### GROUNDWATER- AND SURFACE-WATER MONITORING PLAN

THIS PLAN IS DESIGNED TO MONITOR THE IMPACT OF THE MINING ACTIVITIES ON WATER LEVELS AND WATER QUALITY IN THE VICINITY OF THE MINE (DURING MINING AND POST-MINING), INCLUDING UPGRADIENT CHANGES THAT COULD POTENTIALLY IMPACT THE OKEFENOKEE NATIONAL

# LOCATION OF MONITORING STATIONS

# 1.1 PIEZOMETERS

1.1.1 EXISTING PIEZOMETERS

SIXTY-NINE (69) PIEZOMETERS ARE CURRENTLY INSTALLED WITHIN THE MINE AND SURROUNDING TPM OWNED PROPERTIES OUTSIDE THE MINE FOOTPRINT. THE LOCATIONS ARE SHOWN ON SHEET 12. TWIN PINES MINERALS, LLC (TPM) NO LONGER HAS ACCESS TO THE TIAA-OWNED PROPERTY WEST OF THE MINE.

ALL PIEZOMETERS ARE EQUIPPED WITH IN-SITU, INC. RUGGED TROLL 200 NON-VENTED DATA LOGGER/CABLE COMBINATIONS. THESE PIEZOMETERS WERE INSTALLED BETWEEN JANUARY AND MAY 2019, AND THUS HAVE BEEN RECORDING BACKGROUND

# 1.1.2 NEW PIEZOMETERS

FIFTY-ONE (51) ADDITIONAL PIEZOMETERS WILL BE INSTALLED PRIOR TO THE BEGINNING OF MINING. THE PIEZOMETERS WILL BE INSTALLED WITHIN OR ADJACENT TO THE MINE FOOTPRINT (SEE SHEET 12 FOR THE LOCATIONS OF EXISTING AND NEW PIEZOMETERS). • FORTY-FIVE (45) PIEZOMETERS IDENTIFIED WITH S/I/D/BM DESIGNATION REPRESENT A SET OF PIEZOMETERS SCREENED AT DIFFERENT INTERVALS. FOR EXAMPLE, PIEZOMETER SET MPZ-01S/I/D/BM WILL CONSIST OF FOUR PIEZOMETERS INSTALLED

ADJACENT TO ONE ANOTHER (CLUSTERED). THIRTEEN (13) "SHALLOW" PIEZOMETERS WILL BE INSTALLED TO DEPTHS OF ABOUT 20 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH MACHINE-SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 10

TO 20 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS. THIRTEEN (13) "INTERMEDIATE" PIEZOMETERS WILL BE INSTALLED TO DEPTHS OF ABOUT 35 FEET BGS AND CONSTRUCTED. WITH 10 FEET OF 0.010-INCH MACHINE-SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM

25 TO 35 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS. • THIRTEEN (13) "DEEP" PIEZOMETERS WILL BE INSTALLED TO DEPTHS OF ABOUT 50 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH MACHINE-SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 40 TO 50 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS.

• SIX (6) "BELOW MINE" PIEZOMETERS WILL BE INSTALLED TO DEPTHS OF ABOUT 80 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH MACHINE-SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 70 TO 80 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS BELOW THE

 THE REMAINING SIX (6) PIEZOMETERS WILL BE INSTALLED TO DEPTHS OF ABOUT 50 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH MACHINE-SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 10 TO 50 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER LEVELS ONLY.

# THESE 51 NEW PIEZOMETERS ARE DESIGNATED AS FOLLOWS:

TABLE 1.1.2.	PROPOSED NEV	<i>N</i> PIEZOMETER	RS		
MPZ-01S	MPZ-04S	MPZ-07	MPZ-13I	MPZ-16BM	MPZ-19I
MPZ-01I	MPZ-04I	MPZ-08	MPZ-13D	MPZ-17S	MPZ-19D
MPZ-01D	MPZ-04D	MPZ-09	MPZ-13BM	MPZ-17I	
MPZ-01BM	MPZ-05S	MPZ-10S	MPZ-14S	MPZ-17D	
MPZ-02S	MPZ-05I	MPZ-10I	MPZ-14I	MPZ-17BM	
MPZ-02I	MPZ-05D	MPZ-10D	MPZ-14D	MPZ-18S	
MPZ-02D	MPZ-05BM	MPZ-10BM	MPZ-15	MPZ-18I	
MPZ-03S	MPZ-06S	MPZ-11	MPZ-16S	MPZ-18D	
MPZ-03I	MPZ-06I	MPZ-12	MPZ-16I	MPZ-18BM	
MPZ-03D	MPZ-06D	MPZ-13S	MPZ-16D	MPZ-19S	

S=SHALLOW; I=INTERMEDIATE, D=DEEP; BM=BELOW MINE NEW PIEZOMETERS WILL BE INSTALLED APPROXIMATELY EVERY 2,000 FEET IN AN EAST-WEST DIRECTION AND EVERY 1,000 FEET IN THE NORTH-SOUTH DIRECTION. THE SPACING WILL PROVIDE FOUR ROWS OF PIEZOMETERS (APPROXIMATELY 18 SETS OF PIEZOMETERS) IN OR ADJACENT TO THE MINE FOOTPRINT, COVERING AN AREA OF ROUGHLY 582 ACRES, OR APPROXIMATELY ONE PIEZOMETER EVERY 32 ACRES. PIEZOMETERS MPZ-19S/I/D WILL BE INSTALLED DOWNGRADIENT OF THE WATER MANAGEMENT PONDS. THE APPROXIMATE LOCATIONS OF THE NEW PIEZOMETERS ARE DEPICTED ON SHEET 12, WHICH WILL BE UPDATED AFTER THE NEW PIEZOMETERS ARE INSTALLED. A GENERALIZED CROSS SECTION DEPICTING THE MINING AREA, PROPOSED PIEZOMETERS, AND THE TOP OF THE HAWTHORN GROUP IS SHOWN ON SHEET 13.

ALL PIEZOMETERS (CURRENT AND NEW) WILL BE EQUIPPED WITH IN-SITU, INC. RUGGED TROLL 200 NON-VENTED DATA LOGGER/CABLE COMBINATIONS FOR WATER-LEVEL MONITORING DURING ACTIVE MINING AND THE POST-MINING PERIODS.

### CONSTRUCTION DETAILS - NEW PIEZOMETERS

NEW PIEZOMETERS WILL BE INSTALLED USING A SONIC DRILL RIG. DURING INSTALLATION OF THE NEW PIEZOMETERS, CONTINUOUS SOIL CORES WILL BE COLLECTED AND DESCRIBED BY AN ON-SITE GEOLOGIST. BORING AND WELL CONSTRUCTION LOGS WILL BE PREPARED FOR EACH NEWLY CONSTRUCTED PIEZOMETER. EACH NEW PIEZOMETER WILL BE CONSTRUCTED USING 0.010-INCH MACHINE-SLOTTED SCREEN, 2-INCH DIAMETER, THREADED-JOINT, SCHEDULE 40 PVC. FROM THE TOP OF THE SCREEN TO APPROXIMATE LAND SURFACE WILL BE CASED WITH SOLID 2-INCH DIAMETER, SCHEDULE 40 PVC RISER. A FILTER PACK OF 20/40 GRADED FILTER SAND WILL BE PLACED AROUND AND TWO FEET ABOVE THE SCREEN. A TWO-FOOT-THICK BENTONITE PELLET SEAL WILL BE PLACED ABOVE THE TOP OF THE FILTER SAND. THE REMAINING ANNULAR SPACE ABOVE THE BENTONITE SEAL WILL BE GROUTED TO LAND SURFACE USING A CEMENT/BENTONITE GROUT. A METAL, FLUSH-MOUNT, BOLT-DOWN, PROTECTIVE COVER WILL BE INSTALLED OVER THE PIEZOMETER AT LAND SURFACE TO INCLUDE A 2-FOOT X 2-FOOT X 4-INCH-THICK CONCRETE PAD. TYPICAL PIEZOMETER CONSTRUCTION DETAILS ARE SHOWN ON SHEET 13.

SHALLOW (S) PIEZOMETERS MPZ-01S, MPZ-02S, MPZ-03S, MPZ-04S, MPZ-05S, MPZ-06S, MPZ-10S, MPZ-13S, MPZ-14S, MPZ-16S, MPZ-17S, MPZ-18S AND MPZ-19S WILL BE DRILLED TO DEPTHS OF ABOUT 20 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 10 TO 20 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS.

17I, MPZ-18I AND MPZ-19I WILL BE DRILLED TO DEPTHS OF ABOUT 35 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 25 TO 35 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS.

DEEP (D) PIEZOMETERS MPZ-01D, MPZ-02D, MPZ-03D, MPZ-04D, MPZ-05D, MPZ-06D, MPZ-10D, MPZ-13D, MPZ-14D, MPZ-16D, SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 40 TO 50 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER QUALITY AND/OR WATER LEVELS.

BELOW MINE (BM) PIEZOMETERS MPZ-01BM, MPZ-05BM, MPZ-06S, MPZ-10BM, MPZ-13BM, MPZ-16BM, AND MPZ-17BM, WILL BE DRILLED TO DEPTHS OF ABOUT 80 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 70 TO 80 FEET BGS. THESE PIEZOMETERS WILL BE USED TO MONITOR WATER OUALITY AND/OR WATER LEVELS.

NEW PIEZOMETERS MPZ-07, MPZ-08, MPZ-09, MPZ-11, MPZ-12, AND MPZ-15, LOCATED WITHIN THE MINE FOOTPRINT, WILL BE DRILLED TO DEPTHS OF ABOUT 50 FEET BGS AND CONSTRUCTED WITH 10 FEET OF 0.010-INCH SLOTTED SCREEN. THE SCREENED INTERVAL OF THESE PIEZOMETERS WILL BE FROM 10 TO 50 FEET BGS. THESE WELLS WILL BE UTILIZED FOR WATER LEVEL

EACH PIEZOMETER WILL BE DEVELOPED UNTIL THE COLUMN OF WATER IN THE WELL IS RELATIVELY FREE OF VISIBLE SEDIMENT, AND THE PH. TEMPERATURE, TURBIDITY, AND SPECIFIC CONDUCTIVITY HAVE STABILIZED, EACH PIEZOMETER WILL THEN BE FITTED WITH A RUGGED TROLL 200 NON-VENTED DATA LOGGER/CABLE COMBINATION IN ORDER TO CONTINUOUSLY MONITOR GROUNDWATER

- SEOUENCING OF ABANDONMENT AND REPLACEMENT OF PIEZOMETERS WITHIN THE MINE FOOTPRINT RELATIVE TO PROGRESSION OF MINING. ONCE INITIATED, MINING WILL ADVANCE AT AN ESTIMATED RATE OF ABOUT 100 TO 200 FEET PER DAY, AND PIEZOMETERS WITHIN THE MINE FOOTPRINT WILL PERIODICALLY BE EXCAVATED AND REINSTALLED DURING THE MINING PROGRESSION. THE GENERAL PROCEDURES FOR THE REMOVAL AND REINSTALLATION OF PIEZOMETERS ARE DISCUSSED BELOW:
  - WITHIN ONE OR TWO DAYS OF THE ADVANCING MINE FACE REACHING A PIEZOMETER, THE TRANSDUCER WILL BE REMOVED, AND THE PIEZOMETER WILL SUBSEQUENTLY BE EXCAVATED BY THE ADVANCING DRAG-LINE EXCAVATOR.
  - . WITHIN APPROXIMATELY FIVE TO SEVEN DAYS OF MINING, THE OPEN EXCAVATION PIT WILL BE BACKFILLED WITH POST-
  - WITHIN APPROXIMATELY 30 DAYS OF BACKFILLING THE EXCAVATION, A REPLACEMENT PIEZOMETER WILL BE INSTALLED NEAR THE APPROXIMATE LOCATION OF THE ABOVE-REFERENCED EXCAVATED PIEZOMETER. THE REPLACEMENT PIEZOMETER SHOULD BE INSTALLED AT A LOCATION THAT WILL NOT BE RE-EXCAVATED DURING THE NEXT ADJACENT NORTHERN DRAG
  - THE REPLACEMENT PIEZOMETERS WILL BE RESURVEYED AFTER INSTALLATION AND BEFORE WATER-LEVEL MEASUREMENTS REPLACEMENT PIEZOMETERS WILL BE DEVELOPED AND FITTED WITH THE RUGGED TROLL TRANSDUCERS THAT WERE REMOVED FROM

THESE PROCEDURES WERE DESIGNED TO ENSURE THAT A FULL COMPLEMENT OF PIEZOMETERS WILL BE MAINTAINED TO MONITOR

SIX (6) EXISTING STAFF GAUGES WILL BE USED TO MONITOR SURFACE WATER LEVELS (SEE SHEET 12): TABLE 1.2. SURFACE WATER-LEVEL MONITORING LOCATIONS

GROUNDWATER LEVEL DATA AS MINING PROGRESSES AND RECLAMATION TAKES PLACE.

THE PREVIOUS PIEZOMETERS IN ORDER TO CONTINUE MONITORING OF GROUNDWATER LEVELS.

22 2121 00111 7102 17711 211 22 122 11101111 011111 0 2007 1110110			
SG02	SG24		
SG11	SG26		
SG22	SG27		

EACH STAFF GAUGE LOCATION IS EQUIPPED WITH IN-SITU, INC. RUGGED TROLL 200 NON-VENTED DATA LOGGER/CABLE COMBINATIONS

EACH STAFF GAUGE SEGMENT MEASURES APPROXIMATELY 3.3 FEET IN LENGTH AND IS MOUNTED TO EITHER A METAL POST OR A PRESSURE-TREATED WOOD POST SO THAT THE BASE OF THE GAUGE IS POSITIONED AT GROUND SURFACE. DATA LOGGERS HAVE BEEN INSTALLED AT EACH STAFF GAUGE WITH THE TRANSDUCERS TIP POSITIONED AT THE APPROXIMATE GROUND SURFACE. EACH DATA LOGGER/CABLE COMBINATION HAS BEEN RECORDING BACKGROUND SURFACE-WATER LEVEL DATA. THESE STAFF GAUGES WILL CONTINUE TO BE USED FOR RECORDING SURFACE WATER ELEVATIONS THROUGHOUT MINING AS WELL AS DURING THE POST MINING

### WEATHER STATIONS

TPM PERSONNEL INSTALLED THREE HOBO RAIN GAUGE DATA LOGGERS AT THE SITE IN NOVEMBER 2018. THE THREE RAIN GAUGE LOCATIONS (RG01, RG02, AND RG03) WERE INSTALLED IN THE NORTHERN, CENTRAL, AND SOUTHERN PORTIONS OF THE TPM OWNED PROPERTIES (SHEET 12). THE DATA LOGGERS FOR EACH RAIN GAUGE RECORD THE ACCUMULATION OF PRECIPITATION IN UNITS OF HUNDREDTHS OF AN INCH EVERY 15-MINUTES.

### GROUNDWATER-LEVEL MONITORING AND ADAPTIVE MANAGEMENT PLAN FREQUENCY OF WATER-LEVEL MONITORING

WATER-LEVEL DATA WILL BE RECORDED USING RUGGED TROLL DATA LOGGERS. DATA LOGGERS WILL BE PROGRAMMED TO RECORD DAILY WATER-LEVEL MEASUREMENTS AT EACH OF THE 69 EXISTING (PZ) AND 51 NEW (MPZ) PIEZOMETERS WITHIN THE MINE FOOTPRINT AND ADJACENT TPM-OWNED PROPERTY (SEE TABLE 2.1 AND SHEET 12).

	TABLE 2.1. GROUNDWATER-LEVEL MONITORING LOCATIONS					
	PZ01S	PZ11	PZ20S	PZ28S	PZ46	PZ56S
	PZ01D	PZ12S	PZ20D	PZ28D	PZ47	PZ56D
	PZ02	PZ12D	PZ21	PZ38	PZ48S	PZ57S
	PZ03S	PZ13	PZ22S	PZ39S	PZ48D	PZ57D
	PZ03D	PZ14	PZ22D	PZ39D	PZ49	PZ58S
	PZ04	PZ15	PZ23	PZ40	PZ50	PZ58D
	PZ05	PZ16S	PZ24	PZ41	PZ51S	OWB1BS
	PZ06	PZ16D	PZ25S	PZ42	PZ51D	OWB1S
	PZ07	PZ17S	PZ25D	PZ43	PZ52	OWB1D
	PZ08	PZ17D	PZ26	PZ44	PZ53	
	PZ09	PZ18	PZ27S	PZ45S	PZ55S	
	PZ10	PZ19	PZ27D	PZ45D	PZ55D	
	MPZ-01S	MPZ-04S	MPZ-07	MPZ-13I	MPZ-16BM	MPZ-19I
	MPZ-01I	MPZ-04I	MPZ-08	MPZ-13D	MPZ-17S	MPZ-19D
	MPZ-01D	MPZ-04D	MPZ-09	MPZ-13BM	MPZ-17I	
	MZP-01BM	MPZ-05S	MPZ-10S	MPZ-14S	MPZ-17D	
	MPZ-02S	MPZ-05I	MPZ-10I	MPZ-14I	MZP-17BM	
	MPZ-02I	MPZ-05D	MPZ-10D	MPZ-14D	MPZ-18S	
	MPZ-02D	MZP-05BM	MPZ-10BM	MPZ-15	MPZ-18I	
	MPZ-03S	MPZ-06S	MPZ-11	MPZ-16S	MPZ-18D	
	MPZ-03I	MPZ-06I	MPZ-12	MPZ-16I	MPZ-18BM	
	MPZ-03D	MPZ-06D	MPZ-13S	MPZ-16D	MPZ-19S	
TE	ER-LEVEL MEASUREMENTS RECORDED WITH THE DATA LOGGERS WILL BE DOWNLOADED IN					

WATER-LEVEL DATA WITHIN AND ADJACENT TO THE MINE. THE FREQUENCY OF DATA DOWNLOADING MAY BE ADJUSTED (INCREASED OR DECREASED) AS NEEDED DURING THE LIFE OF THE MINE.

# FREQUENCY OF RAIN GAUGE MONITORING

DATA FROM THE THREE ON-SITE RAIN GAUGES WILL BE MANUALLY DOWNLOADED IN THE FIELD BY TPM REPRESENTATIVES OR TPM'S

FOR THE PURPOSE OF COMPARING PRE- AND POST-MINING GROUNDWATER LEVELS, SUFFICIENT TIME MUST ELAPSE AFTER THE DRAGLINE EXCAVATOR HAS PASSED TO ENSURE THE POST-MINING DATA IS NOT INFLUENCED BY THE ON-GOING MINING TO THE NORTH. TPM ESTIMATES THAT GROUNDWATER IMPACTS WILL EXTEND APPROXIMATELY 1,000 FEET FROM THE EDGE OF THE MINING PIT. THEREFORE, THE COMPARISON OF PRE- AND POST-MINING GROUNDWATER LEVELS WILL BE MADE AFTER THE DRAGLINE EXCAVATOR HAS MOVED APPROXIMATELY 1,000 FEET TO THE NORTH OF A MINED TRANSECT (SEE SHEET 12).

AFTER THE DRAGLINE EXCAVATOR HAS MOVED THE REQUIRED DISTANCE, POST-MINING GROUNDWATER-LEVEL DATA IN THE PIEZOMETERS 1,000 FEET SOUTH OF THE MOVING MINE WILL BE COMPARED TO PRE-MINING WATER-LEVEL DATA. THE POST-MINING GROUNDWATER-LEVEL DATA WILL BE USED TO CALCULATE THE DAILY GROUNDWATER DEVIATION FROM NORMAL, WHICH WILL BE ADDED TO THE HISTORICAL HYDROGRAPH DATA SHOWN ON SHEET 13. THE CRITERIA IN PART 2.4 WILL BE USED TO DETERMINE IF GROUNDWATER HAS BEEN RESTORED, OR IF ADAPTIVE MANAGEMENT IS REQUIRED.

# ACTION LEVELS FOR ADAPTIVE MANAGEMENT

POST-MINING GROUNDWATER LEVELS WILL BE CONSIDERED TO APPROXIMATE PRE-MINING LEVELS AND THE GROUNDWATER TABLE WILL BE CONSIDERED TO HAVE BEEN RESTORED IF:

- POST-MINING GROUNDWATER-LEVELS DO NOT DROP BELOW 2.7 FEET OF THE NORMAL ELEVATIONS ESTABLISHED IN THE HISTORICAL HYDROGRAPH DATA SHOWN ON SHEET 13: AND/OR
- POST-MINING GROUNDWATER LEVELS FLUCTUATE UNIFORMLY IN THE NORTH, CENTRAL AND SOUTH SECTIONS; SUPPORTING DOCUMENTATION DESCRIBING THE RATIONAL FOR RESTORATION OF PRE-MINING GROUNDWATER LEVELS AND THE 2.7

FEET GROUNDWATER ELEVATION DEVIATION BELOW NORMAL IS INCLUDED IN APPENDIX R.

### ADAPTIVE MANAGEMENT AND CONTINGENCY PLAN IF THE CONDITIONS DESCRIBED IN PART 2.4 ARE NOT ACHIEVED, TPM WILL NOTIFY THE DIRECTOR WITHIN 30 DAYS. SUCH NOTICE

WILL INCLUDE THE MONITORING DATA ALONG WITH RELEVANT INFORMATION. NO FURTHER ACTION WILL BE REQUIRED IF THE UNEXPECTED CONDITION CAN BE ATTRIBUTED TO FACTORS UNRELATED TO THE MINING

ACTIVITY. IF OTHER CAUSES FOR THE CHANGE IN WATER-LEVEL CONDITIONS CANNOT BE IDENTIFIED, HOWEVER, TPM WILL CONDUCT FURTHER INVESTIGATIONS TO DETERMINE THE SIGNIFICANCE OF THE CHANGE, POTENTIAL CAUSES, AND POTENTIAL SOLUTIONS. A CONTINGENCY PLAN WILL BE PREPARED AND SUBMITTED TO EPD FOR ITS REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.

IF GROUNDWATER LEVELS ARE BELOW NORMAL. AND IF THE CONDITION CANNOT BE EXPLAINED BY FACTORS UNRELATED TO MINING. THE PROPOSED SOLUTION MAY BE TO INCREASE THE PERCENTAGE OF BENTONITE ADDED TO THE LOW-PERMEABILITY LAYER GOING FORWARD: AND, IF NECESSARY AND APPROPRIATE, TO INJECT ADDITIONAL BENTONITE SLURRY WITHIN A DISCRETE SUBSURFACE SOIL AMENDMENT LAYER (I.E., 7 TO 10 FEET BELOW LAND SURFACE). TPM MAY ALSO PROPOSE OTHER FEASIBLE ENGINEERED SOLUTIONS.

BACKGROUND DATA AN IMPORTANT CONSIDERATION IN THE DEVELOPMENT OF THIS MONITORING PLAN IS THAT THE MINING AND BENEFICIATION FACILITIES WILL NOT USE OR ADD CONTAMINANTS WHICH COULD THEN IMPACT THE SITE GROUNDWATER AND SURFACE WATERS FROM EITHER THE MINING OR THE BENEFICIATION PROCESSES. ALSO, THE SITE WILL NOT BE SUBJECT TO ANY OF THE TRADITIONAL/TYPICAL CONTAMINANT MONITORING PROGRAMS SUCH AS RCRA. CERCLA. ETC.

EXTENSIVE SITE CHARACTERIZATION ACTIVITIES, INCLUDING GROUNDWATER AND SURFACE WATER QUALITY MONITORING HAS BEEN PERFORMED IN MARCH 2019 AND FEBRUARY, MARCH-APRIL, MAY, JULY, AUGUST, SEPTEMBER, OCTOBER 2020, JANUARY AND APRIL 2021. THIS DATA AND FUTURE WATER QUALITY MONITORING PERFORMED PRE-MINING, DURING MINING, AND POST-MINING WILL BE USED TO ASSESS WATER QUALITY IMPACTS AS A RESULT OF MINING ACTIVITIES.

# MONITORING LOCATIONS AND FREQUENCY DURING MINING

GROUNDWATER MONITORING LOCATIONS BASED ON REVIEWS OF GROUNDWATER FLOW DATA IN THE MINING AREA, THE FOLLOWING MONITORING LOCATIONS AND SAMPLING FREQUENCY WILL BE ESTABLISHED TO MONITOR GROUNDWATER QUALITY OF THE SURFICIAL AQUIFER BENEATH THE MINING AREA

TABLE 3.2-1 GROUNDWATER MONITORING STATION		SAMPLING FREQUENCY AND DURATION <sup>1</sup>		
		PRE-MINING <sup>2</sup>	DURING MINING <sup>3</sup>	POST MINING <sup>4,5</sup>
MPZ-01S/I/D/BM MPZ-02S/I/D MPZ-03S/I/D MPZ-04S/I/D MPZ-05S/I/D/BM MPZ-06S/I/D MPZ-10S/I/D/BM	MPZ-13S/I/D/BM MPZ-14S/I/D MPZ-16S/I/D/BM MPZ-17S/I/D/BM MPZ-18S/I/D MPZ-19S/I/D	MONTHYLY	QUARTERLY	SEMI-ANNUAL

BASED ON THE RESULTS OF WATER QUALITY SAMPLING AND THE PROGRESSION OF THE MINE, THE FREQUENCY OF WATER QUALITY SAMPLING AND NUMBER OF MONITORING LOCATIONS MAY PERIODICALLY BE ADJUSTED (I.E. INCREASED OR DECREASED) DURING THE LIFE OF THE MINE (I.E. IF INCREASING CONCENTRATIONS ARE OBSERVED, SAMPLING FREQUENCY MAY BE INCREASED TO BETTER DEFINE THE TREND). PRF-MINING SAMPLING PERFORMED FOR ONE YEAR PRIOR TO INITIATING MINING

QUARTERLY SAMPLING TO BEGIN FIVE WEEKS AFTER MINING IS INITIATED POST-MINING MONITORING WILL BEGIN AT THE END OF ACTIVE MINING AND CONTINUE FOR A PERIOD OF APPROXIMATELY FIVE YEARS EPD MAY REQUIRE AN EXTENSION OF THE MONITORING PLAN IF NECESSAR'

# GROUNDWATER CONSTITUENTS OF POTENTIAL CONCERN (COPC)

REVIEW OF EXISTING PRE-MINING GROUNDWATER QUALITY DATA WAS USED TO DEVELOP A CONCISE LIST OF COPCS FOR THE SITE'S MONITORING PROGRAM. THE GROUNDWATER COPCS ARE LISTED IN TABLE 3.2-2 BELOW.

TABLE 3.2-2. WATER QUALITY PARAMETERS AND COPCS TO BE MEASURED IN GROUNDWATER SAMPLES			
PARAMETER / COPC	LABORATORY METHOD		
PH	FIELD MEASURED		
SPECIFIC CONDUCTIVITY	FIELD MEASURED		
WATER TEMPERATURE	FIELD MEASURED		
OXIDATION-REDUCTION POTENTIAL (ORP)	FIELD MEASURED		
TURBIDITY	FIELD MEASURED		
ARSENIC, TOTAL AND DISSOLVED	EPA 200.8		
LEAD, TOTAL AND DISSOLVED	EPA 200.8		
GROSS ALPHA	EPA 900.0		
RADIUM-226 + RADIUM-228	EPA 904.0 & 903.1		
ALUMINUM, TOTAL AND DISSOLVED	EPA 200.8		
IRON, TOTAL AND DISSOLVED	EPA 200.8		
MANGANESE, TOTAL AND DISSOLVED	EPA 200.8		
TOTAL DISSOLVED SOLIDS (TDS)	SM2540C OR FIELD MEASURED		
ZINC, TOTAL AND DISSOLVED	EPA 200.8		

THREE EXISTING MONITORING LOCATIONS LISTED BELOW AND SHOWN ON SHEET 12 ARE PROPOSED TO MONITOR WATER QUALITY IN SURFACE WATERS WHICH MAY RECEIVE RUNOFF FROM THE MINING AREA.

TABLE 3.2-3 SURFACE WATER	SAMPLING FREQUENCY AND DURATION <sup>1</sup>			
MONITORING STATION	PRE-MINING <sup>2</sup>	DURING MINING <sup>3</sup>	POST MINING <sup>4,5</sup>	
MSW-BG04	MONTHLY	QUARTERLY	SEMI-ANNUAL	

- L. BASED ON THE RESULTS OF WATER QUALITY SAMPLING AND THE PROGRESSION OF THE MINE, THE FREQUENCY OF WATER QUALITY SAMPLING AND NUMBER OF MONITORING LOCATIONS MAY PERIODICALLY BE ADJUSTED (I.E. INCREASED OR DECREASED) DURING THE LIFE OF THE MINE (I.E. IF INCREASING CONCENTRATIONS ARE OBSERVED, SAMPLING FREQUENCY MAY BE INCREASED TO BETTER DEFINE THE TREND).
- PRE-MINING SAMPLING PERFORMED FOR ONE YEAR PRIOR TO INITIATING MINING
- POST-MINING MONITORING WILL BEGIN AT THE END OF ACTIVE MINING AND CONTINUE FOR A PERIOD OF APPROXIMATELY FIVE YEARS

REVIEW OF EXISTING PRE-MINING BACKGROUND SURFACE WATER QUALITY DATA WAS USED TO DEVELOP A CONCISE LIST OF CONSTITUENTS OF POTENTIAL CONCERN (COPCS) FOR THE SITE'S MONITORING PROGRAM. THE SURFACE WATER COPCS ARE LISTED

PARAMETER	R / COPC	LABORATORY METH
PH		FIELD MEASURED
DISSOLVED	OXYGEN (DO)	FIELD MEASURED
SPECIFIC CO	ONDUCTIVITY	FIELD MEASURED
WATER TEM	PERATURE	FIELD MEASURED
FLOW RATE		FIELD MEASURED
TURBIDITY		FIELD MEASURED
LEAD, TOTAL AND DISSOLVED		EPA 200.8
MERCURY,	TOTAL	EPA 1631E
ZINC, TOTAL	AND DISSOLVED	EPA 200.8
TOTAL HARDNESS		SM2340B
TOTAL ORGANIC CARBON (TOC)		EPA 200.7
TOTAL PHOSPHORUS		EPA 200.7
TOTAL	NITROGEN, TOTAL KJELDAHL (TKN)	EPA 351.2
NITROGEN	NITROGEN, NITRATE+NITRITE	EPA 353.2

# SAMPLE COLLECTION AND DATA ANALYSIS PROCEDURES

GROUNDWATER-SAMPLING PROCEDURES, CHAIN OF CUSTODY, FIELD PARAMETER MEASUREMENT, AND FIELD QA/QC WILL BE PERFORMED IN ACCORDANCE WITH THE REGION 4 US ENVIRONMENTAL PROTECTION AGENCY (EPA), LABORATORY SERVICES & APPLIED SCIENCE DIVISION OPERATING PROCEDURE, GROUNDWATER SAMPLING (LSASDPROC-301-R6), EFFECTIVE APRIL 22, 2023. SURFACE WATER SAMPLING PROCEDURES AND FIELD QA/QC WILL BE PERFORMED IN GENERAL ACCORDANCE WITH THE REGION 4 US ENVIRONMENTAL PROTECTION AGENCY (EPA), LABORATORY SERVICES & APPLIED SCIENCE DIVISION OPERATING PROCEDURE, SURFACE WATER SAMPLING (LSASDPROC-201-R6), EFFECTIVE APRIL 22, 2023. LOW-LEVEL MERCURY SAMPLING WILL BE PERFORMED IN ACCORDANCE WITH EPA METHOD 1669.

ANY REUSABLE SAMPLING EQUIPMENT THAT MAY CONTACT THE INTERIOR OF THE PIEZOMETER, GROUNDWATER, OR SURFACE WATER WILL BE DECONTAMINATED IN THE FIELD IMMEDIATELY PRIOR TO USE, OR IN THE OFFICE/LAB AND PROTECTED USING PLASTIC. FOR SAMPLING EVENTS REQUIRING NON-DEDICATED SAMPLING EQUIPMENT, DECONTAMINATION PROCEDURES WILL CONSIST OF RINSING THE EQUIPMENT ONCE WITH DISTILLED OR DEIONIZED WATER. BRUSHING THE EQUIPMENT WITH A SOLUTION OF DISTILLED OR DEIONIZED WATER AND A PHOSPHATE FREE LABORATORY-QUALITY DETERGENT, AND FINALLY RINSING THE EQUIPMENT WITH

# WATER-LEVEL MEASUREMENTS (PIEZOMETERS ONLY)

DISTILLED OR DEIONIZED WATER

PRIOR TO PURGING AND SAMPLING, WATER-LEVEL MEASUREMENTS WILL BE MADE AT EACH PIEZOMETER BY UTILIZING A DEDICATED OR PORTABLE ELECTRONIC WATER-LEVEL INDICATOR, TAPE, OR OTHER SUITABLE MEASURING DEVICE CAPABLE OF ACHIEVING AN ACCURACY OF 0.01 FOOT. THE DEPTH TO WATER IN EACH PIEZOMETER WILL BE MEASURED ON THE SAME DAY AND PRIOR TO PURGING THE MEASURING DEVICE WILL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND/OR DIRECTIONS MEASUREMENTS OF THE DEPTH TO WATER FROM THE TOP OF THE PIEZOMETER CASING (DESIGNATED MONITORING POINT) WILL BE TO THE NEAREST 0.01 FOOT, AND THE VALUE WILL BE RECORDED. TOTAL DEPTHS WILL ALSO BE MEASURED AT EACH PIEZOMETER

# PIFZOMETER PURGING PROCEDURES

PRIOR TO THE COLLECTION OF GROUNDWATER SAMPLES, EACH PIEZOMETER WILL BE PURGED TO ENSURE THAT FRESH AQUIFER WATER IS BEING SAMPLED. PURGING OF EACH PIEZOMETER WILL BE COMPLETED USING EITHER A PERISTALTIC OR ELECTRIC SUBMERSIBLE PUMP. DUE TO THE DEPTHS OF THE PROPOSED PIEZOMETERS AND THE HIGH GROUNDWATER TABLES AT THE SITE (LE EXCESSIVE PURGE VOLUMES), LOW-FLOW PURGING PROCEDURES MAY BE UTILIZED. DURING LOW-FLOW PURGING, THE PUMP OR TUBING INTAKE WILL BE LOCATED WITHIN THE SCREENED INTERVAL AND AT A DEPTH THAT WILL REMAIN UNDER WATER AT ALL TIMES.

- THE PUMPING RATE WILL BE SET AT A SPEED THAT PRODUCES MINIMAL AND STABLE DRAWDOWN WITHIN THE WELL,
- THE PUMPING RATE WILL BE MEASURED USING A GRADUATED CYLINDER OR GRADUATED BUCKET AND A STOP WATCH. THE GROUNDWATER LEVEL, PUMPING RATE, AND FIELD PARAMETERS (PH, WATER TEMPERATURE, SPECIFIC CONDUCTIVITY) DISSOLVED OXYGEN, OXIDATION-REDUCTION POTENTIAL, AND TURBIDITY) WILL BE MONITORED AND RECORDED EVERY 5 TO 10 MINUTES (OR AS APPROPRIATE).
- THE FIELD PARAMETERS WILL BE MEASURED USING A CALIBRATED MULTI-PARAMETER INSTRUMENT AND FLOW-THROUGH
- PURGING WILL BE CONSIDERED COMPLETE AND SAMPLING WILL BEGIN WHEN THE FIELD MEASURED PARAMETERS HAVE STABILIZED. STABILIZATION IS CONSIDERED COMPLETE WHEN THREE CONSECUTIVE READINGS ARE WITHIN THE FOLLOWING

PARAMETER	MAXIMUM VARIATION
TURBIDITY	10% FOR VALUES GREATER THAN 10 NTU
DISSOLVED OXYGEN	0.2 MG/L OR 10% SATURATION,
OXIDATION-REDUCTION POTENTIAL	20 MILLIVOLTS,
SPECIFIC CONDUCTANCE	5%,
PH	0.1 STANDARD UNIT

# SAMPLE COLLECTION AND PRESERVATION - GROUNDWATER

GROUNDWATER SAMPLING IS THE PROCESS OF OBTAINING, CONTAINERIZING, PRESERVING, AND SHIPMENT OF A GROUNDWATER SAMPLE AFTER THE PURGING PROCESS IS COMPLETE. APPROPRIATE DEVICES TO BE USED TO COLLECT GROUNDWATER SAMPLES FROM PIEZOMETERS INCLUDE: PERISTALTIC OR ELECTRIC SUBMERSIBLE PUMPS, ALTERNATIVE SAMPLING DEVICES/METHODS MAY BE UTILIZED IF THE ALTERNATIVE DEVICE/METHOD IS APPROVED FOR USE IN EPA FIELD SAMPLING GUIDANCE LITERATURE.

DURING SAMPLE COLLECTION, EACH PIEZOMETER WILL BE SAMPLED WITH EQUIPMENT AND METHODOLOGIES THAT MINIMIZE THE POTENTIAL FOR ALTERATION OR CONTAMINATION OF THE SAMPLE AND THAT ARE CAPABLE OF OBTAINING A SAMPLE REPRESENTATIVE OF THE FORMATION GROUNDWATER. CARE WILL BE TAKEN TO AVOID PLACING CLEAN SAMPLING EQUIPMENT ON THE GROUND OR ON ANY CONTAMINATED SURFACE. ADDITIONALLY, PERSONNEL WHO CONTACT SAMPLING EQUIPMENT THAT MAY CONTACT THE INTERIOR OF THE MONITORING WELL OR THE GROUNDWATER WILL WEAR NEW POWDERLESS LATEX OR NITRILE GLOVES. GLOVES WILL BE CHANGED BETWEEN SAMPLE LOCATIONS TO AVOID CROSS-CONTAMINATION.

FIELD PERSONNEL RESPONSIBLE FOR SAMPLE COLLECTION WILL RECORD, AT A MINIMUM, THE FOLLOWING:

- DATE, TIME AND TECHNICIAN'S NAME
- PIEZOMETER NUMBER AND WELL DEPTH
- WELL CASING MATERIAL AND INSIDE DIAMETER STATIC WATER LEVEL PRIOR TO PURGING
- SAMPLING EQUIPMENT USED VOLUME OF WATER PURGED PRIOR TO SAMPLING
- SAMPLE CONTAINER NUMBERS, TYPES, SIZES, AND PRESERVATIVES PH, SPECIFIC CONDUCTANCE, DISSOLVED OXYGEN, OXIDATION-REDUCTION POTENTIAL, TURBIDITY, AND TEMPERATURE OF
- COMMENTS ABOUT SAMPLE COLOR, ODOR, AND UNUSUAL CHARACTERISTICS
- COMMENTS ABOUT WEATHER CONDITIONS COMMENTS ABOUT ACCESSIBILITY AND CONDITION OF PIEZOMETER

GROUNDWATER COLLECTED FROM EACH PIEZOMETER WILL BE SLOWLY DISCHARGED INTO LABORATORY PROVIDED SAMPLE CONTAINERS OF THE APPROPRIATE SIZE AND TYPE, AND WITH THE PRESERVATIVES, IF ANY, APPROPRIATE FOR THE ANALYTICAL TESTS REQUIRED. THE SAMPLE CONTAINER WILL BE LABELED WITH THE FOLLOWING INFORMATION:

- SITE NAME SAMPLE ID
- PROJECT REFERENCE NUMBER
- COLLECTED DATE AND TIME
- ANALYSIS REQUIRED

THE LABORATORY WILL SPECIFY THE PRESERVATION METHODS BASED ON KNOWLEDGE OF METHODS AND PROCEDURES APPROVED

### SAMPLE COLLECTION AND PRESERVATION - SURFACE WATER

SURFACE WATER SAMPLES WILL BE COLLECTED DIRECTLY INTO THE LABORATORY PROVIDED CONTAINER FROM THE SURFACE WATER BODY OR BY DECANTING THE WATER SAMPLE FROM A COLLECTION DEVICE SUCH AS AN UNPRESERVED LABORATORY PROVIDED PLASTIC CONTAINER. THE FIELD SAMPLER WILL FACE UPSTREAM IF THERE IS A CURRENT AND COLLECT THE SAMPLE WITHOUT DISTURBING THE BOTTOM SEDIMENT. ALTERNATIVE SAMPLING DEVICES/METHODS MAY BE UTILIZED IF THE ALTERNATIVE DEVICE/METHOD IS APPROVED FOR USE IN EPA FIELD SAMPLING GUIDANCE LITERATURE. WATER QUALITY SAMPLES COLLECTED FOR LOW-LEVEL MERCURY ANALYSIS (EPA METHOD 1631E) WILL BE COLLECTED IN GENERAL ACCORDANCE WITH EPA METHOD 1669.

EACH SURFACE WATER SAMPLE WILL BE COLLECTED WITH EQUIPMENT AND METHODOLOGIES THAT MINIMIZE THE POTENTIAL FOR ALTERATION OR CONTAMINATION OF THE SAMPLE. CARE WILL BE TAKEN TO AVOID PLACING CLEAN SAMPLING EQUIPMENT ON THE GROUND OR ON ANY CONTAMINATED SURFACE. ADDITIONALLY, PERSONNEL WHO CONTACT SAMPLING EQUIPMENT WILL WEAR NEW POWDERLESS LATEX OR NITRILE GLOVES. GLOVES WILL BE CHANGED BETWEEN SAMPLE LOCATIONS TO AVOID CROSS-

FIELD PERSONNEL RESPONSIBLE FOR SAMPLE COLLECTION WILL RECORD, AT A MINIMUM, THE FOLLOWING:

- DATE, TIME AND TECHNICIAN'S NAME
- SAMPLE LOCATION IDENTIFIER SAMPLING EQUIPMENT USED
- SAMPLE CONTAINER NUMBERS, TYPES, SIZES, AND PRESERVATIVES

SENSITIVE TEST PROCEDURES (I.E., METHODS) APPROVED UNDER 40 CFR 136.

SAMPLING SUCH AS FIELD OR TRIP BLANKS MAY ALSO ANALYZED AS DEEMED NECESSARY

PH, SPECIFIC CONDUCTANCE, DISSOLVED OXYGEN, OXIDATION-REDUCTION POTENTIAL, AND TEMPERATURE OF WATER

TYPE, AND WITH THE PRESERVATIVES APPROPRIATE FOR THE ANALYTICAL TESTS REQUIRED. THE SAMPLE CONTAINER WILL BE

- COMMENTS ABOUT SAMPLE COLOR, ODOR, AND UNUSUAL CHARACTERISTICS
- COMMENTS ABOUT WEATHER CONDITIONS

 COMMENTS ABOUT ACCESSIBILITY AND CONDITION OF THE SAMPLE LOCATIONS SURFACE WATER SAMPLES WILL BE COLLECTED INTO LABORATORY PROVIDED SAMPLE CONTAINERS OF THE APPROPRIATE SIZE AND

- LABELED WITH THE FOLLOWING INFORMATION:
- PROJECT REFERENCE NUMBER COLLECTED DATE AND TIME
- SAMPLER'S NAME
- ANALYSIS REQUIRED

THE LABORATORY WILL SPECIFY THE PRESERVATION METHODS BASED ON KNOWLEDGE OF METHODS AND PROCEDURES APPROVED BY THE GEORGIA EPD OR EPA.

UPON COMPLETION OF SAMPLE COLLECTION AT EACH PIEZOMETER AND/OR SURFACE WATER MONITORING POINT, EACH LABORATORY PROVIDED CONTAINER WILL BE PROPERLY SEALED, LABELED AND PLACED ON ICE IN A COOLER FOR PRESERVATION AND TRANSPORT TO A GEORGIA EPD APPROVED LABORATORY FOR ANALYSIS. CHAIN OF CUSTODY FORMS WILL BE COMPLETED IN THE FIELD AT THE TIME OF SAMPLING OF EACH SAMPLE LOCATION. SAMPLES WILL BE TRANSPORTED TO THE LABORATORY VIA COURIER OR SHIPPED VIA OVERNIGHT DELIVERY USING FEDEX OR UPS DELIVERY.

### WATER QUALITY SAMPLES WILL BE ANALYZED FOR THE CONSTITUENTS SPECIFIED IN TABLES 3.2-2 AND 3.2-4. THE ANALYZED LIST MAY BE REVISED DURING THE LIFE OF THE MINE. LABORATORY ANALYSIS WILL BE CONDUCTED ACCORDING TO SUFFICIENTLY

A QUALITY-ASSURANCE AND QUALITY-CONTROL PROGRAM (QA/QC) WILL BE PART OF THE SAMPLING PROTOCOL AND A REQUIREMENT OF THE LABORATORY CHOSEN TO PROVIDE ANALYTICAL SERVICES. AT A MINIMUM, FIELD QA/QC PER SAMPLING EVENT WILL REQUIRE THE COLLECTION OF AN EQUIPMENT-RINSE BLANK IF EQUIPMENT IS FIELD CLEANED AND RE-USED ON-SITE. ADDITIONAL QA/QC

THE LABORATORY QA/QC PROGRAM WILL BE A WRITTEN PROGRAM AND WILL DESCRIBE THE ACCURACY AND COMPLETENESS OF THE ANALYSIS OF SAMPLES FOR COMPLITING AND VALIDATING TEST DATA AND FOR CHAIN-OF-CLISTODY CONTROL AND THE CONTROL AND SECURITY OF ALL DOCUMENTATION. LABORATORY QA/QC STANDARDS WILL BE INITIATED WITH THE RECEIPT OF SAMPLES AND WILL BE MAINTAINED THROUGHOUT THE RECORD-KEEPING PERIOD.

THE CHAIN-OF-CUSTODY PROGRAM WILL ALLOW TRACING THE POSSESSION AND HANDLING OF INDIVIDUAL SAMPLES FROM THE TIME

STANDARDS. THE PURPOSE OF THE TREND ANALYSIS WILL BE TO EVALUATE IF CONCENTRATIONS ARE DECLINING, REMAINING

OF FIELD COLLECTION THROUGH THE COMPLETION OF LABORATORY ANALYSIS. EVALUATION OF ANALYTICAL DATA RESULTS OF THE FIELD MEASUREMENTS AND ANALYTICAL DATA WILL BE TABULATED FOR EACH MONITORING EVENT. THE DATA WILL BE ANALYZED FOR TRENDS AND COMPARED TO APPLICABLE GROUNDWATER PROTECTION AND IN-STREAM WATER QUALITY

# 3.3.2 DATA ANALYSIS AND REPORTING

CONSTANT (NO DISCERNABLE CHANGE), OR INCREASING.

WATER CHEMISTRY DATA WILL BE REGULARLY COMPARED TO BACKGROUND CONCENTRATION AND APPLICABLE REGULATORY STANDARDS. IN ADDITION, A STATISTICAL SUMMARY OF WATER QUALITY DATA COLLECTED AT EACH SAMPLING LOCATION WILL BE PREPARED AND SELECTED DATA WILL BE PRESENTED GRAPHICALLY TO ILLUSTRATE TRENDS OR SEASONAL CHANGES IN WATER







# SHEET 11: GROUNDWATER & SURFACE WATER MONITORING PLAN (1)

TWIN PINES MINERALS, LLC SAUNDERS DEMONSTRATION MINE (ID NO. 2073)

ST. GEORGE, CHARLTON COUNTY, GEORGIA

DRAWING DATE: 11/13/2020 **REVISION DATE: 10/2/2023** TTL JOB NO.: 18-02-00804.00

DRAWN BY: DEK

CHECKED BY: SGR

APPROX. SCALE:

3516 Greensboro Ave., Tuscaloosa, AL 34501

Certificate of Authorization No.: PEF00415