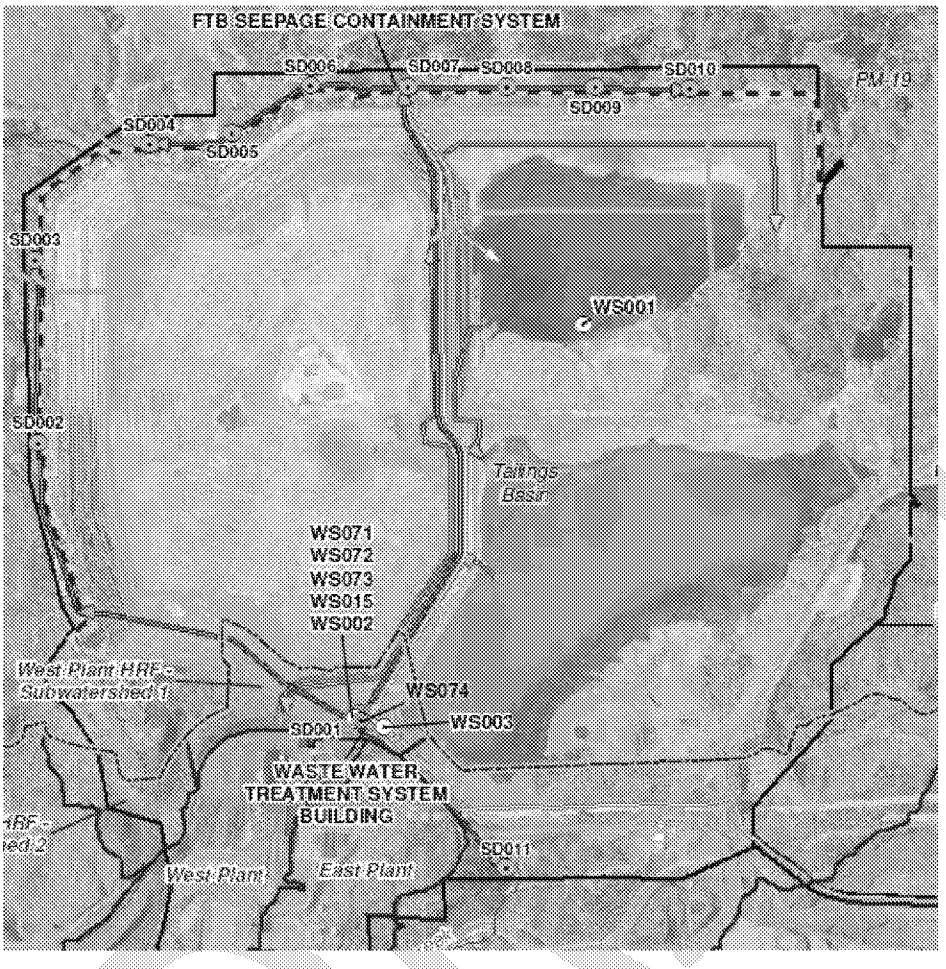
Figure 1: Location of WWTS Surface Water Discharge Monitoring Stations SD001 – SD011 and WWTS Internal Waste Stream Monitoring Stations WS074, WS015 and WS072 – WS073



WWTS

Internal Waste Stream Monitoring – Influent to WWTS (Combined Mine Water Sources)

WS415, WS416

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Calcium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Iron	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

2 x Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Antimony	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Boron	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	

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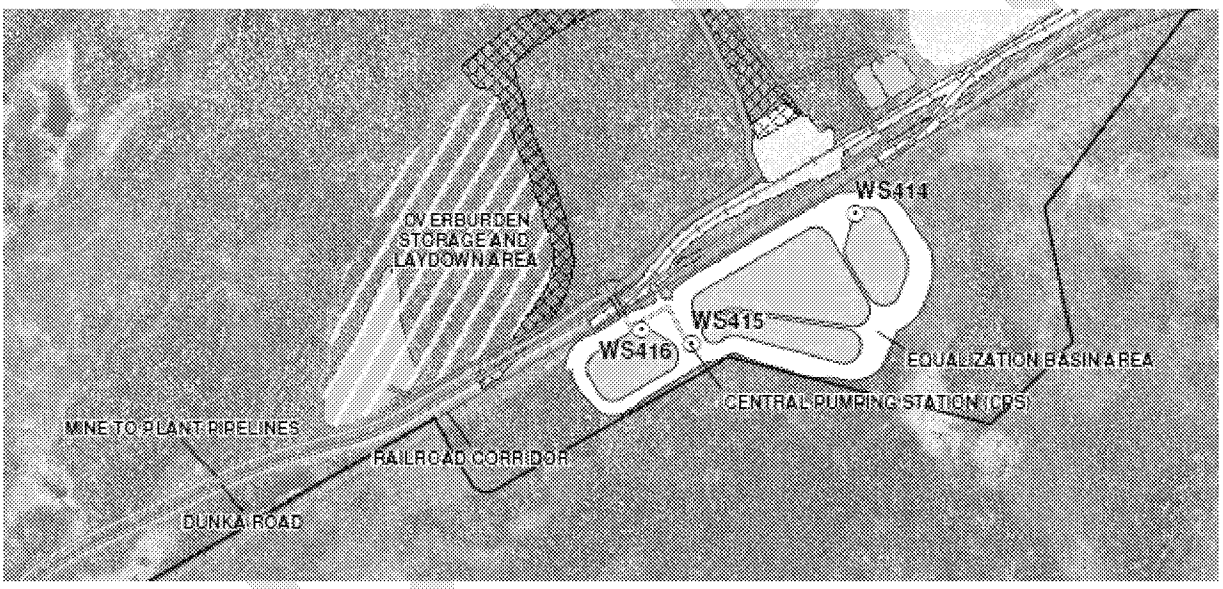
2.x Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Chromium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Silver	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Sodium	Monitor Only	mg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	

Figure 2: Location of WWTS Internal Waste Stream Monitoring Stations WS415 and WS416



WWTS

Internal Waste Stream Monitoring – WWTS Mine Water Treatment Effluent

WS072, WS073

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Calcium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Iron	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

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2.x Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Antimony	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Boron	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Chromium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Silver	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Sodium	Monitor Only	mg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	

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Mine Site

Mine Site
Internal Waste Stream Monitoring – Mine Pit Dewatering
WS401, WS402, WS403, WS404

2 x Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
pH	Monitor Only	SU	Calendar Month Min	Jan – Dec	Grab	2 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Flow	Monitor Only	mgd/MG	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	2 x month	

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Mine Site

Internal Waste Stream Monitoring – Waste Rock Stockpiles; Ore Surge Pile

WS411, WS412, WS421, WS422, WS423, WS424, WS425

2 x Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
pH	Monitor Only	SU	Calendar Month Min	Jan – Dec	Grab	2 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	2 x month	
Flow	Monitor Only	mgd/MG	Calendar Month Avg	Jan – Dec	Measurement	2 x month	

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

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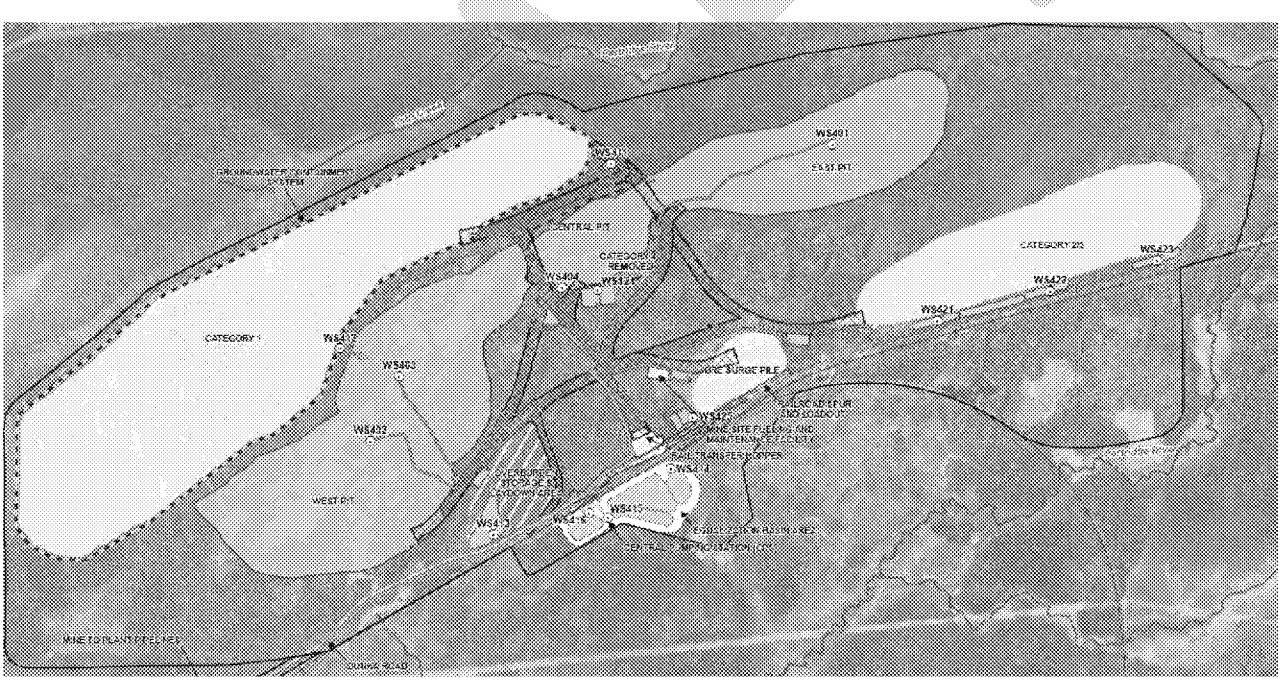
Mine Site
Internal Waste Stream Monitoring – Overburden Storage & Laydown Area (OSLA), Construction Mine Water Basin
WS413, WS414

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

Figure 3: Location of Mine Site Internal Waste Stream Monitoring Stations



Mine Site
Groundwater Monitoring - Category 1 Groundwater Containment System Performance
GW600, GW601, GW604, GW605, GW608, GW609, GW612, GW613, GW616, GW617, GW620, GW621, GW624, GW625

Monthly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

Mine Site
Groundwater Monitoring - Category 1 Groundwater Containment System Performance
GW602, GW603, GW606, GW607, GW610, GW611, GW614, GW615, GW618, GW619, GW622, GW623

Quarterly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

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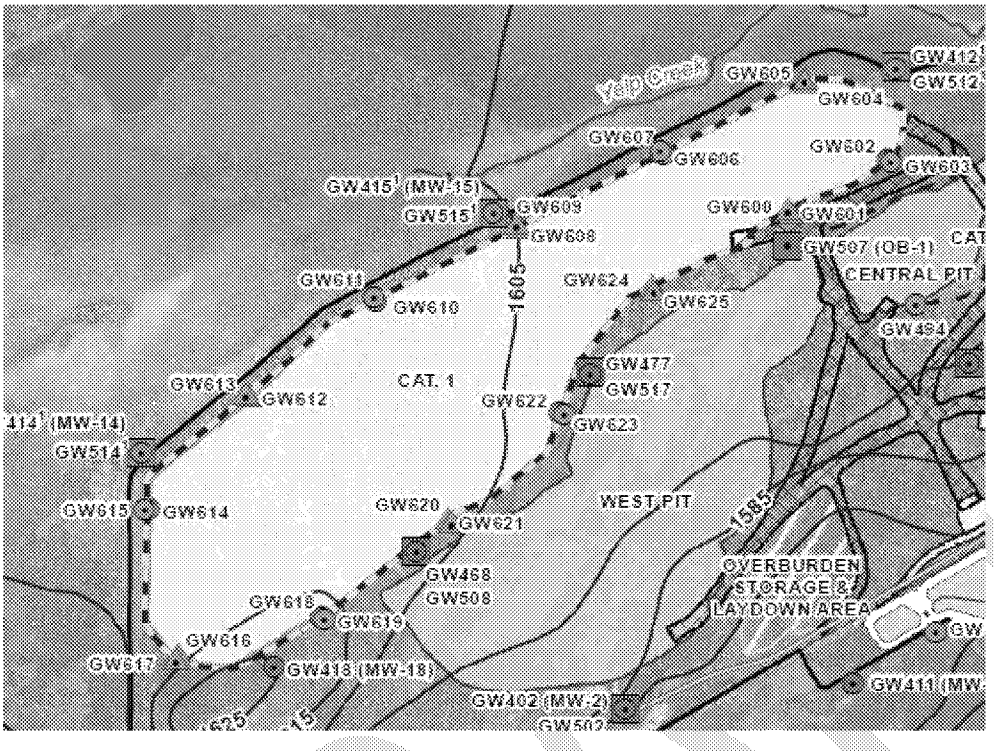
Figure 4: Location of Category 1 Groundwater Containment System Monitoring Wells and Piezometers Stations



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Mine Site

Groundwater Monitoring – Surficial Aquifer

GW402, GW403, GW405, GW407, GW408, GW409, GW411, GW412, GW414, GW415, GW416, GW417, GW418, GW419, GW420, GW421, GW422, GW468, GW491, GW492, GW493, GW494, GW495

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Calcium	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Chloride	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Copper	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Nickel	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
pH	Monitor Only	SU	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

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Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Aluminum	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Barium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month
Lead	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

Mine Site
Groundwater Monitoring – Bedrock Aquifer
GW501, GW502, GW506, GW507, GW512, GW514, GW515, GW516, GW524, GW525

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Calcium	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Chloride	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Copper	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Nickel	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
pH	Monitor Only	SU	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

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Mine Site

Groundwater Monitoring – Bedrock Aquifer

GW501, GW502, GW506, GW507, GW512, GW514, GW515, GW516, GW524, GW525

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Aluminum	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Barium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month
Lead	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

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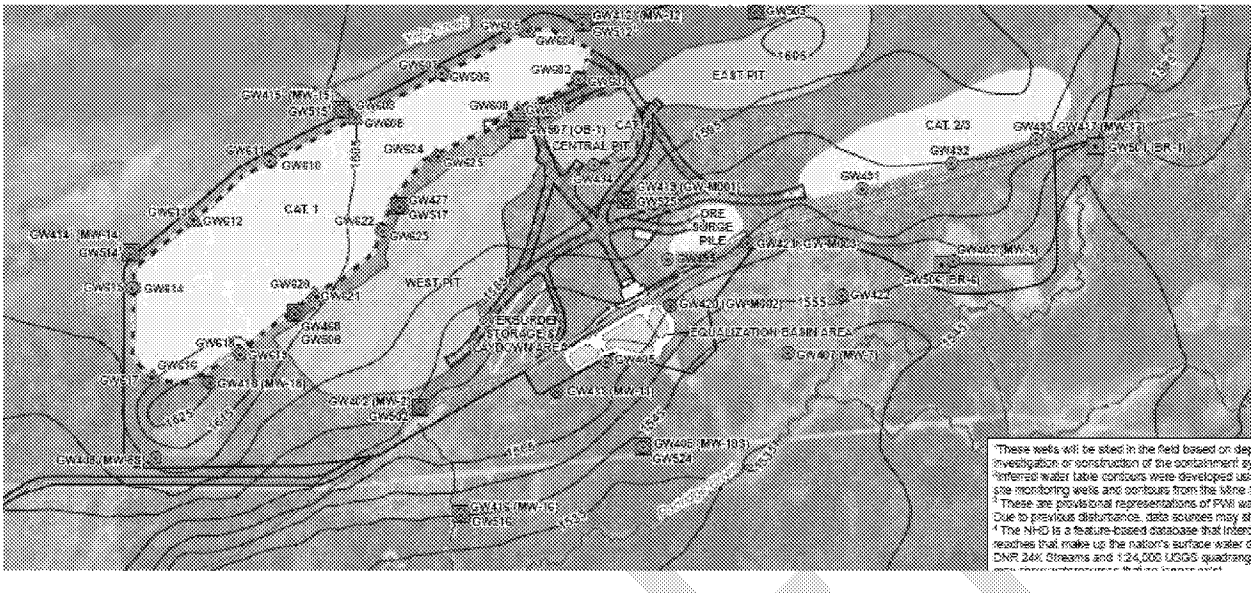
Figure 5: Location of Mine Site Surficial and Bedrock Groundwater Monitoring Well Stations



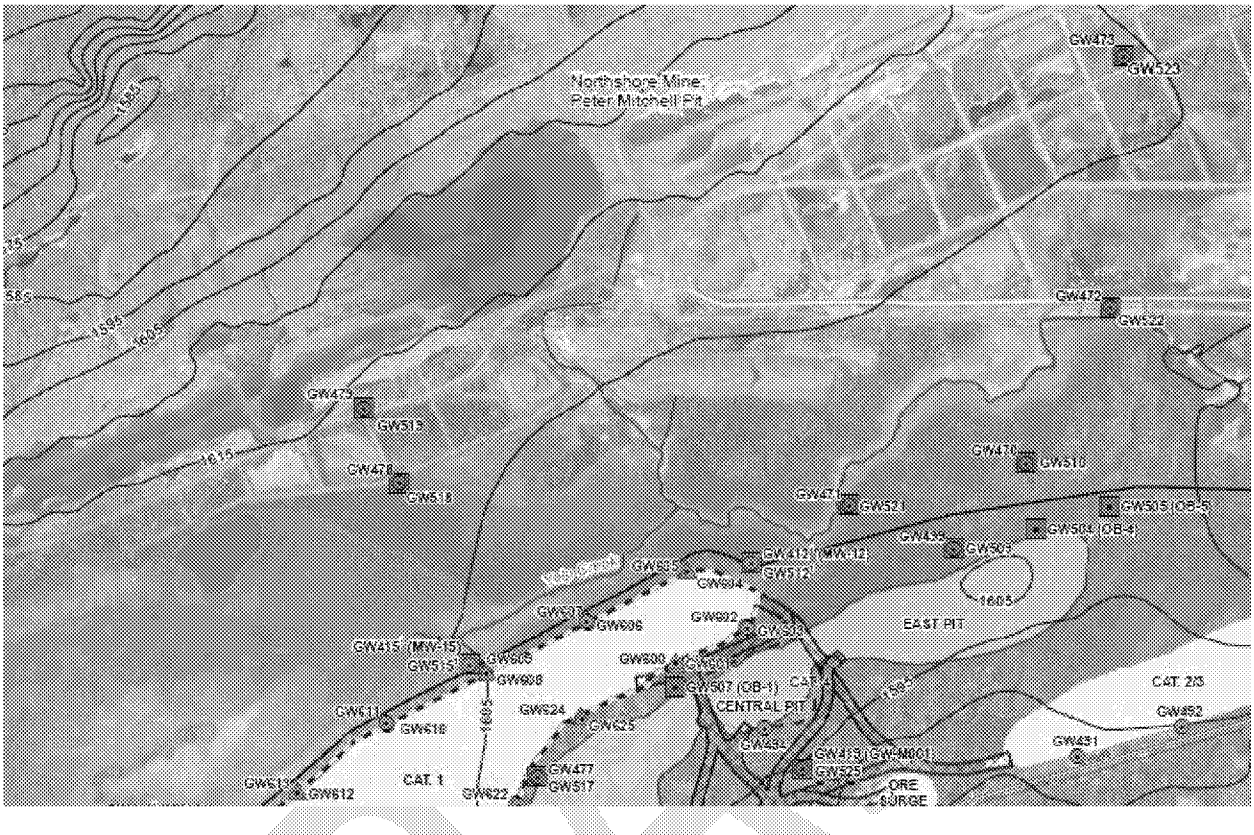
Mine Site
Groundwater Monitoring – North Flow Path Surficial Aquifer
GW470, GW471, GW472, GW473, GW477, GW478, GW479, GW499

Monthly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

Mine Site
Groundwater Monitoring – North Flow Path Bedrock Aquifer
GW504, GW505, GW508, GW509, GW510, GW517, GW518, GW519, GW521, GW522, GW523

Monthly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

Figure 6: Location of Mine Site North Flow Path Groundwater Monitoring Well Stations



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Mine Site
Surface Water Monitoring
SW402, SW407, SW408, SW409, SW410, SW411, SW412, SW413

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Aluminum, Dissolved	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Flow	Monitor Only	mgd	Calendar Month Avg	Jan – Dec	Grab	1 x month	

2 x Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Antimony	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Chromium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	

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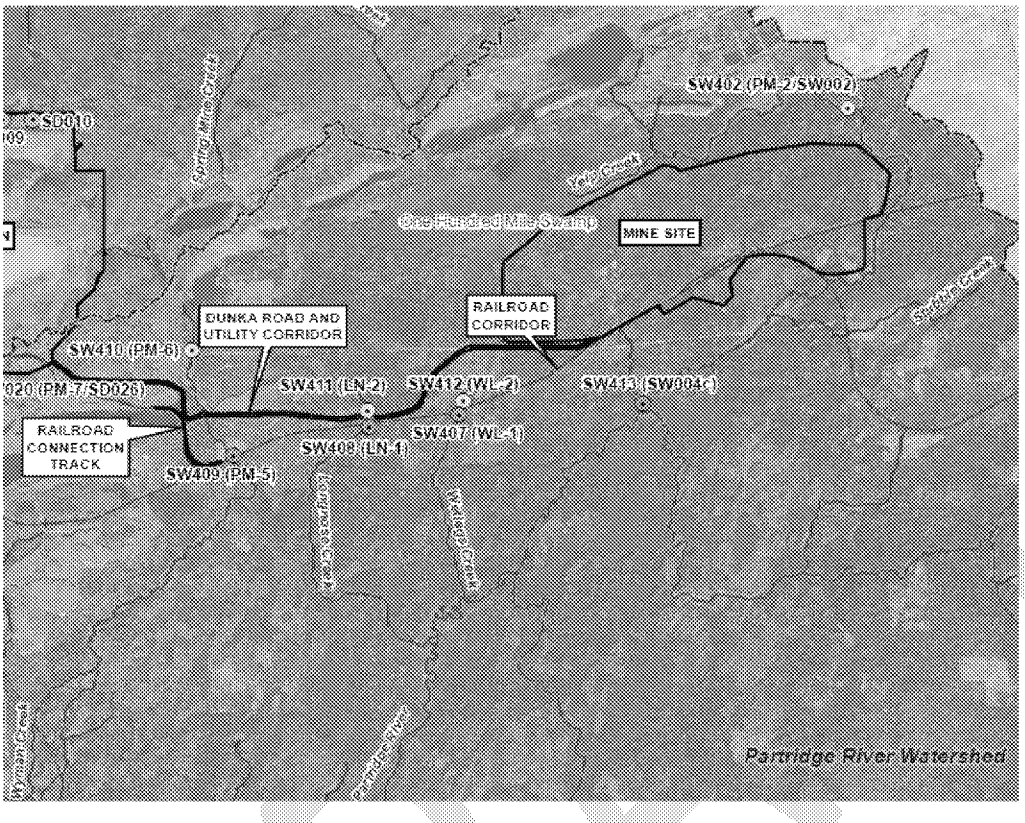
Figure 7: Location of Mine Site Surface Water Monitoring Stations



Plant Site

Plant Site
Internal Waste Stream Monitoring – Flotation Tailings Basin (FTB)
WS001, WS002, WS003

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Calcium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Magnesium	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Boron	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Apr, Oct	Grab	1 x month	

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Plant Site
Internal Waste Stream Monitoring – Hydrometallurgical Residue Facility (HRF)
WS004, WS005

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Calcium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	

Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Barium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	

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Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month	
Iron	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month	
Manganese	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month	

Plant Site
Internal Waste Stream Monitoring – Sewage Treatment Stabilization Ponds
WS009

Monthly Monitoring								
Parameter	**Limit**	**Units**	**Limit Type**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
$CBOD_5$	Monitor Only	mg/L	Calendar Month Avg	Max Cal Week Avg	Jan – Dec	Grab	2 x week during discharge	
TSS	Monitor Only	mg/L	Calendar Month Avg	Max Cal Week Avg	Jan – Dec	Grab	2 x week during discharge	
pH	Monitor Only	SU	Calendar Month Min	Calendar Month Max	Jan – Dec	Grab	2 x week during discharge	
Fecal Coliform	Monitor Only	200/#100 mL	Calendar Month Geo Mean		Jan – Dec	Grab	2 x week during discharge	
Flow	Monitor Only	mgd/MG	Calendar Month Avg	Calendar Month Total	Jan – Dec	Measurement	2 x week during discharge	

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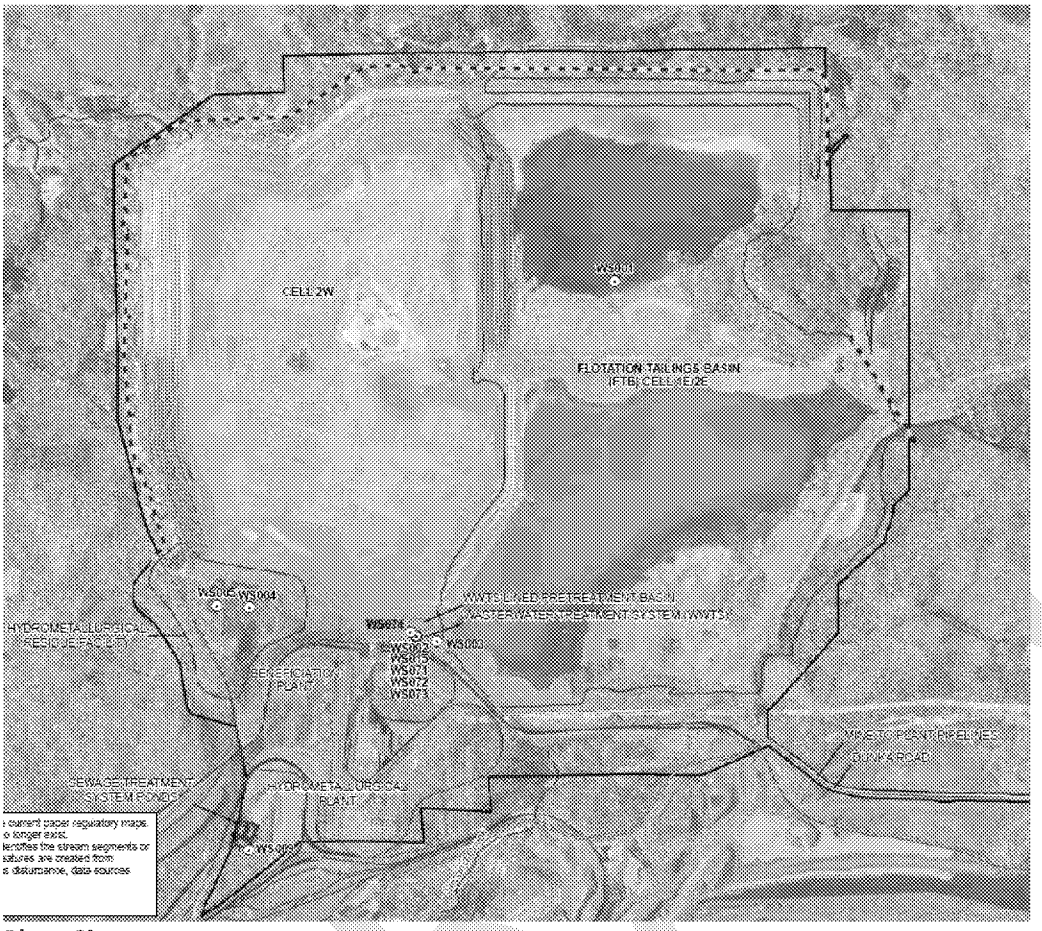
Figure 8: Location of Plant Site Internal Waste Stream Monitoring Stations: FTB, HRF and Sewage Treatment



Plant Site

Groundwater Monitoring – FTB Seepage Containment System Performance

GW202, GW203, GW206, GW207, GW210, GW211, GW214, GW215, GW218, GW219, GW222, GW223, GW236, GW237

Monthly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

Plant Site

Groundwater Monitoring – FTB Seepage Containment System Performance

GW200, GW201, GW204, GW205, GW208, GW209, GW212, GW213, GW216, GW217, GW220, GW221

Quarterly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month

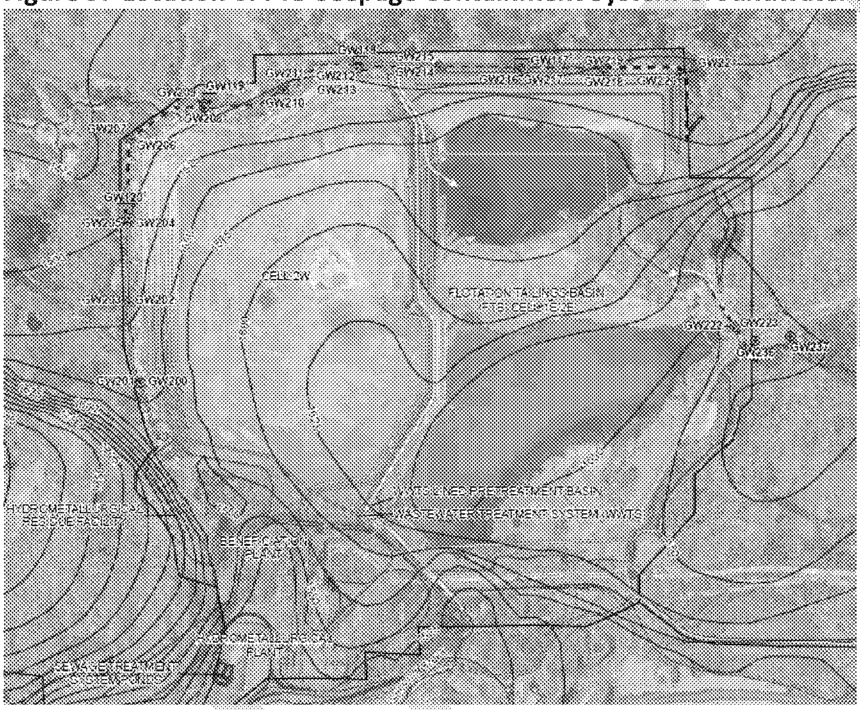
Plant Site

Groundwater Monitoring – FTB Seepage Containment System Performance

GW200, GW201, GW204, GW205, GW208, GW209, GW212, GW213, GW216, GW217, GW220, GW221

Quarterly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids	Monitor Only	mg/L	Calendar Month Avg	Jan, Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Jan – Dec	Measurement	1 x month

Figure 9: Location of FTB Seepage Containment System Groundwater Monitoring Stations



Plant Site

Groundwater Monitoring – Surficial Aquifer

GW002, GW009, GW010, GW015, GW016

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Calcium	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

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Groundwater Monitoring – Surficial Aquifer
GW002, GW009, GW010, GW015, GW016

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Chloride	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Copper	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Nickel	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
pH	Monitor Only	SU	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Aluminum	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Barium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Boron	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month
Lead	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

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Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

Plant Site
Groundwater Monitoring – Bedrock Aquifer
GW109, GW110, GW115, GW116, GW117, GW118, GW119, GW120

3 x Yearly Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Bicarbonate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Calcium	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Chloride	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Copper	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Hardness (Ca + Mg)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Magnesium	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Manganese	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Nickel	Monitor Only	µg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
pH	Monitor Only	SU	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month
Water Levels	Monitor Only	Feet	Calendar Month Avg	Apr, Jul, Oct	Grab	1 x month

Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Aluminum	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Antimony	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Beryllium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

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Annual Monitoring						
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**
Barium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Boron	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cadmium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Chromium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Fluoride	Monitor Only	mg/L	Calendar Month Avg	Jul	Grab	1 x month
Lead	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Selenium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Thallium	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jul	Grab	1 x month

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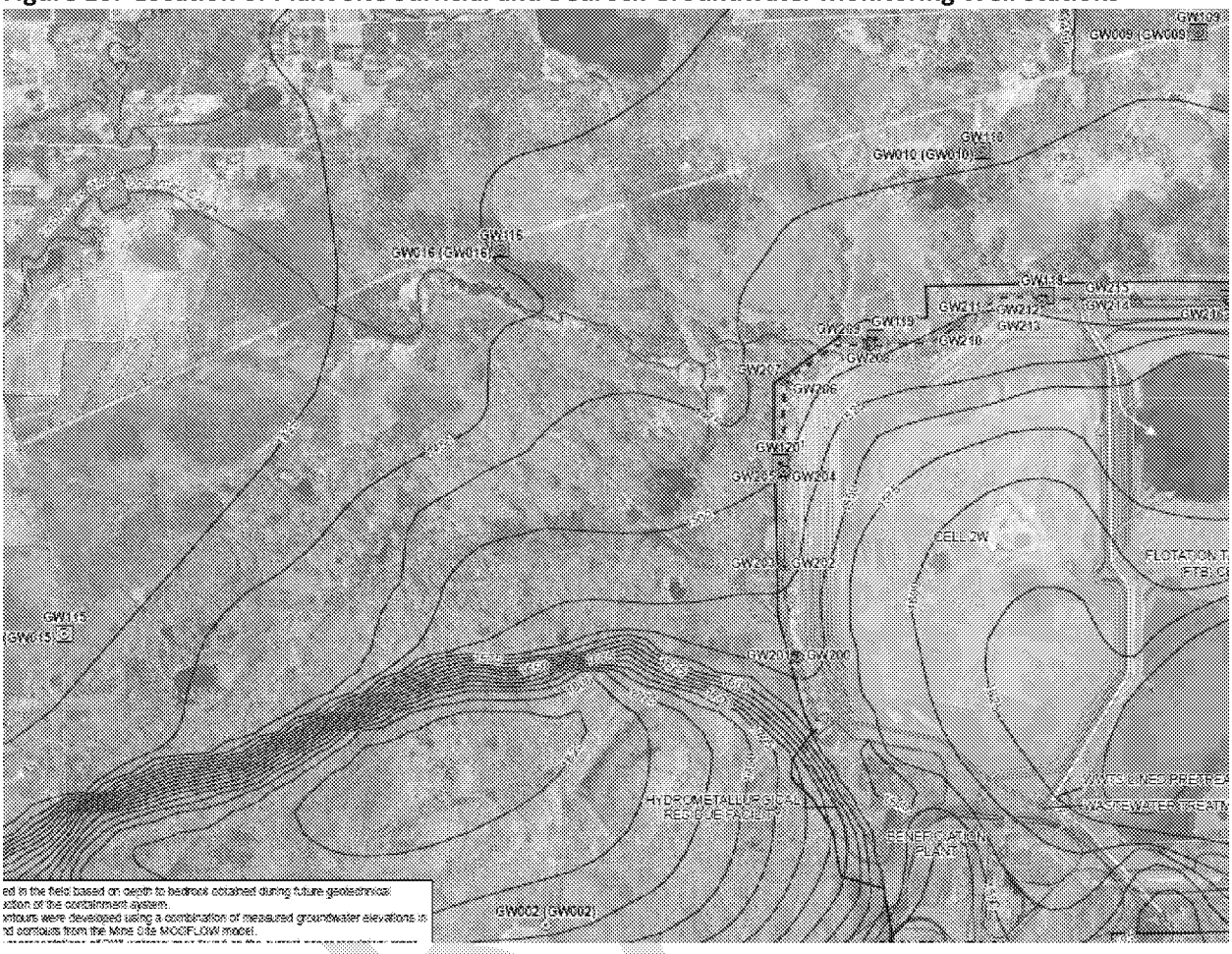
Figure 10: Location of Plant Site Surficial and Bedrock Groundwater Monitoring Well Stations



Plant Site
Surface Water Monitoring
SW003; SW005, SW006, SW007, SW008, SW020

Monthly Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Aluminum, Total	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Aluminum, Dissolved	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Arsenic	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Bicarbonates	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Chloride	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Cobalt	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Copper	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Hardness	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Lead	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Mercury	Monitor Only	ng/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Nickel	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
pH	Monitor Only	SU	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Specific Conductance	Monitor Only	umh/cm	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Sulfate	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Total Dissolved Solids (TDS)	Monitor Only	mg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Zinc	Monitor Only	µg/L	Calendar Month Avg	Jan – Dec	Grab	1 x month	
Flow	Monitor Only	mgd	Calendar Month Avg	Jan – Dec	Grab	1 x month	

Annual Monitoring							
Parameter	**Limit**	**Units**	**Limit Type**	**Effective Period**	**Sample Type**	**Frequency**	**Notes**
Antimony	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Cadmium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Chromium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Selenium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	
Thallium	Monitor Only	µg/L	Calendar Month Avg	May, Sep	Grab	1 x month	

EPA-R5-2019-002881_0000567

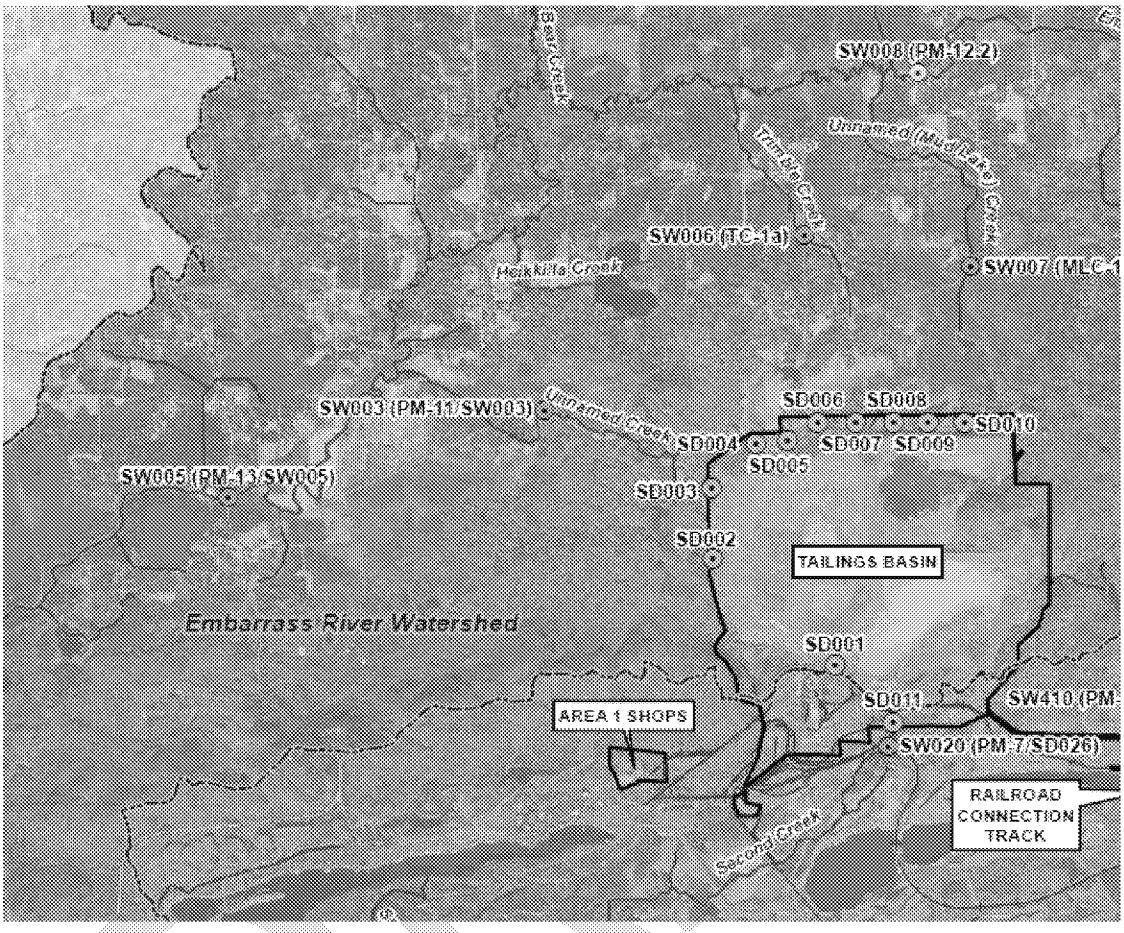



Figure 11: Location of Plant Site Surface Water Monitoring Stations