NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL

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Stillwater Mine

Nye Tailings Operations, Maintenance and Surveillance (TOMS) Manual

2025/12/23

CONFIDENTIALITY STATEMENT

COMMITMENT ACCOUNTABILITY RESPECT ENABLING SAFETY

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS

CAP ..... Corrective Action Plan
CFR ..... Code of Federal Regulations
CORP ..... Consolidated Operations and Reclamation Plan
DSR ..... Dam Safety Review
EOR ..... Engineer of Record
EPP ..... Emergency Preparedness Plan
GM ..... General Manager
GPS ..... Global Positioning System
GTMS ..... Group Tailings Management System
IDF ..... Inflow Design Flood
ITRB ..... Independent Tailings Review Board
KP ..... Knight Piésold Ltd.
MCA ..... Montana Code Annotated
MDEQ ..... Montana Department of Environmental Quality
Mine Act ..... *Federal Mine Safety and Health Act*
MSHA ..... Mine Safety and Health Administration
PAR ..... Population at Risk
QPPs ..... Quantitative Performance Parameters
QRFG ..... Quick Reference Field Guide
ROD ..... Record of Decision
ROM ..... Run-of-Mine
RTFE ..... Responsible Tailings Facility Engineer
Stillwater ..... Sibanye Stillwater
SWM ..... Stillwater Mine
SWPPP ..... Storm Water Pollution Prevention Plan
TOMS ..... Tailings Operations, Maintenance and Surveillance
tpd ..... tons per day
TSF ..... Tailings Storage Facility
UAV ..... Unmanned aerial vehicles
VP ..... Vice President
VWP ..... Vibrating Wire Piezometer

1.0 INTRODUCTION

1.1 SCOPE AND OBJECTIVES OF MANUAL

Sibanye Stillwater (Stillwater) owns and operates the Stillwater Mine (SWM), a platinum group metals mine located in south central Montana. The SWM consists of an underground mine, a concentrator, two tailings storage facilities (TSFs): the Hertzler TSF and the Nye TSF, and ancillary facilities. This Tailings Operations, Maintenance and Surveillance (TOMS) Manual has been prepared for the Nye TSF and its associated facilities. A separate standalone TOMS Manual has been prepared for the Hertzler TSF (Stillwater, 2025a). This Nye TOMS Manual has been developed to conform with the requirements of the Montana State Law as defined in Montana Code Annotated (MCA) Title 82 Chapter 4 Part 3 (MCA 82-4-379) (MT, 2024).

The objectives of this TOMS Manual include:

- Define the roles and responsibilities of Stillwater site personnel, third-party consultants, and government (Section 1.2)
- Define the training requirements for those involved in the operation, maintenance and surveillance of the facility (Section 1.3)
- Outline the document control and revision procedures (Section 1.4)
- Provide an overview of the key components of the facility and operating, maintenance and surveillance requirements (Sections 2 and 3)
- Define the surveillance, inspection, reporting and review requirements (Section 4)
- Present the Emergency Preparedness Plan (Section 5)

Appendix A provides a Quick Reference Field Guide (QRFG) for the operation of the Nye TSF. The QRFG includes the Quantitative Performance Parameters (QPPs) and key information for the operation, monitoring and inspection of the TSF.

Reference documents for the Nye TSF are listed in Appendix B.

Appendix C includes the inspection schedules and the inspection log templates. These templates are to be utilized for daily data collection, and for information gathered during the routine inspections.

Select photos of the Nye TSF are provided in Appendix D.

1.2 ROLES AND RESPONSIBILITIES

The following provides an overview of the responsibilities of Stillwater site personnel and third-party contractors, as well as the role of the Montana Department of Environmental Quality (MDEQ) and other government agencies.

1.2.1 STILLWATER SITE PERSONNEL

The Vice President (VP) and General Manager (GM) of Mine Operations has the ultimate responsibility for the safety of the Nye TSF. The Concentrator Manager has been designated as the Responsible Tailings Facility Engineer (RTFE) for the TSF and is the primary contact for all matters relating to the operation, maintenance and surveillance of the facility. The Concentrator Manager reports to the VP/GM of Mine Operations and is responsible for the day-to-day operations of the Nye TSF.

In addition to the Concentrator Manager, other key Stillwater personnel have roles and responsibilities relating to the operation, maintenance, and surveillance of the Nye TSF. The organization and responsibilities chart is shown on Figure 1.1. A list of these key personnel and their responsibilities are provided on Table 1.1.

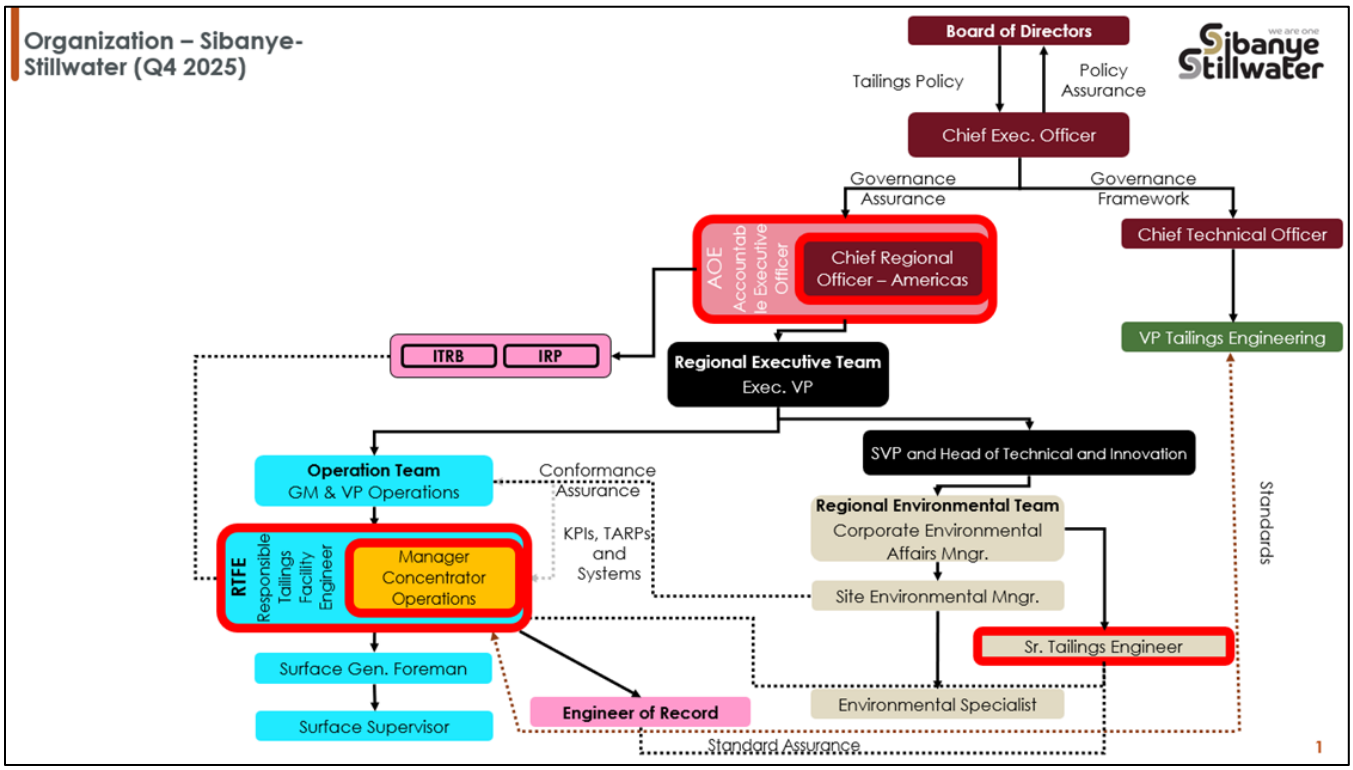


Figure 1.1 Organization and Responsibilities Chart

Table 1.1 Roles and Responsibilities

Position	Responsibilities
VP/GM of Mine Operations	• Provide oversight and leadership of all activities required for the safe and socially responsible operation of the mine site. Overall project review and implementation, and budget allocation
Corporate Environmental Affairs Manager	• Provide oversight and leadership of all activities required for the socially and environmentally responsible operation of the mine site • Communications with Government Agencies and Stakeholders • Supporting ongoing TSF projects and efforts • Corporate sustainability reporting
Concentrator Manager & Responsible Tailings Facility Engineer	• Person responsible for the safe operation of the TSF including overall operations, maintenance and surveillance and TOMS Manual updates and review • Plan, coordinate, supervise, direct and review all activities related to the TSF construction and operation, tailings delivery and water reclaim, TSF water balance, and Emergency Preparedness Plan (EPP) • Overall operations of the concentrator and supervision of concentrator personnel • Overall concentrator operations contact responsible for Tailings Delivery System and Water Reclaim System • Person responsible for inspection, maintenance, review and oversight of all areas of the tailings management and water reclaim operations, including tailings deposition, Tailings Delivery System, Water Reclaim System and Basin Underdrains • Quarterly Dam Safety Inspections for the TSF • Responsible for TSF water management • Unusual Event inspections • Implementation of EPP • Coordinate supernatant pond surveys and soundings • Responsible for task training of all tailings personnel • Accountable for the integrity of the tailings facility (Requirement 8.5) • Responsible for liaising with EOR, operations, planning, regulatory affairs, social performance and environment teams (Requirement 8.5) • Responsible for implementation of the design • Accountable for the establishment of a change management system (Requirement 6.5) • Responsible for the monitoring system and communication of the results to the EOR, including performance reviews (Requirements 7.2, 7.3) • Responsible, with the EOR, for the Construction Records Report (Requirement 6.3) • Responsible for the TOMS Manual (Requirement 6.4)
Senior Tailings Engineer	• Plan, coordinate, advise, and review all operational activities related to environmental compliance functions (quarterly inspections, leak detection, water quality, TSF water balance). Ensure Stillwater remains in compliance with all applicable permits, rules and regulations related to these areas. • Review and update TOMS Manual and EPP • Coordinate supernatant pond surveys and soundings • Quarterly TSF Inspections • Monthly TSF and instrumentation inspections • Implementation of EPP • Instrumentation monitoring and review

Position	Responsibilities
Environmental Affairs Manager	• Plan, coordinate, advise, and review all operational activities related to environmental compliance functions (quarterly inspections, leak detection, water quality, TSF water balance). Ensure Stillwater remains in compliance with all applicable permits, rules and regulations related to these areas. • Implementation of EPP • Communications with Government Agencies and Stakeholders
Concentrator General Foreman	• Monthly TSF inspections • Weekly TSF inspections • Note – as of 2024 Q4 all duties of the Concentrator Surface Supervisor are assumed by the General Foreman. Weekly and Monthly inspections are delegated to the Surface Crew.
Concentrator Operations Supervisor	• Surface crew is supervised by the Concentrator Operations Supervisor • Routine inspections of the Tailings Delivery System and Water Reclaim System during dayshift and night shift • Annual Tailings Delivery System Inspection and planned maintenance
Surface Crew	• Efficiently operate the TSF within SMC standards, occasional supervision to ensure regulatory compliance • Responsible for day shift inspections, report any Unusual observations to Surface Supervisor Maintaining tailings operations within the SMC standards and at the highest level of safety
Environmental Specialist(s)	• Quarterly TSF inspections • Unusual Event inspections • Maintaining environmental systems, wildlife protection and annual permit reporting • Implementation of EPP • Maintain TSF water balance tracking spreadsheet • Geotechnical instrument monitoring and review (survey monuments, inclinometers, piezometers) • Geotechnical instrument support, maintenance, and installation • Monitoring and sampling of groundwater monitoring wells • Organizing and reporting on all reclamation activities • Maintaining environmental systems, wildlife protection and annual permit reporting • Implementation of EPP • Monitoring and sampling of groundwater monitoring wells • Coordinating and reporting on all reclamation activities • Annual maintenance activities: Grading of embankment crest, installation and removal of tailings discharge pipelines, wildlife fence repairs, seasonal installation and removal of evaporators
Chief Engineer	• Technical support
Projects Engineer	• Coordinate TSF embankment raises • Coordinate supernatant pond surveys and soundings
Safety Manager	• Coordinate the Emergency Response Team; Emergency Action Plan; Emergency response planning; Emergency Response Binder; ensure Training and Job Hazard Analyses are completed as required

NOTE:

1. REQUIREMENTS REFER TO GISTM MONITORING AND REPORTING REQUIREMENTS.

1.2.2 Engineer of Record (EOR) and Third-Party Consultants

A number of third-party consultants are involved in the operation and inspection of the Nye TSF. The roles and responsibilities of the various third-party consultants and the Engineer of Record (EOR) are summarized in Table 1.2.

Table 1.2 EOR and Third-Party Consultants

Role and Name	Responsibilities	SMC Contact
Knight Piésold Ltd., EOR - Ken Brouwer, P.E. Deputy EOR - Craig Hall, P.Eng.	• Provide operational support to Stillwater • Preparation of construction specifications and drawings and contract documentation, prescribe and oversee QA/QC activities, provide on-site personnel for construction monitoring activities and practices • Review of instrumentation records, complete annual inspections and reporting	• Senior Tailings Engineer • Environmental Affairs Manager
Independent Review Engineer(s)	• Periodic independent reviews of the TSF including operation of the facility, engineering, and geotechnical reviews	• Environmental Affairs Manager • Senior Tailings Engineer
Hydrogeology Consultant	• Provide hydrogeological support to SMC	• Environmental Affairs Manager • Concentrator Manager • Environmental Specialist
Specialist Lining Contractor	• Qualified manufacturers and installers are used to supply and install the geosynthetics lining materials required for the TSF construction • Complete detailed inspections and make repairs to the HDPE geomembrane on a semi-annual basis	• Environmental Specialist • Concentrator Manager
Earthworks Contractor	• Local contractor with heavy equipment • Qualified to construct engineered embankments, random fills, surface preparation and assistance for liner installation, reclamation earthworks, and other earthmoving activities	• Environmental Specialist • Concentrator Manager
Reclamation Contractor	• Reclamation work	• Environmental Specialist

1.2.3 Regulatory Agencies

The jurisdiction for regulation of TSFs resides with the MDEQ. Embankments subject to permits issued by MDEQ are specifically exempt from certain provisions of the *Montana Dam Safety Act* (MCA 85-15-107) and therefore are not subject to embankment hazard potential classification within the State (MCA 85-15-209). The MDEQ is the regulatory agency responsible for ensuring the applicable legislative requirements outlined in MCA 82-4 -379, relating to this TOMS Manual, are met by SMC.

The Mine Safety and Health Administration (MSHA) is responsible for administering the provisions of the *Federal Mine Safety and Health Act* of 1977 (*Mine Act*) and enforcing compliance with mandatory safety and health standards. Title 30 Code of Federal Regulations (CFR) part 56.20010 requires that '*if failure of a water or silt retaining dam at a mine will create a hazard, it shall be of substantial construction and inspected at regular intervals*'. The *Mine Act* requires that MSHA inspect surface mines at least twice per year.

1.3 Training

Training programs are required for any personnel involved in the operation, maintenance, surveillance and inspection of the TSF. Training must be conducted by the Concentrator Manager, Senior Tailings Engineer and/or Concentrator General Foreman or a suitably qualified individual familiar with the design, operation, maintenance and inspection of all civil and mechanical works associated with the facility. Training sessions will be documented, and a record kept on file on Stillwater's electronic filing system.

The GM of SWM Operations, Environmental Affairs Manager, Concentrator Manager, Senior Tailings Engineer and Surface Supervisor must fully understand and be able to implement the TOMS Manual requirements and also ensure that all applicable mine personnel and contractors understand the requirements presented in the TOMS Manual.

Appropriate site personnel are responsible for being continually observant of the visual indications of the TSF performance. Anything observed that is outside of normal operating parameters, as outlined in this TOMS Manual, must be reported to the Concentrator Manager and/or Senior Tailings Engineer immediately.

1.4 Control and Revisions to the Manual

This TOMS Manual is a controlled document, and specific procedures have been defined for the distribution, revision, and review as outlined below.

1.4.1 Distribution

The TOMS Manual will be controlled by the Senior Tailings Engineer. The Senior Tailings Engineer will be responsible for maintaining the latest version of the TOMS Manual on Stillwater's electronic file management system. The current location is on US SharePoint US Environmental Team/ Corporate/5.0 Tailings Management System/Group Tailings Management System (GTMS) & Policy/ TOMS Manuals. The latest version of the TOMS Manual is also available on Knight Piésold Ltd.'s (KP) FULCRUM data management site. The TOMS Manual location on FULCRUM is shown in Figure 1.2.

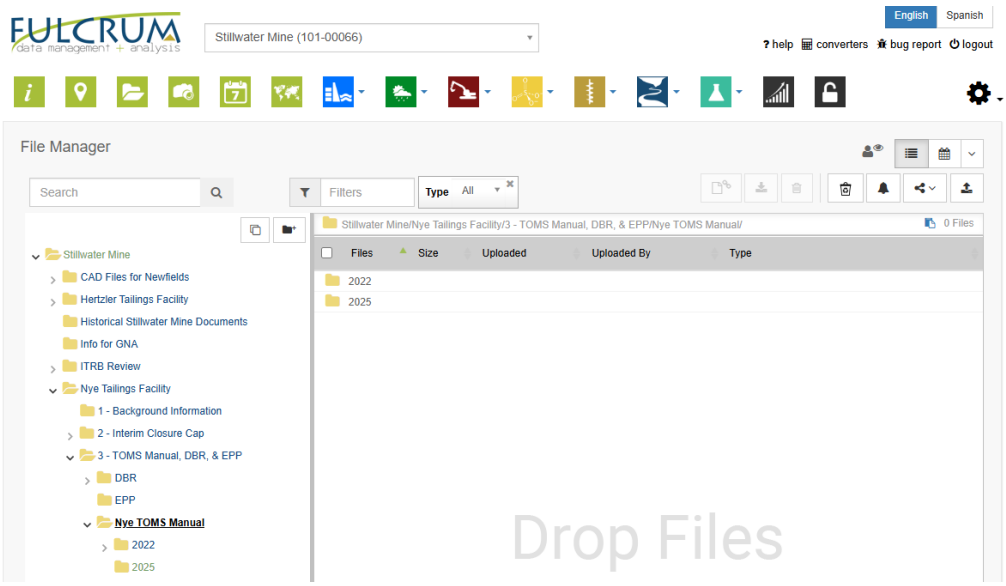


Figure 1.2 TOMS Manual Location on FULCRUM

1.4.2 Revisions

The TOMS Manual must be reviewed on an annual basis to ensure that it reflects the current operating conditions. The TOMS Manual is reviewed in conjunction with the annual inspections and third-party reviews outlined in Section 4.

The EOR shall certify any revisions made to the TOMS Manual. The Senior Tailings Engineer shall notify SMC's responsible personnel when revisions to the TOMS Manual are made.

1.5 Reference Documents

Pertinent references for the Nye TSF and associated infrastructure are included in Appendix B. Electronic copies are available from Stillwater's electronic file management system.

1.6 Regulatory Requirements

The regulatory requirements and commitments that pertain to the construction, operation, and closure of the Nye TSF are summarized in the Stillwater Mine Consolidated Operations and Reclamation Plan (CORP). The CORP includes all Environmental Impact Statements, associated Records of Decision (RODs), stipulations for the SWM and its facilities, and a list of applicable statutes and regulations.

1.7 Independent Tailings Review Board

Stillwater's Corporate Tailings Management Framework requires the appointment of an Independent Tailings Review Board (ITRB) to fulfill an oversight role for the operation of the Nye TSF.

The ITRB's overall responsibility includes completing a review of the full TSF life cycle from design though closure planning. The ITRB reports directly to the Accountable Executive. Independent Tailings Review Board (ITRB) responsibilities include the following as per the Sibanye Global Tailings Management System:

- Review Corporate Tailings Mgmt. documents (Global Tailings Management System, Terms of Ref, etc.) against local legislation, the GISTM, ICMM Guidelines, and international best practice
- Review Tailings Roles (RTFE, EOR, etc.) regarding responsibilities and competency
- Site Review
- Documents - Tailings Operations, Maintenance and Surveillance (TOMS) manual
- Compliance - with Corporate and Site specific documentation
- Review TSF Design and Engineering Documents – Design Reports, Design Criteria, Investigation Reports, etc.
- Understand the current TSF performance
- Reporting on any deviances and risks posed by the TSF to the Accountable Executive

2.0 DESCRIPTION OF TAILINGS STORAGE FACILITY

2.1 GENERAL

The following sections provide a brief summary of the design and management of the Nye TSF and associated facilities. Additional information is available in the cited references listed in Appendix B.

2.2 PROJECT DESCRIPTION

2.2.1 SITE LOCATION

The SWM and Nye TSF are located in south central Montana, approximately 5 miles south of Nye, Montana. The Hertzler TSF is located approximately 7 miles northeast of the mine site adjacent to Stillwater County Road 420. The locations of the SWM and Nye TSF are shown on Figure 2.1. The overall site plan for the Nye TSF is shown on Figure 2.2.

2.2.2 PROJECT HISTORY

Stillwater has operated the SWM, an underground platinum and palladium mine, within Stillwater County since 1986. Ore is sent to an on-site concentrator with a designed production rate of approximately 3,000 tons per day (tpd). The concentrate is shipped to SMC's Smelter and Base Metals Refinery located in Columbus, Montana for further processing. The mine has been developed and expanded since initial construction was completed in 1986. The SWM underground mine workings extend laterally approximately six miles east to west and vertically more than one mile.

The Nye TSF was part of the original 1984 operating plan. The Hertzler TSF was presented in SMC's 1996 Mine Waste Management Plan. The management of water during closure along with additional reclamation details for both tailings facilities were proposed under a revised plan. The plans were subsequently approved by the Montana Department of Environmental Quality and United States Dept. of Agriculture, Forest Service (DEQ and USFS, 2012).

The Nye TSF has been utilized for operational management of water and for periodic management of mill upset tailings inflows since commissioning the Hertzler TSF in January 2002. The Nye TSF is currently being closed in two phases, with the installation of an Interim Cap during mine operations and final capping and reclamation during final closure at the end of mine operations. Stillwater initiated construction of the Interim Cap at the south end of the TSF towards the end of 2018. The Interim Cap has been periodically advanced since 2018. Construction of the Interim Cap was previously scheduled to be completed in 2024, but with the 2025 restructuring mine plans, the Interim Cap is now planned to be completed in 2026. The Interim Cap arrangement includes a Runoff Collection Sump for water management; there is limited capacity within the collection sump for solids management during upset operating conditions. Water management practices are currently under review, with replacement infrastructure options being evaluated for water and solids management.

This TOMS Manual will be updated periodically to reflect the revised operating conditions and following substantial completion of the Interim Cap.

2.2.3 PROCESS DESCRIPTION

Ore is delivered from the underground workings to the concentrator where it is crushed and upgraded to a concentrate that is shipped offsite to SMC's smelter and base metal refinery in Columbus, Montana for further

upgrading. Milling involves a combination of crushing, grinding, flotation and filtration processes to produce the concentrate. The tailings consist of sand and silt sized rock fragments left over from the milling process. The tailings are pumped as slurry from the concentrator to the underground Sand Plant or the Paste Plant located adjacent to the Nye TSF. The tailings pumped to the Sand Plant are separated into coarse sand and slimes fractions. The coarse sand fraction is dewatered and utilized as backfill in the underground mine. The remaining tailings (predominantly slimes fraction) are pumped to the Hertzler TSF as slurry.

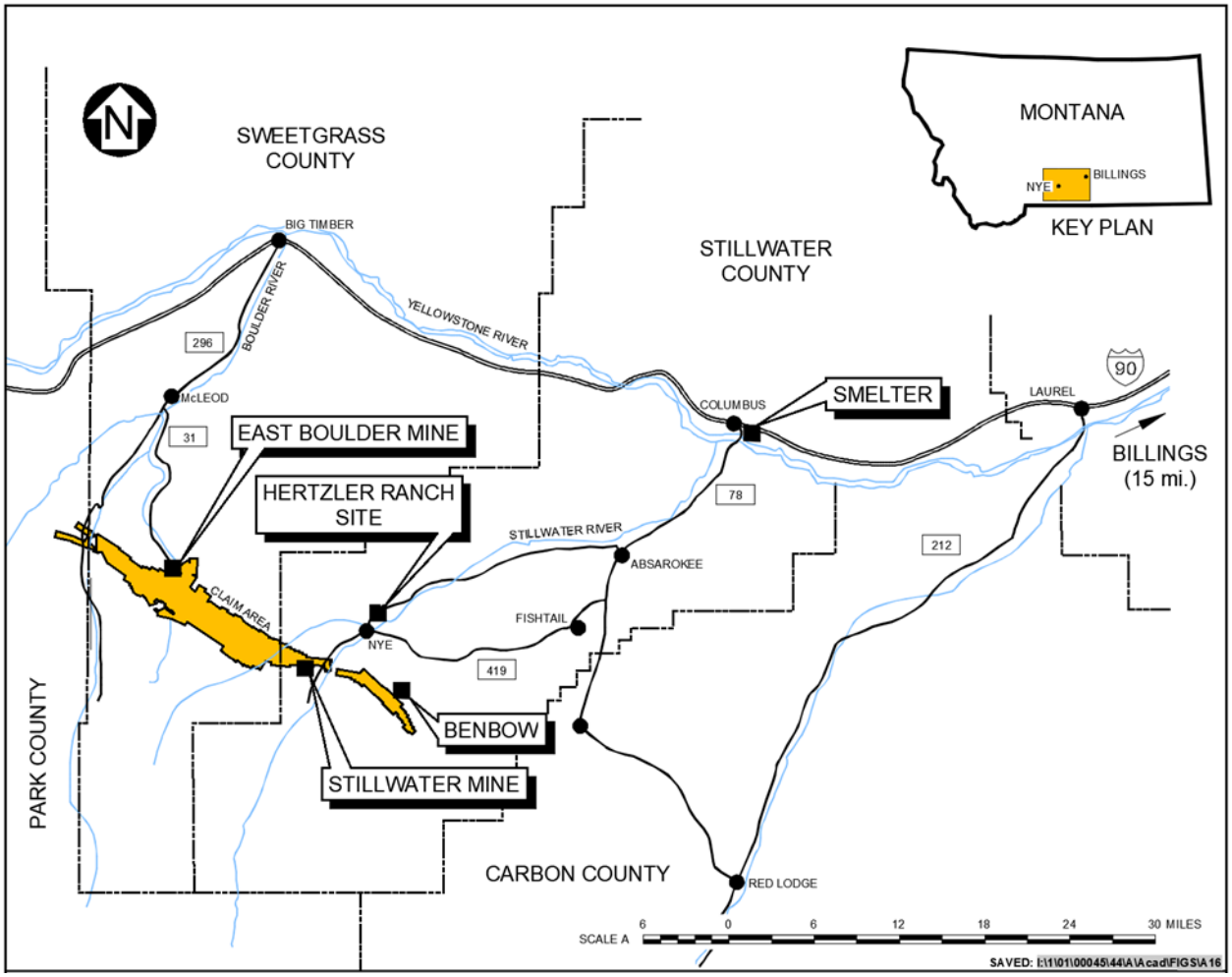
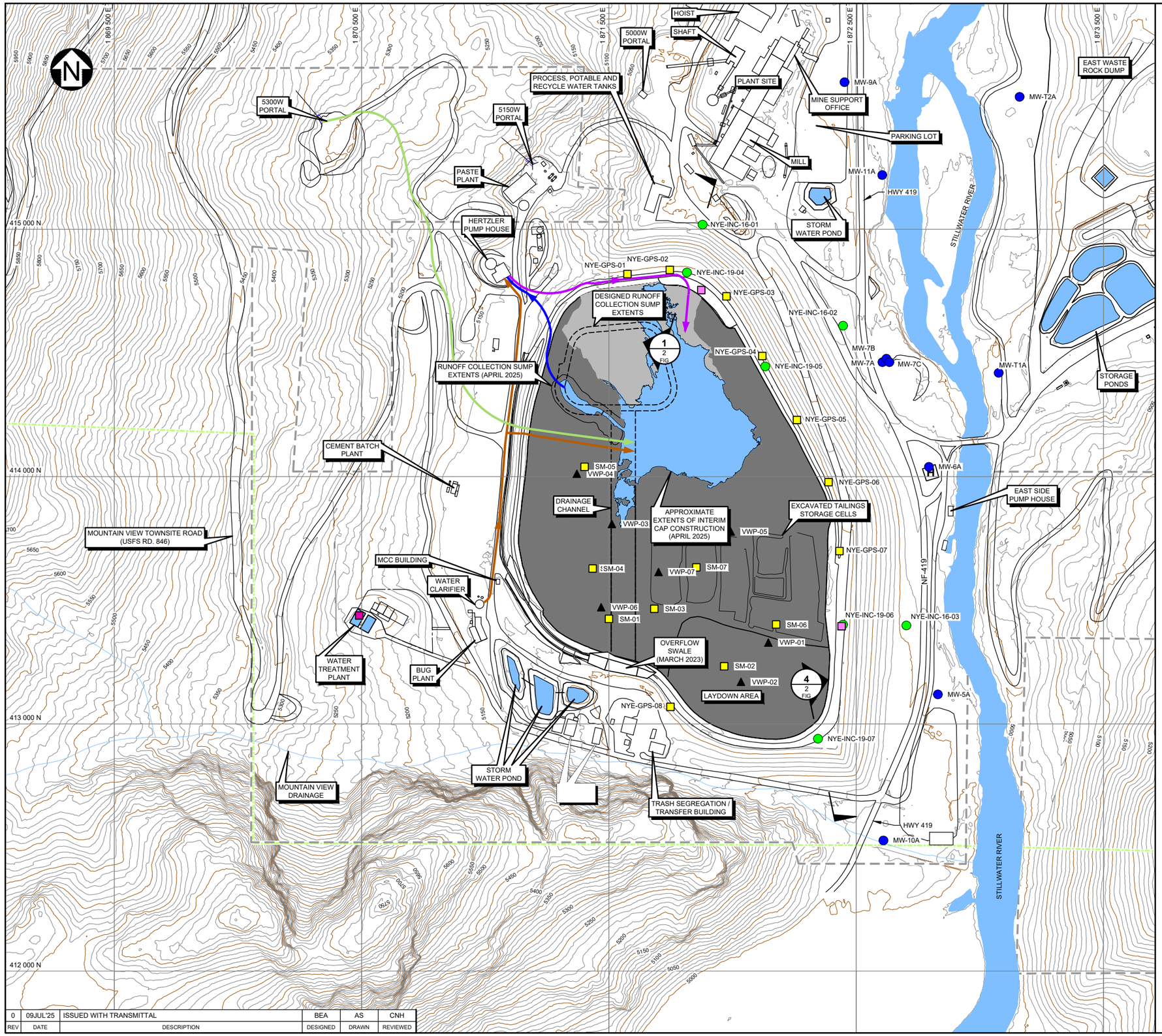


Figure 2.1 Site Location



LEGEND:

- WATER
- TAILINGS
- INTERIM CAP (EL. 5,106 ft. MIN)
- ROAD
- RIVER/STREAM/DRAINAGE
- STILLWATER MINE OPERATING PERMIT BOUNDARY
- U.S FOREST SERVICE BOUNDARY
- TAILINGS DELIVERY PIPELINE
- RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE
- BUILDING / TANK / PAD
- SLOPE INCLINOMETER LOCATION
- MONITORING WELL
- VIBRATING WIRE PIEZOMETER
- SURVEY MONUMENTS
- INSTRUMENTATION REPEATER LOCATION
- INSTRUMENTATION GATEWAY LOCATION

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 10 FEET.
3. MONITORING WELL LOCATIONS PROVIDED BY SIBANYE STILLWATER.
4. DETAILED TOPOGRAPHICAL DATA BASED ON USGS LIDAR COMBINED WITH LOCAL DRONE SURVEYS PROVIDED BY SIBANYE STILLWATER (2015-2022).
5. APRIL 2025 INTERIM CAP SURVEY IMAGERY PROVIDED BY SIBANYE STILLWATER.

SCALE A: 200 0 200 400 600 800 1000 ft

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	09JUL'25	ISSUED WITH TRANSMITTAL	BEA	AS	CNH

SIBANYE STILLWATER

STILLWATER MINE

NYE TSF
GENERAL ARRANGEMENT

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB101-66/49	NB25-00041

FIGURE 2.2 REV 0

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2.2.4 Tailings Management

Historically, flotation tailings were pumped from the concentrator to the underground Sand Plant where they were separated by cyclones into a coarse fraction (sand) and a fine fraction (slimes). The sand material was used underground as backfill and the slimes were pumped to the Nye TSF for disposal. At times, the entire bulk tailings stream reported to the Nye TSF.

In early 1999 Stillwater commissioned a paste tailings mine backfill system, however, the current operations primarily utilizes the underground Sand Plant for mine backfilling. The tailings slimes are pumped to the Hertzler TSF.

2.3 Design Basis and Operating Criteria

2.3.1 Overview

The principal objectives for the design and operation of the Nye TSF have always been to safely and securely manage tailings materials and to ensure complete protection of the regional groundwater and surface water flows (both during operations and in the long term) and to achieve effective reclamation at mine closure. The principal design features included the following:

- Permanent, secure and total confinement of all solid waste materials within an engineered TSF
- Control, collection and removal of free-draining liquids from the tailings during operations and to the maximum practical extent, the prevention of uncontrolled leakage from the TSF
- The inclusion of monitoring features for all aspects of the TSF to ensure performance goals are achieved

The design basis and operating parameters for the Nye TSF and associated facilities are provided in detail within the various design and construction reports listed in Appendix B. The main components of the Nye TSF include the tailings embankment, tailings basin which includes a geosynthetic lining system, tailings delivery system, and water reclaim system. The TSF design is summarized in the Design Basis Report (KP, 2023). The key design and operating parameters are provided in Table 2.1. The TSF components are briefly described below.

2.3.2 Tailings Embankment

The tailings embankment was constructed with a finer upstream zone and coarser downstream zone. The upstream zone was constructed with sandy gravel excavated from within the tailings basin. The downstream zone was constructed of Run-of-Mine (ROM) rockfill. The confining embankment defines the north, east and south sides of the TSF and ties into the hillside on the west side of the TSF. The embankment was constructed in four stages using the downstream construction method.

The embankment crest was constructed to El. 5,111 ft. The downstream slope ranges from approximately 1.7H:1V to 2.0H:1V and will be flattened to 2.0H:1V at closure. The upstream slopes ranged from 2.0H:1V to 3.0H:1V, and have since been covered by deposited tailings and the rockfill materials used to construct the uppermost Interim Cap layer.

2.3.3 Tailings Basin

The tailings basin was lined with a 100 mil HDPE geomembrane to minimize seepage from the tailings basin. The geomembrane is installed over a 12 oz./yd^2 non-woven geotextile cushion layer.

The Nye tailings basin has been infilled to its ultimate design capacity of approximately 4.1 million cubic yards and is presently being capped.

TABLE 2.1

STILLWATER MINING COMPANY
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
DESIGN BASIS AND OPERATING CRITERIA

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Item		Design Criteria
1.0 General Design Criteria		
1.1	Codes and Standards	• MCA, ASTM, AASHTO, ACI, ANSI, MSHA, OSHA, UBC and related codes
1.2	Site Elevation	• Approximately 4,970 to 5,130 ft.
1.3	Meteorological Parameters	• Average Annual Precipitation = 16.8 inches (approx. 15-20% as snow)
		• Annual Evaporation = 24 inches (estimate)
		• Mean Annual Temp = 47 degrees F
		• 1 in 25 year 24-hour rainfall = 3.9 inches
		• 1 in 100 year 24-hour rainfall = 5.7 inches
		• 1 in 200 year 24-hour rainfall = 6.9 inches
		• 24-hour Probable Maximum Precipitation (PMP) = 29 in.
1.4	Hazard Classification and Design Storm	• Extreme (MCA)
		• Inflow Design Flood (IDF) = 36 in. (PMP plus 7 in. equivalent precip from snowmelt)
		• Design Storm: 72-Hour Probable Maximum Flood (PMF)
1.5	Seismic Design	• 1 in 10,000 year event (larger than Maximum Credible Earthquake)
		• Peak Ground Acceleration (PGA) for 1 in 10,000 year event = 0.34g
		• Site class B/C conditions with an earthquake magnitude of 7.5
2.0 Tailings Production		
2.1	Tailings Production Information	• Approximately 50% of the total tailings production will report to the Hertzler Tailings Impoundment. Tailings discharge to the Nye Impoundment during upset conditions.
		• Design Mill throughput = 3,000 tpd
		• Projected total Mill throughput = 2,450 tpd
2.2	Solids Content of Tailings Stream	• 35% (approximate)
2.3	Tailings Average Dry Density	• 70 pcf
2.4	Tailings Solids Specific Gravity	• 2.67
2.5	Tailings Discharge Pipework	• Tailings discharge pipeline on east side of impoundment
2.6	Water Reclaim and Discharge	• Design reclaim capacity = 1,500 gpm
		• Water discharge pipelines at the north end of the impoundment include the Process Water Overflow, Mine Water Overflow, 5150 Portal drain
		• Other discharge pipelines include overflow from the Water Treatment Plant and Paste Plant
3.0 Tailings Basin		
3.1	Storage Capacity	• 4.1 million cubic yards
3.2	Operating Pond Volume	• Minimal pond volume maintain to manage fugitive dust emissions
		• Current operating pond volume is less than 1 million gallons
3.3	Design Freeboard	• During operations the total freeboard is 6.5 ft. including the following: o Environmental Design Storm (EDS) Storage: El. 5,104.5 to 5,106.5 ft. (1 in 100 year 24-hour rainfall) o IDF Storage and Conveyance: El. 5,106.5 to 5,109 ft. o Approximately 2 ft. for wave run up protection, Containment Berm El. 5,109 to 5,111 ft.
3.4	Lining System	• The entire basin is lined with a 100-mil HDPE liner, liner installed to between El. 5,108 to 5,110 ft. An 8-inch thick layer of liner bedding materials was placed on upstream face of the embankment prior to liner installation.
		• Liner protection layer for Interim Cap increased minimum liner (GCL) elevation to 5,109 ft.
4.0 Tailings Embankment		
4.1	Embankment Crest Width	• Approximately 30 ft. (minimum)
4.2	Embankment Height (Max.)	• Design Max. 5,111; however embankment has a minimum elevation of 5,108 ft.
4.3	Embankment Slopes	• Downstream fill slope: Typical 1.7H:1V, northeast corner 1.5H:1V and 1.9H:1V for reclaimed slopes. Design 1.7H:1V during operations 2H:1V, final reclamation and closure.
		• Upstream fill slope: 2H:1V, Upstream cut slopes 2H:1V to 3H:1V
4.4	Embankment Fill Material	• Inner zone of sandy gravel borrow material and outer zone of Run-of-Mine waste rock
4.5	Stability Requirements	• The Minimum Acceptable Factors of Safety for each case considered are as follows: o Long-term (full tailings pond) 1.5 o Steady-state Seepage = 1.3 o Seismic loading (pseudo-static) 1.0

2.3.4 Interim Cap

The Interim Cap is being constructed over the tailings surface to develop a trafficable surface, consolidate the near surface tailings, provide for interim water management, and mitigate fugitive dust emissions from the tailings surface. ROM rockfill is placed to establish the Interim Cap surface between El. 5,106 ft. and El. 5,110 ft. A geosynthetic reinforcement layer was installed over the tailings surface at the south end of the TSF, to enhance trafficability over sandier tailings to facilitate subsequent placement of the ROM rockfill. A revised displacement capping methodology is utilized at the north end of TSF with ROM rockfill placed directly onto the soft tailings surface at the north end of the TSF.

Water management measures for the Interim Cap arrangement include for a Runoff Collection Sump, Drainage Channel and Overflow Swale. The rockfill lined collection sump is presently being established towards the north end of the Interim Cap with a base at ~El. 5,100 ft. The sump will be maintained at a low operating level to provide approximately 450,000 ft^3 (3.4 M gal) of surge for process water and mine water inflows during upset operating conditions (KP, 2024).

The Runoff Collection Sump operating levels include:

- Sump Base: El. 5,100 ft.
- Recommended Normal Operating Level: < El. 5,102 ft.
- Maximum Temporary Operating Level: El. 5,104 ft.
- 1 in 100 year 24-hr Storm Storage: El. 5,104 to 5,106.8 ft.
- Inflow Design Flood (IDF) Storge and Conveyance: El. 5,104 to 5,109 ft.
- Temporary Winter Operating Level for Dust Mitigation: El. 5,105.5 ft.

The 2024 Interim Cap waste rock placement procedures are provided in Appendix E. The placement procedures are reviewed and updated to accommodate observed conditions during Interim Cap construction progress.

2.3.5 Seepage Collection System

There is no separate external seepage collection system for the Nye TSF. The 100-mil HDPE geomembrane liner is the primary method for reducing seepage losses from the TSF. Monitoring wells are located downstream of the TSF which could be utilized to pump collected seepage back to the Nye TSF, if required. Additional collection wells could also be installed downgradient of the TSF.

2.3.6 Water Reclaim and Discharge

Supernatant water is recycled to the Concentrator via a floating pump/HDPE reclaim pipeline from the Runoff Collection Sump. Periodic water discharges to the Nye TSF include overflow from the water treatment system, process water overflow from the Concentrator, mine water overflow and drain water from the west side portals. The HDPE pipeline for the water treatment system is located on the west side of the impoundment. The other HDPE discharge pipelines are moved to facilitate ongoing construction of the Interim Cap and are currently situated along the northern end of the TSF.

2.4 WATER MANAGEMENT

2.4.1 GENERAL

The Nye TSF is operated as a zero discharge facility with all process water, mine water and basin runoff recycled back to the Concentrator via the reclaim system.

An Overflow Swale has been installed as part of the Interim Cap construction to convey the Inflow Design Flood (IDF) resulting from a 24-hour probable maximum precipitation event combined with snowmelt.

Runoff from the upslope surface catchment area, adjacent to the west side of the TSF, is routed around the TSF via a ditch and diversion berm.

Other surface water management measures for the facility include ditches and sedimentation basins located along the access roads in the adjacent areas.

2.4.2 WATER BALANCE

There is no specific water balance for the Nye TSF is due to the very small pond size and the sporadic nature of inflows that are currently directed into the Nye TSF. Meteoric water, process water and mine water flows that are temporarily collected within the Nye TSF are routinely transferred to the Hertzler Pumphouse and sent to the Hertzler TSF with tailings slurry. Future water balance updates for the Hertzler TSF will include for water transfer via the Nye TSF.

2.5 CLOSURE PLAN

Per the approved plan (DEQ and USFS, 2012) reclamation of disturbed areas at the Nye TSF is being carried out during operations to the maximum extent practicable. The objectives of the reclamation plan include for capping the facility to stabilize disturbed areas and prevent soil loss, minimize visual impacts, and prevent air or water pollution. Final reclamation of the Nye TSF will generally include the following:

- **Dewatering -** Supernatant ponding is routinely removed from the facility via the reclaim water system. The water is integrated with tailings slurry and transferred to the Hertzler TSF.
- **Capping -** The TSF is being capped with at least 24 inches of waste rock and/or borrow material, and ultimately will be covered with at least 8 inches of surface soil or borrow material.
- **Re-contouring -** The downstream embankment will be flattened to 2H:1V prior to surface soil placement and final reclamation.
- **Revegetation -** Revegetation measures will include seedbed preparation and seeding with approved seed mixes in the upper soil layer.

Additional information on the reclamation of the TSF is presented in the Consolidated Operations and Reclamation Plan (DEQ and USFS, 2012). The reclamation plan is structured to meet the requirements of the *Montana Metal Mine Reclamation Act*.

3.0 OPERATIONS, MAINTENANCE AND SURVEILLANCE

3.1 INTRODUCTION

The Nye TSF consists of several components and associated facilities as shown on Figure 2.2. These components and facilities must be inspected and maintained regularly to ensure that any changes to the conditions, performance, or any potentially hazardous condition can be identified and promptly addressed. Selected photographs of the facility and associated components are included in Appendix D. Inspection and surveillance schedules are provided in Appendix C1.

The Concentrator Manager is responsible for ensuring that surveillance is carried out regularly. The Concentrator General Foreman is responsible for daily management of the TSF. The day shift Concentrator Supervisor directs the Surface Crew to carry out routine activities. The roles and responsibilities for the inspections are summarized in Section 1.2 of this TOMS Manual.

Routine inspections of the Nye TSF will be completed by the Concentrator General Foreman, Environmental Specialists, Concentrator Manager, and Senior Tailings Engineer as per Table C1.1 (Appendix C).

Inspection reports should be reviewed by the Concentrator Manager and stored in the Stillwater's electronic filing system. Located on SharePoint at 'US Environmental Team - SWM - Inspections - Corporate Env.' The quarterly dam inspections shall be presented to the management team during a closeout meeting.

Additional (non-routine) inspections may be required following any Unusual event or observation (e.g., earthquake or extreme rainfall event). A summary of the recommended actions following an Unusual event are outlined in Appendix C2.

If an inspection is performed by the EOR following an Unusual event or observation, and corrective actions are identified by the EOR, the same procedural framework outlined in Section 4.1 for an annual inspection will be followed for preparing, submitting and implementing the corrective action plan and schedule.

The Concentrator Manager and the Senior Tailings Engineer must be made aware of any Unusual events or observations and must contact the EOR as required. Typical examples of Unusual events and observations to be made during such walkovers are outlined in Appendix C2.

Inspection forms are provided in Appendix C3 to help guide the observation and surveillance process. The inspection forms cover major items related to the TSF and associated facilities.

Copies of completed inspection forms, data sheets and field notes must be provided to, and kept in Stillwater's electronic filing system by the Senior Tailings Engineer. Any unusual observations must be reported to the Concentrator Manager and Senior Tailings Engineer immediately and will be responded to in accordance with the appropriate response level outlined in Section 5.3.

Additional details for each component of the facility are provided in the following sections.

The operation, maintenance and surveillance of the TSF is based on the use of current technologies. It is recognized that technology is evolving, and other technologies should be considered as part of the future monitoring for the TSF. Technologies that are currently being implemented for ongoing monitoring include:

- Unmanned aerial vehicles (UAVs or drones) are currently being used to collect high-resolution imagery on a regular basis. LiDAR or Photogrammetry surveys will also be utilized if appropriate to collect additional detailed topographic data.
- Land-based photography to document construction
- Real-time and continuous record keeping

3.2 TAILINGS EMBANKMENTS

3.2.1 OVERVIEW

The tailings embankments have been constructed of glacial materials and ROM rockfill using the downstream construction method as described in Section 2.3.2.

Eight survey monuments are installed on the North, South and East Embankment crests. Global Positioning System (GPS) monitoring units are installed on the survey monuments. The GPS monitoring units are programmed to collect approximately hourly readings. An annual survey of the embankment is completed using conventional surveying methods and/or using a drone.

Three slope inclinometers are located along the downstream toe of the east and north embankments to monitor for potential movement in the embankment foundation. Four slope inclinometers were installed in the north and east embankments in 2019 and 2020.

Vibrating wire piezometers (VWPs) were installed at the base of each slope inclinometer to monitor the phreatic surface in the embankment foundation.

Monitoring requirements for instrumentation are summarized in Section 3.7.

3.2.2 SURVEILLANCE AND MAINTENANCE

Regular surveillance of the embankments and associated structures should follow the schedule outlined in Appendix C1. Inspection forms are provided in Appendix C3. Typical observations to be made during surveillance include:

- Evidence indicating dam structure deformation (e.g. slope bulging, cracks on the crest or crest settlement)
- Evidence indicating seepage, runoff or erosion
- Possible evidence suggesting internal erosion (piping) within the embankments (wet spots, seepage, etc.)
- Other Unusual conditions in the impoundment area

The embankments and associated structures do not require regular maintenance; however, specific maintenance items may be identified because of regular observations and surveillance of the embankments. Maintenance items may include:

- Fill erosion gullies with properly compacted soil material. Seed or riprap repaired area to stabilize against future erosion.
- Maintain grass cover by spraying weeds, fertilizing and watering as needed.
- Maintain grading of the embankment crests to prevent potholes, rutting or other potential for standing water to accumulate.
- Maintain fences to provide site security and to exclude livestock from the embankments. Repair and revegetate damaged embankment surfaces.
- Perform regular inspections of the embankments and abutments to identify potential maintenance items.
- Maintain berms around the facility for wave run-up protection and worker safety.
- Maintain storm water control structures and practices.

Additional inspections are required after any Unusual event. Appendix C2 outlines observations to be documented. Appropriate repairs to the TSF will be implemented should any damage occur from an Unusual event.

3.3 Tailings Basin

3.3.1 Operational Objectives

The minimum freeboard requirement for the impoundment during operations is 4.5 ft. plus a 2 ft. berm which includes management of the IDF and a dry freeboard allowance of 2 ft. for wave run-up. The maximum operating level is El. 5,104 ft. for summer operations. The maximum temporary operating level in winter is 5,105.5 ft as required to mitigate fugitive dust emissions.

Water and solids discharge is to cease if the pond level exceeds the maximum operating level. Removal of ponded water must also commence using the water reclaim system. There are no restrictions on the rate of filling or on the rate of drawdown for the current small surface water pond with respect to dam safety.

The tailings basin is lined with a geosynthetic lining system. The previously exposed HDPE geomembrane along the upper crest area of the embankments has been covered with a geomembrane protection layer and rockfill materials as part of the Interim Cap construction. Therefore, third-party annual inspections or the exposed HDPE liner are no longer required.

3.3.2 Surveillance and Maintenance

The pond level must be below El. 5,104.5 ft. during normal operating conditions in order to manage the IDF event (KP, 2024). Unusual Condition reporting will be initiated if the pond level exceeds the maximum temporary winter (October through April) operating level at El. 5,105.5 ft.

Regular inspections of the pond level must be carried out as part of the routine inspections according to the schedule outlined in Appendix C1 and the pond elevation must be recorded on a monthly basis. Inspection forms are included in Appendix C3.

Additional pond level inspections are required after an Unusual event. The additional inspections are summarized in Appendix C2.

3.4 Interim Cap

3.4.1 Operational Objectives

An Interim Cap is being constructed over the tailings surface to elevations ranging from 5,106 ft. and El. 5,110 ft. The cap is required to develop a trafficable surface, consolidate the near surface tailings, provide for interim water management, and mitigate fugitive dust emissions from the tailings surface.

Water management measures for the Interim Cap arrangement include a Runoff Collection Sump, Drainage Channel and Overflow Swale. The sump will be maintained at a low operating level (~El. 5,102 ft.) to provide approximately 450,000 ft^3 (3.4 M gal) of surge capacity for process water and mine water inflows during upset operating conditions.

Runoff within the Nye TSF, resulting from the 1 in 100 year, 24-hr storm event, may be temporarily stored between El. 5,104 ft. and El. 5,106.8 ft. within the Runoff Collection Sump and Drainage Channel areas. The IDF can be adequately managed and conveyed from the Nye TSF via the Drainage Channel and Overflow Swale with a maximum flood water level at El. 5,109.0 ft.

Discharge into the Runoff Collection Sump must cease if the pond level exceeds El. 5,104 ft. except when temporarily required for winter dust suppression. The ponded water is routinely removed using the water reclaim system.

3.4.2 Surveillance and Maintenance

Instability along the leading edge of the Interim Cap is expected to occur during construction consists of settlement, tension cracking and/or localized sloughing. Routine inspections before, during and after rockfill placement are required to proactively monitor the construction conditions and apply changes that are necessary to mitigate potential construction hazards. Inspections that are required for the Interim Cap construction include:

- Daily inspections, by the Lead Hand Operator or Supervisor, to document construction and monitoring observations as defined in the Waste Rock Placement Plan and Procedures on Soft Tailings provided in Appendix E.
- Weekly inspections, by qualified geotechnical personnel, to confirm that material behavior is consistent with design estimates and that the Waste Rock Placement Plan and Procedures are being followed.

The Runoff Collection Sump pond level must be below El. 5,104.5 ft. during normal operating conditions. Water would be discharged from the Nye TSF under extreme conditions via the Overflow Swale once the pond level exceeds El. 5,108 ft.

Monitoring the pond level must be carried out as part of the routine inspections according to the schedule outlined in Appendix C1 and the pond elevation should be recorded on a weekly basis. Inspection forms are included in Appendix C3.

Additional inspections are required after an Unusual Event. The additional inspections are summarized in Appendix C2.

3.5 Water Reclaim and Discharge

3.5.1 Operational Objectives

Supernatant water is recycled from the Nye TSF to the Concentrator head tank for inclusion as process water. Several pipelines periodically discharge water into the TSF. The components of the water reclaim, and discharge systems are described in Section 2.3.7. The water reclaim and discharge pipelines do not require external adjustments during normal operations.

3.5.2 Surveillance and Maintenance

The water reclaim pipelines shall be inspected according to the schedule outlined in Appendix C1 and an inspection log will be completed as provided in Appendix C3. Typical items to inspect during surveillance of the pipelines include:

- Flow rates
- Locations of excessive wear of the pipeline
- Any evidence indicating leakage from the pipeline
- Monitor supernatant pond and reclaim pump elevations
- Monitor the tailings surface elevation adjacent to the reclaim pumps
- Ice buildup around the pumps and pipelines during freezing conditions

Additional inspections are required after any Unusual Event. Appendix C2 outlines additional observations that must be documented.

3.6 INSTRUMENTATION

3.6.1 OPERATIONAL OBJECTIVES

Instrumentation is installed to assist with the monitoring of the TSF in order to evaluate compliance with design objectives. The instrumentation includes the following:

- Survey Monuments located on the embankment crest to measure vertical and lateral movement of the embankment.
- Survey Monuments located on the Interim Cap to measure vertical settlement during Interim Cap construction.
- Slope Inclinometers at the downstream toe of the embankment to monitor potential movement in the foundation.
- Slope Inclinometers within the embankment crest to monitor potential movement in the embankment and foundation.
- Vibrating wire piezometers within the tailings below the Interim Cap to measure pore pressures during Interim Cap construction.
- Groundwater monitoring wells to monitor water levels and quality downstream of the TSF. Water quality is monitored and reported separately by Stillwater's Environmental Department.

The locations of the survey monuments, slope inclinometers and groundwater monitoring wells are shown on Figure 2.2.

3.6.2 SURVEILLANCE AND MAINTENANCE

Instrumentation components are regularly monitored. Instrumentation is connected to and viewable in real-time using GeoExplorer, an instrumentation monitoring software package (NavStar, 2017). The instrumentation data is collected, plotted and reported according to the schedule outlined in Appendix C1. The instrumentation data is reviewed by the EOR on a quarterly basis. The EOR must be notified of any anomalous trends or values above the specified trigger levels. Additional readings and inspections as outlined in Appendix C2 will be required after any Unusual event or observation. The survey monuments, slope inclinometers, vibrating wire piezometers locations and associated trigger levels are provided in the QRFG (Appendix A).

The instruments may require occasional maintenance which could include:

- The piezometer wires may need to be cut and re-attached if the readout box is unable to acquire data.
- Piezometer wires that are exposed may become corroded and may need to be trimmed until a fresh surface is exposed to allow readings to be taken.
- Protection of survey monuments from equipment traffic on the embankment crest and other disturbances may be required during maintenance work.
- Instrumentation must be maintained according to the manufacturer's instructions.

3.7 SURFACE WATER MANAGEMENT

3.7.1 OPERATIONAL OBJECTIVES

Surface water management for the Nye TSF includes water that is managed directly on the surface of the Nye TSF and runoff from the upstream catchment areas located to the west side of the TSF.

Meteoric water that falls directly onto the surface of the Nye TSF reports to the Runoff Collection Sump that is currently being progressively enlarged during Interim Cap construction. For storm events larger than a 1 in 1,000 year 24-hour precipitation event, a portion of the stormwater would be temporarily stored on the Nye TSF, with a portion also conveyed from the Drainage Channel to the Overflow Swale located on the South Embankment. Water discharged from the Overflow Swale will flow past the trash yard, along the south toe of the embankment, into Mountain View Creek and on to the Stillwater River.

Runoff from the upstream catchment area along the west side of the TSF is directed way from the TSF via a ditch and diversion berm. Other surface water management measures for the facility include ditches and sedimentation basins located along the access roads and adjacent areas. The ditches and sedimentation basins are inspected and maintained as part of the Storm Water Pollution Prevention Plan (SWPPP).

3.7.2 Surveillance and Maintenance

The Interim Cap arrangement, Drainage Channel, Overflow Swale and West Diversion Berm must be surveyed annually and reviewed prior to freshet to confirm that the design requirements are being met. The surveys will be reviewed by SMC and KP.

4.0 SAFETY INSPECTIONS, REPORTING AND REVIEWS

4.1 QUARTERLY AND ANNUAL INSPECTIONS

Quarterly and Annual inspections of the TSF and associated facilities are required to evaluate performance and to observe potential deficiencies in conditions, performance and/or operations. The Environmental Sustainability Manager is responsible for arranging the inspections. The level of dam safety evaluation will be based on detailed observations made by the EOR and/or Deputy EOR and on relevant information on the TSF operations collected by site personnel. Additional reviews may also be required to follow up on reports of Unusual events or observations.

The Senior Tailings Engineer, Concentrator Manager, and Environmental Specialist will accompany the EOR during the annual inspection. The EOR will evaluate the safety of the TSF and incorporate a review of the following:

- TOMS Manual
- The availability of all documents pertaining to dam safety on site
- Site surveillance practices
- Changes in relevant regulatory requirements since the last inspection

The EOR will issue an annual inspection report after completing the review. The report will include the following at a minimum:

- Conclusions on the status of the TSF
- Statement indicating completion of recommendations from previous inspections and reviews
- New recommendations if necessary

The annual inspections and reporting for the Nye TSF include the following:

- The EOR shall inspect the TSF annually during operations or as required during closure.
- The EOR prepares a report describing the scope of the inspection and recommended actions for the proper operation and maintenance of the Nye TSF.
- The EOR submits the report to Stillwater and the MDEQ and would immediately notify the MDEQ and SMC if the facility presents an imminent threat or has the potential for an imminent threat to human health or the environment.

Should the annual inspection report contain recommendations, the following actions will be taken:

- Stillwater will prepare a Corrective Action Plan (CAP) and schedule to guide the implementation of the recommendations made by the EOR.
- Stillwater will submit the CAP and schedule to the EOR.
- The EOR will review the CAP and schedule and verify that the proposed corrective actions are reasonably expected to effectively address the recommendations made in the annual report.

4.2 INDEPENDENT REVIEW

Independent reviews are required for the TSF as per Stillwater's internal corporate governance document and GISTM guidelines. Independent reviews are completed annually by Stillwater's Independent Tailings Review Board (ITRB).

A Dam Safety Review (DSR) is also completed every 5 years by a third-party as stipulated by Stillwater's corporate governance requirements. The last DSR was completed in 2020 and a DSR is currently in progress for 2025.

5.0 EMERGENCY PREPAREDNESS AND RESPONSE PLAN

5.1 GENERAL

An Emergency Preparedness Plan (EPP) (Stillwater, 2025b) has been developed to enable SMC to

- Identify emergency and hazardous conditions threatening the facility
- Expedite effective response actions to prevent failure
- Reduce loss of life, minimize property damage, and protect the environment, should failure occur

In the event that SMC is unable to comply with any of the terms and conditions of the operating permit, due to any cause, SMC will:

- Immediately notify the MDEQ of the failure to comply
- Immediately take action to stop, contain, and clean up unauthorized discharges or otherwise stop the non-compliance immediately
- Submit a detailed written report to the MDEQ within thirty (30) days (5 days for upsets and bypasses), unless requested earlier by the MDEQ. The report will contain a description of the non-compliance, including exact dates and times if the non-compliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent recurrence of the non-compliance.

5.2 DAM BREACH RUNOUT

The EPP has been developed for the scenario of a potential failure of the Nye TSF that would result in a flash flood downstream of the impoundment due to a sudden release of water and fluid tailings solids. A breach analysis was completed for the Hertzer TSF to estimate the downstream flood inundation zone. In turn, this identified the residences and roads that would be potentially at risk downstream of the TSF.

The Stillwater County Multi-Hazard Mitigation Plan (TetraTech, 2021) determined an estimated Population at Risk (PAR) of about 1,700 for a hypothetical breach of the Hertzler TSF. The potential PAR for a hypothetical breach for the Nye TSF would be less and has been estimated to be in the range of 30% (about 500 people) (KP, 2022).

The surface water reduction measures including installation of the Drainage Channel and Overflow Swale along with the ongoing Interim Cap construction are expected to result in a significant reduction in the estimated inundation extents from a hypothetical dam breach Scenario. An updated assessment of potential runout from a dam breach event after completion of the interim Cap is planned and will be utilized to inform subsequent updates to the TOMS manual.

5.3 EMERGENCY CONDITIONS

The EPP (Stillwater, 2025b) should be referred to if emergency conditions are expected or have been identified. Three levels of emergency conditions (or warning signs) can be identified with respect to the site operations. These are defined as follows:

- **Level 1 -** Conditions that represent a potential emergency are those that if sustained or allowed to progress may result in an emergency, but no emergency situation is imminent.
- **Level 2 -** An emergency condition is defined by either failure of a significant component of the TSF and/or associated facility, or a significant failure of the performance of a component of the TSF. Such failure may have already occurred or be imminent.

For each level of emergency condition, the EPP identifies subsequent response and/or corrective actions, including emergency notification contacts.

6.0 REFERENCES

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State of Montana (MT), 2024. *Montana Code Annotated (MCA) 2017*. Title 82. Minerals, Oil, and Gas. Chapter 4. Reclamation. Part 3. Metal Mine Reclamation.

TetraTech, 2021. *Multi-Hazard Mitigation Plan 2021 Update - Stillwater County, Montana and City of Columbus, Montana*. November. Helena, Montana.

7.0 CERTIFICATION

This report was prepared and reviewed by the undersigned.

We hereby certify that the following:

- This TOMS Manual is consistent with the design of the Nye TSF;
- The inspections and monitoring described in this TOMS Manual are reasonably sufficient to ensure the Nye TSF will perform as intended and will reasonably be expected to detect deviations if they occur; and
- The Emergency Preparedness Plan (EPP) describes reasonable measures that can be taken to protect human health and the environment.

Prepared:

Signed by:Zane Christopher Leonard
Signed at:2025-12-30 19:36:28 +02:00
Reason:I approve this document

Zane Leonard, P.Eng.
Senior Tailings Engineer - Sibanye Stillwater

Prepared:

Craig N. Hall, P.E.
Knight Piésold Ltd. - Managing Principal
Deputy Engineer of Record for Nye Tailings Storage Facility

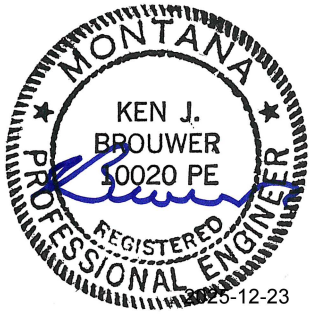
Reviewed:

Signed by:GARY ROBERT SMITH
Signed at:2025-12-30 21:27:24 +02:00
Reason:I approve this document

Gary Smith
Stillwater Mine Concentrator Manager & Responsible Tailings Facility Engineer

The Engineer of Record has reviewed this manual and hereby certifies the following:

- This TOMS Manual is consistent with the design of the Nye TSF;
- The inspections and monitoring described in this TOMS Manual are reasonably sufficient to ensure the Nye TSF will perform as intended and will reasonably be expected to detect deviations if they occur; and
- The Emergency Preparedness Plan (EPP) describes reasonable measures that can be taken to protect human health and the environment.



Reviewed: _____

Ken J. Brouwer, P.E.
Knight Piésold Ltd. – Principal Engineer
Engineer of Record for Nye Tailings Storage Facility

Appendix A
Quick Reference Field Guide

(Pages A-1 to A-10)

APPENDIX A
QUICK REFERENCE FIELD GUIDE

1.0 INTRODUCTION

This Quick Reference Field Guide (QRFG) provides a concise summary of key information for the operation, monitoring and surveillance of the Nye TSF. The Qualitative Performance Parameters (QPPs), instrumentation trigger levels and locations, and tailings and water management details for the tailings impoundment area summarized below.

2.0 QUANTITATIVE PERFORMANCE PARAMETERS

QPPs represent measurable parameters to confirm that the tailings impoundment is being operated in accordance with the design intent. The QPPs for the Nye TSF are summarized on Table A.1.

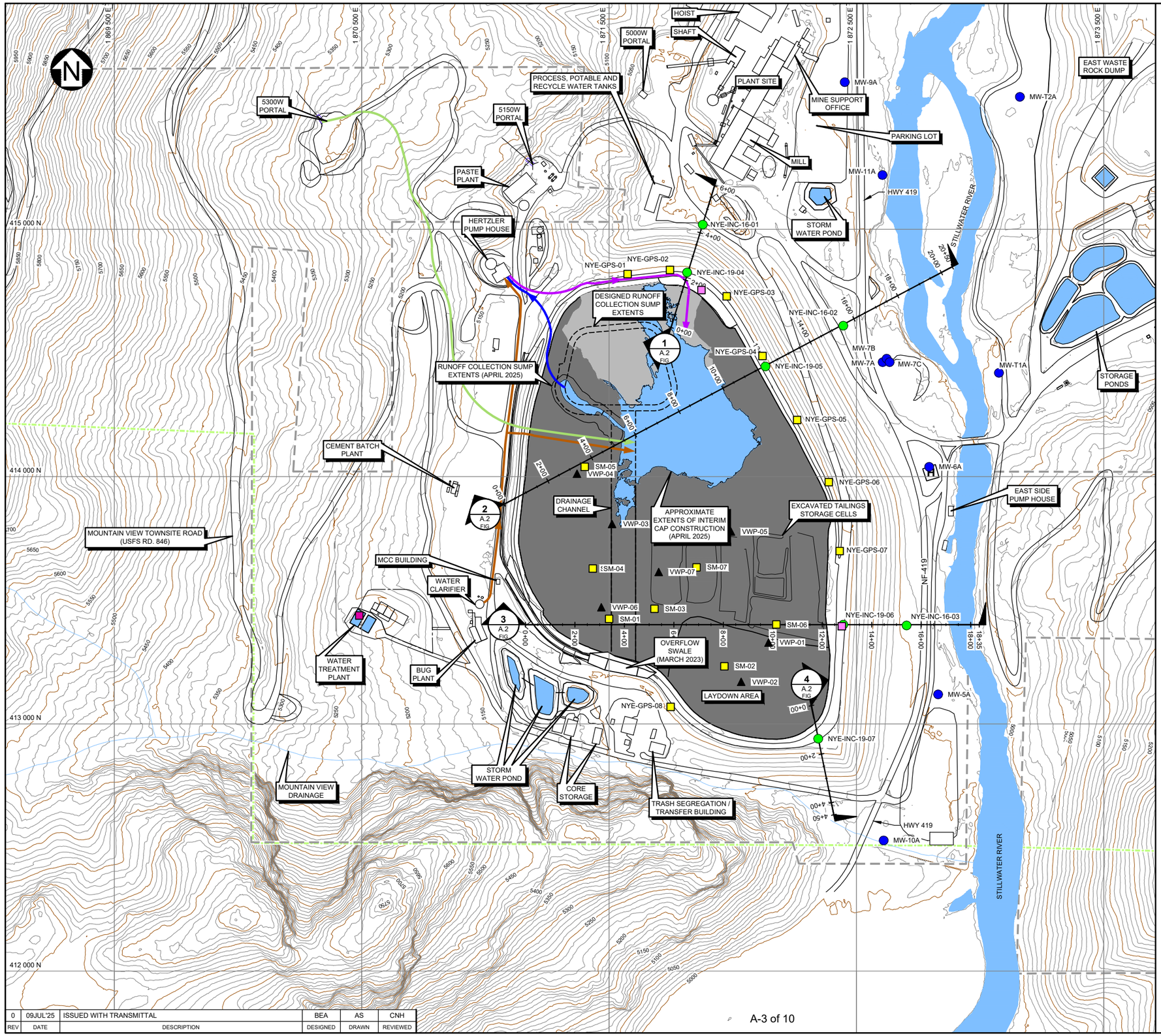
Table A.1 Nye TSF Quantitative Performance Parameters

Parameter	Value
Crest Elevation	El. 5,109 ft. to 5,111 ft.
Recommended Normal Operating Level to Maintain Surge Capacity	< El. 5,102 ft.
Maximum Temporary Operating Level to Manage IDF	El. 5,104 ft.
Temporary Winter Operating Level for Dust Mitigation	El. 5,105.5 ft.
Crest Width	30 ft.
Embankment Slope Angle	Upstream: 2H:1V to 3H:1V Downstream: 1.7H to 2H:1V
Operating Pond	< 0.5 M gal

3.0 INSTRUMENTATION

Instrumentation has been installed in the Nye TSF to monitor the performance of the embankment. The embankment survey monuments, embankment slope inclinometers and select vibrating wire piezometers (VWPs) are designated as QPPs for monitoring the performance of the Tailings Impoundment. The QPPs specify a displacement trigger level for the survey monuments and slope inclinometers and a piezometric trigger elevation for the piezometers. If trigger levels for the survey monuments, slope inclinometers and piezometers are reached, appropriate notifications are provided, and Unusual Occurrence monitoring and reporting is triggered. The instrumentation locations for the tailings impoundment are shown in Figure A.1. The slope inclinometer sections are illustrated on Figure A.2. Instrumentation trigger levels are summarized on Tables A.2 to A.5.

If an instrumentation trigger level is exceeded, inspections of the embankment crest and slopes are required to be completed to determine if indications of displacement such as cracking, sloughing, slumping or seepage are present. If no indications of displacement or adverse operating conditions are observed, the inspection observations should be documented, and the instrumentation should continue to be monitored. If indications of displacement or adverse operating conditions are observed, refer to the Emergency Preparedness Plan (EPP) (Stillwater, 2025b) and contact the Engineer of Record (EOR).



LEGEND:

- WATER
- TAILINGS
- INTERIM CAP (EL. 5,106 ft. MIN)
- ROAD
- RIVER/STREAM/DRAINAGE
- STILLWATER MINE OPERATING PERMIT BOUNDARY
- U.S FOREST SERVICE BOUNDARY
- TAILINGS DELIVERY PIPELINE
- RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE
- BUILDING / TANK / PAD
- SLOPE INCLINOMETER LOCATION
- MONITORING WELL
- VIBRATING WIRE PIEZOMETER
- SURVEY MONUMENTS
- INSTRUMENTATION REPEATER LOCATION
- INSTRUMENTATION GATEWAY LOCATION

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 10 FEET.
3. MONITORING WELL LOCATIONS PROVIDED BY SIBANYE STILLWATER.
4. DETAILED TOPOGRAPHICAL DATA BASED ON USGS LIDAR COMBINED WITH LOCAL DRONE SURVEYS PROVIDED BY SIBANYE STILLWATER (2015-2022).
5. APRIL 2025 INTERIM CAP SURVEY IMAGERY PROVIDED BY SIBANYE STILLWATER.

SCALE A: 200 0 200 400 600 800 1000 ft

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	09JUL'25	ISSUED WITH TRANSMITTAL	BEA	AS	CNH

SIBANYE STILLWATER

STILLWATER MINE

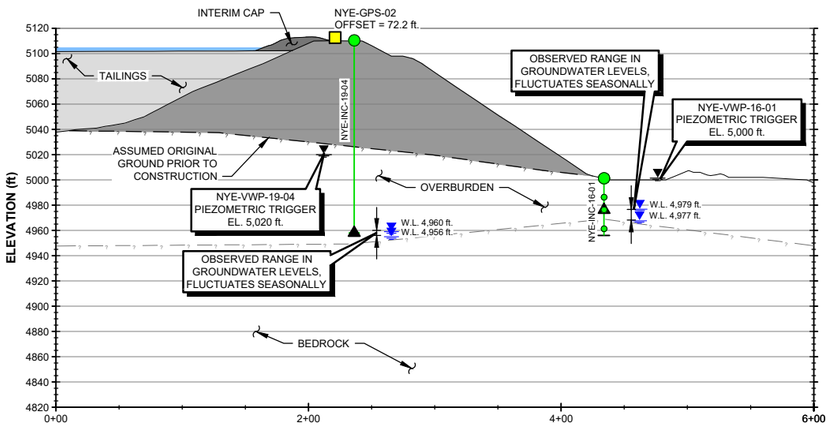
NYE TSF
PIPEWORK AND INSTRUMENTATION LOCATIONS

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB101-66/49	NB25-00041

FIGURE A.1 REV 0

SAVED: I:\101\00066\49\Acad\FIGS\B05 R0, 7/9/2025 8:30:50 AM, ASIMPSON PRINTED: 7/9/2025 8:33:50 AM, A.1, ASIMPSON ACAD VERSION: 25.0S (LMS TECH)

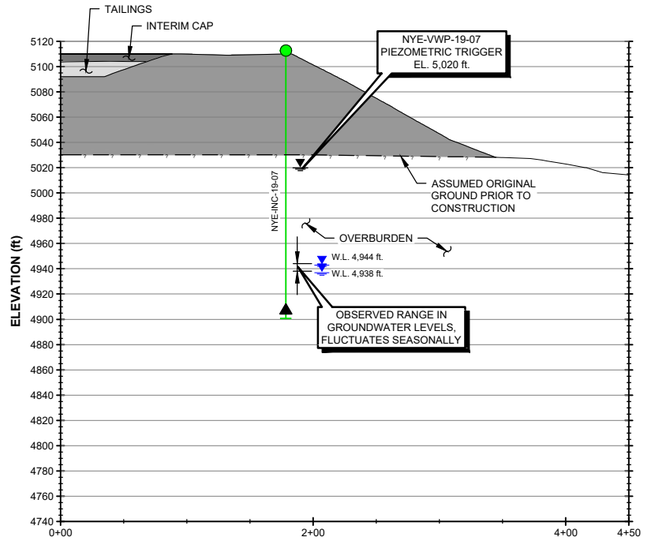


1 A.1 FIG.

SECTION - NORTH EMBANKMENT

NYE-INC-19-04, NYE-INC-16-01

SCALE A

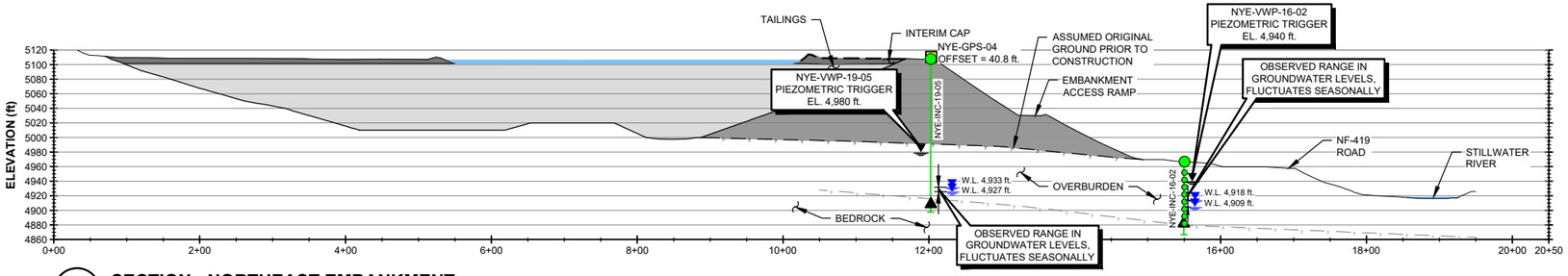


4 A.1 FIG.

SECTION - SOUTHEAST EMBANKMENT CORNER

NYE-INC-19-07

SCALE A

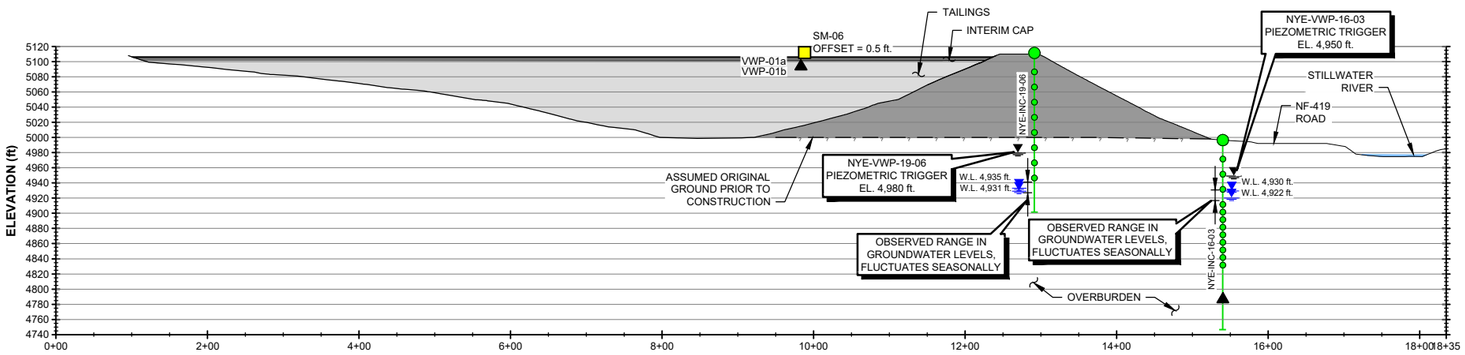


2 A.1 FIG.

SECTION - NORTHEAST EMBANKMENT

NYE-INC-19-05, NYE-INC-16-02

SCALE B



3 A.1 FIG.

SECTION - EAST EMBANKMENT

NYE-INC-19-06, NYE-INC-16-03

SCALE B

LEGEND:

- TAILINGS
- EMBANKMENT FILL
- CLOSURE CAP (EL. 5,106 ft. MIN)
- EXISTING GROUND SURFACE
- ASSUMED ORIGINAL GROUND PRIOR TO CONSTRUCTION
- INFERRED BEDROCK (APPROXIMATE ONLY)
- SLOPE INCLINOMETER LOCATION
- VIBRATING WIRE PIEZOMETER LOCATION
- SURVEY MONUMENTS

NOTES:

1. DIMENSIONS AND ELEVATIONS ARE IN FEET, UNLESS NOTED OTHERWISE.

SCALE A: 50 0 50 100 150 200 250 300 ft

SCALE B: 100 0 100 200 300 400 500 ft

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	09JUL'25	ISSUED WITH TRANSMITTAL	BEA	AS	CNH

SIBANYE STILLWATER

STILLWATER MINE

NYE TSF
SLOPE INCLINOMETER SECTIONS

Knight Piésold CONSULTING

P/A NO.	REF NO.
NB101-66/49	NB25-00041

FIGURE A.2 REV 0

Table A.2 Survey Monument Trigger Levels

Survey Monuments	Standard Operations	Orange Trigger Level	Red Trigger Level
Embankment Survey Monuments			
NYE-GPS-01	24-hour average displacement (ΔEl, ΔN, ΔE) < 0.7 in. (25 mm) and Three consecutive 3D displacement readings < 2 in. (50 mm)	24-hour average displacement (ΔEl, ΔN, ΔE) > 0.7 in. (25 mm) or Three consecutive 3D displacement readings > 2 in. (50 mm)	N/A
NYE-GPS-02			
NYE-GPS-03			
NYE-GPS-04			
NYE-GPS-05			
NYE-GPS-06			
NYE-GPS-07			
NYE-GPS-08			
Monitoring and Reporting Requirements	Regular Instrumentation Monitoring and Reporting	Increase Monitoring Frequency, Inspect Survey Monument and Embankment and Complete Unusual Condition Report	N/A
Responsible Person	Action: Senior Tailings Engineer	Action: Senior Tailings Engineer, EOR Informed: RTFE	Action: Senior Tailings Engineer, EOR, RTFE Informed: General Manager and Environmental Manager
Interim Cap Survey Monuments			
SM-01	No trigger level – Monitoring for Interim Cap settlement with expected tailings consolidation		
SM-02			
SM-03			
SM-04			
SM-05			
SM-06			
SM-07			

Table A.3 IPI Slope Inclinometer Trigger Levels

Embankment Slope Inclinometers	Standard Operations	Orange Trigger Level > 0.4 in. (10 mm) [1]	Red Trigger Level > 1.0 in. (25 mm) [1]
NYE-IPI-16-01-01	<0.188 Degrees Displacement	>0.188 Degrees Displacement	>0.47 Degrees Displacement
NYE-IPI-16-01-02			
NYE-IPI-16-01-03			
NYE-IPI-16-02-01	<0.188 Degrees Displacement	>0.188 Degrees Displacement	>0.47 Degrees Displacement
NYE-IPI-16-02-02			
NYE-IPI-16-02-03			
NYE-IPI-16-02-04			
NYE-IPI-16-02-05			
NYE-IPI-16-02-06			
NYE-IPI-16-02-07			
NYE-IPI-16-02-08			
NYE-IPI-16-03-01	<0.094 Degrees Displacement	>0.094 Degrees Displacement	>0.235 Degrees Displacement
NYE-IPI-16-03-02			
NYE-IPI-16-03-03			
NYE-IPI-16-03-04			
NYE-IPI-16-03-05	<0.188 Degrees Displacement	>0.188 Degrees Displacement	>0.47 Degrees Displacement
NYE-IPI-16-03-06			
NYE-IPI-16-03-07	<0.094 Degrees Displacement	>0.094 Degrees Displacement	>0.235 Degrees Displacement
NYE-IPI-16-03-08	<0.188 Degrees Displacement	>0.188 Degrees Displacement	>0.47 Degrees Displacement
NYE-IPI-16-03-09			
NYE-IPI-16-03-10			
NYE-IPI-16-03-11			
NYE-IPI-16-03-12	<0.094 Degrees Displacement	>0.094 Degrees Displacement	>0.235 Degrees Displacement

Embankment Slope Inclinometers	Standard Operations	Orange Trigger Level > 0.4 in. (10 mm) [1]	Red Trigger Level > 1.0 in. (25 mm) [1]
NYE-IPI-19-06-01	<0.094 Degrees Displacement	>0.094 Degrees Displacement	>0.235 Degrees Displacement
NYE-IPI-19-06-02			
NYE-IPI-19-06-03			
NYE-IPI-19-06-04			
NYE-IPI-19-06-05			
NYE-IPI-19-06-06			
NYE-IPI-19-06-07			
NYE-IPI-19-06-08			
NYE-IPI-19-06-09			
Monitoring and Reporting Requirements	Regular Instrumentation Monitoring and Reporting	Level 1 exceedances require daily review of inclinometer readings to be implemented and contingency or remedial measures to be developed if trigger levels continue to be exceeded	Level 2 exceedances require an Unusual Condition investigation and action plan and completion of downhole manual survey
Responsible Person	Action: Senior Tailings Engineer	Action: Senior Tailings Engineer, EOR Informed: RTFE	Action: Senior Tailings Engineer, EOR, RTFE Informed: General Manager and Environmental Manager

NOTE:

1. TRIGGER LEVELS WERE CONVERTED TO DEGREES OF DISPLACEMENT FOR USE IN SIBANYE STILLWATER'S MONITORING SYSTEM, GEOEXPLORER. DEGREES OF DISPLACEMENT ARE CALCULATED BASED ON 10 OR 20 FT. TILTMETER SPACING.

Table A.4 Manual Survey Slope Inclinometer Trigger Levels

Embankment Slope Inclinometers	Standard Operations	Orange Trigger Level > 0.4 in.	Red Trigger Level > 1.0 in.
NYE-IPI-19-04	<0.4 inch.	> 0.4 inch.	> 1 inch.
NYE-IPI-19-05			
NYE-IPI-19-07			
Monitoring and Reporting Requirements	Regular Instrumentation Monitoring and Reporting	Level 1 exceedances require increase of inclinometer readings to be implemented and contingency or remedial measures to be developed if trigger levels continue to be exceeded	Level 2 exceedances require a completion of downhole camera inspection of inclinometer casing
Responsible Person	Action: Senior Tailings Engineer	Action: Senior Tailings Engineer, EOR Informed: RTFE	Action: Senior Tailings Engineer, EOR, RTFE Informed: General Manager and Environmental Manager

Table A.5 Vibrating Wire Piezometers Trigger Levels

Piezometers	Standard Operations	Orange Trigger Level	Red Trigger Level
Embankment Slope Inclinometer VWPs [1]			
NYE-VWP-16-01	< 5,000 ft.	> 5,000 ft.	N/A
NYE-VWP-16-02	< 4,940 ft.	> 4,940 ft.	
NYE-VWP-16-03	< 4,950 ft.	> 4,950 ft.	
NYE-VWP-19-04	< 5,020 ft.	> 5,020 ft.	
NYE-VWP-19-05	< 4,980 ft.	> 4,980 ft.	
NYE-VWP-19-06	< 4,980 ft.	> 4,980 ft.	
NYE-VWP-19-07	< 5,020 ft.	> 5,020 ft.	

Piezometers	Standard Operations	Orange Trigger Level	Red Trigger Level
Monitoring and Reporting Requirements	Regular Instrumentation Monitoring and Reporting	Increase Monitoring Frequency, Review Piezometer Data with precipitation and flow monitoring records to determine reason for exceedance and Complete Unusual Condition Report	N/A
Responsible Person	Action: Senior Tailings Engineer	Action: Senior Tailings Engineer, EOR Informed: RTFE	Action: Senior Tailings Engineer, EOR, RTFE Informed: General Manager and Environmental Manager
Interim Cap VWPs			
Nye Tailings VWP-1a & b	< 5,106 ft.	Rockfill placement should be halted in area of VWP until pore pressures dissipate.	N/A
Nye Tailings VWP-2a & b			
Nye Tailings VWP-3a & b			
Nye Tailings VWP-4a & b			
Nye Tailings VWP-5a & b			
Nye Tailings VWP-6a & b			
Nye Tailings VWP-7a & b			
Monitoring and Reporting Requirements	Regular Instrumentation Monitoring and Reporting	Increase Monitoring Frequency, Review Piezometer Data with precipitation and flow monitoring records to determine reason for exceedance	N/A

Piezometers	Standard Operations	Orange Trigger Level	Red Trigger Level
Responsible Person	Action: Senior Tailings Engineer	Action: Senior Tailings Engineer, EOR Informed: RTFE	Action: Senior Tailings Engineer, EOR, RTFE Informed: General Manager and Environmental Manager
Nye Tailings VWP-5a	No Trigger Level – VWP is adjacent to the leading edge of interim cap construction. Excess pore pressures are expected as rockfill is selectively mounded along the leading edge of the cap to induce localized slumping and displacement of the rockfill into the tailings.		
Nye Tailings VWP-5b			

NOTE:

1. MONITORS PHREATIC SURFACE IN THE EMBANKMENT FOUNDATION.

4.0 TAILINGS AND WATER MANAGEMENT

The Nye TSF is operated at its design capacity as the Interim Cap is constructed. The impoundment is primarily utilized for process water management. Tailings slurry is only pumped to the tailings impoundment during upset operating conditions at the Concentrator and/or Hertzler Pump House. If the supernatant pond level exceeds the maximum operating level, excess supernatant water must be transferred to the Hertzler Tailings Impoundment via the water reclaim system.

Appendix B
References

(Page B-1)

APPENDIX B
REFERENCES

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Appendix C
Inspection and Surveillance

Appendix C1
Inspection and Surveillance Schedule

Appendix C2
Unusual Events and Occurrences Requiring Non-Routine Walkovers

Appendix C3
Inspection Forms

Appendix C1
Inspection and Surveillance Schedule

(Page C1-1)

TABLE C1.1

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
INSPECTION AND SURVEILLANCE SCHEDULE

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Component	Description	Operations	Inspection and Surveillance	Responsible Parties
Tailings Embankment	Perimeter embankment around the impoundment.	Maintain access roads on the embankment crest.	Inspect the embankments **weekly** and look for evidence indicating instability or deformation.	Concentrator Operations Supervisor
			Inspect downstream face **weekly** for evidence of seepage, runoff, erosion or piping.	Concentrator Operations Supervisor
			Take photographs of the embankments **semi-annually**.	Concentrator General Foreman, Tailings Engineer
Interim Cap	Process water and tailings solids storage in an HDPE lined basin. Waste rock placement over tailings surface for Interim Cap construction.	Interim Cap being constructed over tailings surface.	Observed and document Interim Cap construction progress **weekly**.	Concentrator General Foreman, Senior Tailings Engineer
		Runoff Collection Sump, Drainage Channel and Overflow Swale in place for water management.	Inspect the sump, Drainage Channel and Over Swale **weekly**. Note any settlement, erosion or change in conditions.	Concentrator Operations Supervisor, Surface Crew
		Compare Runoff Collection Sump pond levels with design filling levels.	Inspect and document water level **weekly**.	Concentrator Operations Supervisor, Surface Crew
		Tailings discharge to collection sump during upset operating conditions.	Measure and monitor the pond water levels **daily**.	Concentrator Operations Supervisor, Surface Crew
		Interim Cap progress	Complete drone surveys with imagery **monthly**.	Concentrator General Foreman, Senior Tailings Engineer
		Stormwater Management	Survey and review **annually** prior to freshet to confirm sufficient capacity available to manage IDF.	Concentrator General Foreman, Senior Tailings Engineer
Reclaim Water Pipeline	Consists of a floating reclaim pump and pipeline to Concentrator head tank.	The pumps may be controlled from the Mill control room, or breather panel on the dam crest.	Inspect the pipeline **weekly** for evidence of leakage.	Concentrator Operations Supervisor, Surface Crew
		Monitor the water level in the collection sump.	Monitor and assess the inclined pump elevation **quarterly** and determine if pumps need to be raised.	Concentrator Operations Supervisor, Surface Crew
			Conduct detailed inspections of the reclaim pipeline during **pipeline maintenance**.	Concentrator Operations Supervisor
			Take photographs of the reclaim pipeline **semi-annually**.	Concentrator General Foreman, Tailings Engineer
			Inspect and measure HDPE inner pipe wall thickness **every 5 years**.	Concentrator Manager, Concentrator Operations Supervisor
Instrumentation	Includes vibrating wire piezometers, survey monuments, groundwater monitoring wells and slope inclinometers.	Piezometers and slope inclinometers connected to LoggerNet data collection system. Survey monuments transmit data to NavStar monitoring system.	Review instrumentation data **monthly**.	Environmental Specialist, Senior Tailings Engineer
		Instrumentation data plotted and reviewed on NavStar GeoExplorer software, SMC's internal monitoring system for slope inclinometers and piezometers.	Check condition of instrumentation as required.	Environmental Specialist, Senior Tailings Engineer
		Check condition of instrumentation and complete maintenance as required.	Provide instrumentation data **quarterly** to the EOR for review.	Environmental Specialist, Senior Tailings Engineer
		Make note of any instrumentation that is not functioning.	Monitor water levels in each groundwater monitoring well and obtain water quality samples as required by permits. Data is compiled by the Environmental Specialist and a reported to the appropriate agencies as required by the permit.	Environmental Specialist, Senior Tailings Engineer
		Follow manufacturer's instructions for instrumentation operation. Notify EOR of any anomalous trends in the data.		
Stillwater River Bank	River bank adjacent to East Embankment downstream toe.	Monitoring for change in conditions following June 2022 flood event	Review river bank conditions **quarterly**, following freshet and/or following any significant flood event.	Senior Tailings Engineer
			Photograph river bank conditions **quarterly**.	

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C1.1 - Inspect_Sched_22Dec25.xlsx]Table C1.1

Appendix C2

Unusual Events and Occurrences Requiring Non-Routine Walkovers

(Page C2-1)

TABLE C2.1

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
UNUSUAL EVENTS AND OCCURRENCES REQUIRING NON-ROUTINE WALKOVERS

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Event/Observation	Recommended Action
Extreme rainfall	Monitor the TSF pond level. Confirm pond level is below the maximum operating level. Monitor the LAD Storage Pond. Confirm pond level is below the maximum operating level. Inspect the TSF embankments for signs of concentrated runoff and erosion. Inspect the TSF embankments for indications of localized slumping or instability. Note areas of saturated or soft ground. Inspect surface water management ditches and sediment ponds along access roads.
Water levels rising in the TSF more than expected and above El. 5,104.5 ft.	Monitor pond levels Weekly. Develop plan to slow or stop the water level rise and draw down the pond (stop water discharge, transfer water to the Hertzler TSF and/or underground mine).
Water levels rising in the TSF more than expected and above El. 5,106.8 ft.	Monitor pond levels daily. Initiate plan to slow or stop the water level rise and draw down pond (stop tailings deposition, transfer water to the Hertzler TSF and/or underground mine). Contact the EOR.
Significant earthquake event (See Note 1.)	Read all instrumentation. Follow inspection and reporting procedures if instrumentation readings exceed trigger levels.
Rupture of pipeline at the embankment	Stop pumping tailings to the TSF and stop reclaiming water to the mill. Check the upstream slope and crest for erosion. Take photographs and make notes of exact location and cause (if known) of leak. Contact the EOR.
Significant, rapid erosion of embankment slopes; Sudden seepage break on embankment slope or downstream of embankment in form of continuous seepage or boils	Estimate seepage flow rate. Estimate size of area. Take photographs and make notes of exact location (if known) of erosion. Contact the EOR.
Minor surface erosion on embankment crest and/or slopes	Repair as necessary. Determine the cause of the erosion.
Soft toe condition or minor seepage at the downstream slope or toe	Conduct embankment walkovers daily until the problem is understood and addressed. Monitor seepage development (e.g. clarity, content/quality, extent etc.). Prepare to carry out corrective repairs. Contact the EOR if appropriate.
Extended power failure	Drain the reclaim water and tailings delivery pipelines if power failure occurs during extreme freezing temperatures. Flush the tailings delivery pipelines prior to restarting tailings deposition.
Exceedance of instrumentation trigger levels	Refer to trigger levels in QRFG. Re-check the readings. Continue monitoring daily until readings return to normal. Contact the EOR if appropriate.
Failure of reclaim water and/or Tailings Delivery Pipeline resulting in erosion of the embankment crest	Document and repair as necessary. Monitor water levels daily. Ensure backup pumps are available. Repair or replace failed pumps ASAP.
Tailings Delivery Pipeline blocked	Stop tailings discharge. Flush pipeline with water to clear obstruction. Inspect the pipeline for damages or leaks. Determine the cause or reason for blockage.
Minor cracks developing at the embankment crest or slope	Conduct embankment walkovers daily until the problem is understood and addressed. Monitor crack development (e.g. crack size, extent, etc.). Prepare to carry out corrective repairs. Contact the EOR if appropriate.
Other events/observations	Use judgement, consult your peers.

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C2.1 - Nye Unusual Events_22Dec25.xlsx]Table C2.1

NOTE:

1. A SIGNIFICANT EARTHQUAKE IS DEFINED AS AN EARTHQUAKE THAT COULD POTENTIALLY DISPLACE, DAMAGE OR CAUSE AN EMBANKMENT TO CRACK OR SETTLE, RESULTING IN A LOSS OF STRUCTURAL INTEGRITY OR FREEBOARD. THE OCCURRENCE OF AN EARTHQUAKE GREATER THAN MAGNITUDE 5.0 ON THE RICHTER SCALE WITHIN 60 MILES (100 KILOMETERS) OF THE FACILITY WILL AUTOMATICALLY TRIGGER A LEVEL 1 OR HIGHER CONDITION. ASSESSING AND REPORTING POTENTIAL DAMAGE CAUSED BY AN EARTHQUAKE WILL BE THE REQUIRED REMEDIAL ACTION.

Appendix C3
Inspection Forms

TABLE C3.1

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
WEEKLY TSF INSPECTION
(Surface Crew)

Print Dec-23-25 9:47:00

Inspectors:	**Inspection Date:**		**Inspection Time:**
Name:	**Title:**	**Signature:**	
Name:	**Title:**	**Signature:**	
Weather Conditions	Precipitation (24hr):	Wind Speed:	
	Temperature °F:	Sky: Clear Partly Cloudy Cloudy Overcast	
Samples Collected:	Yes No		

TAILINGS EMBANKMENT			
Crest of Dam	**Condition/Issue/Defect Present (circle one)**		**Comments**
Cracking	Yes	No	
Subsidence, Depressions	Yes	No	
Lateral Deformation	Yes	No	
Standing Water or Wet Areas	Yes	No	
Downstream Slope			
Cracking	Yes	No	
Subsidence	Yes	No	
Bulging, Sliding or Sloughing	Yes	No	
Erosion	Yes	No	
Animal Burrows	Yes	No	
Damp Areas	Yes	No	
Seeps, Soft Areas	Yes	No	
TAILINGS BASIN			
Interim Cap Construction	**Condition/Issue/Defect Present/Observation (circle one)**		**Comments**
Exposed Tailings Surface(sinkholes or excessive erosion)	Yes	No	
Waste Rock Placement Area	East Side	West Side	
Waste Rock Placement procedures being followed	Yes	No	
Tailings Mounded Above El. 5,104 ft.	Yes	No	
Interim Cap Surface (Subsidence or Uplift)	Yes	No	
Runoff Collection Sump			
Pond Elevation (estimated from marked location (ft.)	El.:		
Side Slope Condition (Subsidence, Bulging or Sloughing)	Yes	No	
Ice Cover	Yes	No	
Drainage Channel			
Channel Free of Debris and Obstructions			
Side Slope Condition (Subsidence, Buldging or Sloughing)			
Channel Base Conditions (Subsidence or Uplift)			
Overflow Swale			
Channel Free of Debris and Obstructions			
Side Slope Condition (Subsidence, Bulging or Sloughing)			
Channel Base Conditions (Subsidence or Uplift)			
WATER RECLAIM SYSTEM			
Pipelines and Pumps	**Condition/Issue/Defect Present (circle one)**		**Comments**
Pipeline Leakage (external inspection)	Yes	No	
Pipeline Damage (external inspection)	Yes	No	
Valves - Conditions/Issues Identified (external inspection)	Yes	No	
Maintenance Activities (repairs and replacements)			

OTHER	
Other Issues or Observations Identified	**Comments**

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C3.1 to C3.4- Nye Inspection Log Templates_22DEC25.xlsx]Mill Wkly TSF Inspection_Hertz

TABLE C3.2

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
MONTHLY TSF INSPECTION
(Concentrator Operations Supervisor)

Print Dec-23-25 9:47:00

Inspectors:		**Inspection Date:**	**Inspection Time:**
Name:	**Title:**	**Signature:**	
Name:	**Title:**	**Signature:**	
Weather Conditions	Precipitation (24hr):	Wind Speed:	
	Temperature °F:	Sky: Clear Partly Cloudy Cloudy Overcast	
NOTE: Photograph all conditions, issues or defects identified.			
Photos Taken:	Yes No	**Instrumentation Data Collected:**	Yes No
Samples Collected:	Yes No	**Data Collection Sheets Completed:**	Yes No

TAILINGS EMBANKMENT			
Crest of Dam	**Condition/Issue/Defect Present (circle one)**		**Comments**
Cracking	Yes	No	
Subsidence, Depressions	Yes	No	
Lateral Deformation	Yes	No	
Standing Water or Wet Areas	Yes	No	
Excessive Ice Build-up and/or Snow Accumulation	Yes	No	
Downstream Slope			
Cracking	Yes	No	
Subsidence	Yes	No	
Bulging, Sliding or Sloughing	Yes	No	
Erosion	Yes	No	
Animal Burrows	Yes	No	
Damp Areas	Yes	No	
Seeps, Soft Areas	Yes	No	
TAILINGS BASIN			
Interim Cap Construction	**Condition/Issue/Defect Present/Observation (circle one)**		**Comments**
Exposed Tailings Surface(sinkholes or excessive erosion)	Yes	No	
Waste Rock Placement Area	East Side	West Side	
Waste Rock Placement Procedures Being Followed	Yes	No	
Tailings Mounded Above El. 5,104 ft.	Yes	No	
Interim Cap Surface (Subsidence or Uplift)	Yes	No	
Runoff Collection Sump			
Pond Elevation (estimated from marked location (ft.)	El.:		
Side Slope Condition (Subsidence, Bulging or Sloughing)	Yes	No	
Ice Cover	Yes	No	
Drainage Channel			
Channel Free of Debris and Obstructions			
Side Slope Condition (Subsidence, Bulging or Sloughing)			
Channel Base Conditions (Subsidence or Uplift)			
Overflow Swale			
Channel Free of Debris and Obstructions			
Side Slope Condition (Subsidence, Bulging or Sloughing)			
Channel Base Conditions (Subsidence or Uplift)			
WATER RECLAIM SYSTEM			
Pipelines and Pumps	**Condition/Issue/Defect Present/Observation (circle one)**		**Comments**
Pipeline Leakage (external inspection)	Yes	No	
Pipeline Damage (external inspection)	Yes	No	
Valves - Conditions/Issues Identified (external inspection)	Yes	No	
Pumps - Conditions/Issues Identified (external inspection)	Yes	No	
Excessive Ice Buildup during Freezing Conditions	Yes	No	

OTHER	
Other Issues or Observations Identified	**Comments**

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C3.1 to C3.4- Nye Inspection Log Templates_22DEC25.xlsx]Mill Monthly TSF Inspection

TABLE C3.3

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
QUARTERLY TSF INSPECTION
(Senior Tailings Engineer or Concentrator Manager)

Print Dec-23-25 9:47:00

Inspectors:		**Inspection Date:**	**Inspection Time:**
Name:	**Title:**	**Signature:**	
Name:	**Title:**	**Signature:**	
Weather Conditions	Precipitation (24hr):	Wind Speed:	
	Temperature °F:	Sky: Clear Partly Cloudy Cloudy Overcast	
Photos Taken:	Yes No	**Instrumentation Data Collected:**	Yes No
Samples Collected:	Yes No	**Data Collection Sheets Completed:**	Yes No

TAILINGS EMBANKMENT				
Crest of Dam	**Condition/Issue/Defect Present (circle one)**		**Comments**	**Photos Taken**
Cracking	Yes	No		
Subsidence, Depressions	Yes	No		
Lateral Deformation	Yes	No		
Standing Water or Wet Areas	Yes	No		
Excessive Ice Build-up and/or Snow Accumulation	Yes	No		
Downstream Slope				
Cracking	Yes	No		
Subsidence	Yes	No		
Bulging, Sliding or Sloughing	Yes	No		
Erosion	Yes	No		
Animal Burrows	Yes	No		
Damp Areas	Yes	No		
Seeps, Soft Areas	Yes	No		
Vegetation (Reclamation)				
Wet Ground Vegetation	Yes	No		
Poor Growth	Yes	No		
Destroyed by Erosion	Yes	No		
Instrumentation				
Survey Monuments - Inspect Condition (damaged or maint needed)	Yes	No		
Piezometers - Inspect Condition (damaged or maint needed)	Yes	No		
Slope Inclinometers - Inspect Condition (damaged or maint needed)	Yes	No		
Areas of Previous Repair				
Concerns or Issues with Conditions	Yes	No		
TAILINGS BASIN				
Interim Cap Construction	**Condition/Issue/Defect Present/ Observation (circle one)**		**Comments**	**Photos Taken**
Exposed Tailings Surface(sinkholes or excessive erosion)	Yes	No		
Waste Rock Placement Area	East Side	West Side		
Waste Rock Placement Procedures Being Followed	Yes	No		
Tailings Mounded Above El. 5,104 ft.	Yes	No		
Interim Cap Surface (Subsidence or Uplift)	Yes	No		
Runoff Collection Sump				
Pond Elevation (estimated from marked location (ft.)	El.:			
Side Slope Condition (Subsidence, Bulging or Sloughing)	Yes	No		
Ice Cover	Yes	No		
Drainage Channel				
Channel Free of Debris and Obstructions				
Side Slope Condition (Subsidence, Bulging or Sloughing)				
Channel Base Conditions (Subsidence or Uplift)				
Overflow Swale				
Channel Free of Debris and Obstructions				
Side Slope Condition (Subsidence, Bulging or Sloughing)				
Channel Base Conditions (Subsidence or Uplift)				
WATER RECLAIM SYSTEM				
Pipelines and Pumps	**Condition/Issue/Defect Present (circle one)**		**Comments**	**Photos Taken**
Pipeline Leakage (external inspection)	Yes	No		
Pipeline Damage (external inspection)	Yes	No		
Valves - Conditions/Issues Identified (external inspection)	Yes	No		
Pumps - Conditions/Issues Identified (external inspection)	Yes	No		
Excessive Ice Buildup during Freezing Conditions	Yes	No		
SURFACE WATER MANAGEMENT (COMPLETED AS PART OF THE SWPPP)				
Ditches, Sediment Collection	**Condition/Issue/Defect Present (circle one)**		**Comments**	**Photos Taken**
Blockages	Yes	No		
Flowing Water, Boils or Seeps	Yes	No		
Signs of Erosion	Yes	No		
FENCING				
Fencing	Yes	No		
Stillwater River Bank Adjacent to East Embankment Toe				
Recent Erosion Observed	Yes	No		
Conditions Change from Previous Inspection	Yes	No		
Other Observations				

OTHER		
Other Issues or Observations Identified	**Comments**	**Photos Taken**

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C3.1 to C3.4- Nye Inspection Log Templates_22DEC25.xlsx]Env. or Mill Quarterly Insp.

TABLE C3.4

SIBANYE STILLWATER
STILLWATER MINE

NYE TAILINGS OPERATIONS, MAINTENANCE AND SURVEILLANCE (TOMS) MANUAL
TSF INSPECTION - UNUSUAL OCCURRENCE INSPECTION
Senior Tailings Engineer or Concentrator Manager)

Print Dec-23-25 9:48:15

Inspectors:		**Inspection Date:**	**Inspection Time:**
Name:		**Title:**	**Signature:**
Name:		**Title:**	**Signature:**
Weather Conditions	Precipitation (24hr):	Wind Speed:	
	Temperature °F:	Sky: Clear Partly Cloudy Cloudy Overcast	
Photos Taken:	Yes No	**Instrumentation Data Reviewed:**	Yes No
Samples Collected:	Yes No		

Event	Comments	Photo
EXTREME RAINFALL EVENT (2 inches in 24 hours)		
Monitor TSF Pond Level. Confirm Pond Level is below Maximum Operating Level		
Inspect Embankments for Signs of Concentrated Runoff and Erosion		
Inspect Embankments for Indications of Localized Slumping or Instability		
Note Areas of Saturated or Soft Ground		
Inspect Surface Water Management Ditches and Sediment Ponds along Access Roads		
TSF POND LEVEL WITHIN 2 ft. MAXIMUM OPERATING LEVEL		
Monitor Pond Level Weekly		
Develop Plan to Reduce Pond Level		
TSF POND LEVEL WITHIN 1 ft. MAXIMUM OPERATING LEVEL		
Monitor Pond Level Daily		
Initiate Plan to Reduce Pond Level		
SIGNIFICANT EARTHQUAKE EVENT (Magnitude greater than 5 within 60 miles)		
Review Instrumentation Readings		
Carry Out Detailed Walkover of TSF, Pipelines and Associated Structures if Instrumentation Trigger Levels are Exceeded		
Investigate Downstream and Upstream (visible) Slopes for Cracks, Bulging Settlement or Deformation		
Look for and note any Seepage, particularly the Rate of Seepage Flow at the Embankment Toe and Clarity		
Review all Surface Monument and Slope Inclinometer Readings		
Inspect Downstream Embankment slope for Sand Boils and Sinkholes		
Inspect Tailings Beach for Whirlpools		
Discuss findings with Engineer of Record		
Check and ensure that the Basin Underdrain Sumps and Pumps are Functioning		
RUPTURE OF PIPELINE AT THE EMBANKMENT		
Stop Pumping Tails to the TSF and Stop Reclaiming Water to Mill		
Check Upstream Slope and Crest for Erosion		
Take Photographs and make Notes of Exact Location and Cause of Erosion (if known), Contact EOR		
SIGNIFICANT EROSION OF THE EMBANKMENT SLOPES; SEEPAGE ON THE EMBANKMENT SLOPE OR DOWNSTREAM OF THE EMBANKMENT TOE		
Estimate Seepage Flow Rate. Estimate Size of Area.		
Take Photographs and make Notes of Exact Location and Cause (if known) of Erosion		
Contact the EOR		
SIGNIFICANT TEAR OR DEFECT IN GEOMEMBRANE		
Document Location and Extent of Tear/Defect		
Develop Repair Plan		
EXCEEDANCE OF INSTRUMENTATION TRIGGER LEVEL		
Embankment Inspection Observations		
OTHER OBSERVATIONS		

I:\1\01\00066\49\A\Report\Nye TOMS Update - V1.7\Appendix C - Inspection and Surveillance\[Table C3.1 to C3.4- Nye Inspection Log Templates_22DEC25.xlsx]Unusual Events Insp.

Appendix D
Select Site Photos

(Pages D-1 to D-5)

PHOTO 1 – Overview, Interim Cap construction progress, north end of TSF (June 2025).

PHOTO 2 – Overview, Interim Cap, south end of TSF (June 2025).

PHOTO 3 – Initial Runoff Collection Sump arrangement (April 2025).

PHOTO 4 – Downstream slope of North Embankment (April 2025).

PHOTO 5 – Northeast Embankment downstream slope (April 2025).

PHOTO 6 – East Embankment downstream slope (April 2025).

PHOTO 7 – South Embankment and Overflow Swale (April 2025).

PHOTO 8 – Overflow Swale outlet, riprap remains to be installed (April 2025).

PHOTO 9 – Survey monument on North Embankment crest (April 2025).

PHOTO 10 – Stillwater riverbank adjacent to East Embankment downstream toe, erosion extents from June 2022 flood event (April 2025).

Appendix E
Nye Capping Plan

(Pages E-1 to E-14)

Knight Piésold CONSULTING

Management System Certified By:
bsi
ISO 9001 Quality Management Systems CERTIFIED FS 64925
ISO 14001 Environmental Management CERTIFIED EMS 550121
ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 550122

April 26, 2024

Mr. Tom Kircher
Environmental Specialist
Sibanye Stillwater (Nye)
2562 Nye Road
Nye, Montana 59061
USA

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T +1 705 476 2165
E northbay@knightpiesold.com
www.knightpiesold.com

Dear Tom,

RE: Nye TSF Interim Cap - 2024 Waste Rock Placement Plan and Procedures on Soft Tailings

1.0 INTRODUCTION

This letter summarizes 2024 Nye Tailings Storage Facility (TSF) Interim Cap waste rock placement plan including standard operating procedures for placement of Run-of-Mine (ROM) rockfill directly onto soft tailings. The placement procedures have been prepared by Knight Piésold Ltd. (KP) in conjunction with Sibanye Stillwater (Stillwater). The procedures rely on continued careful and controlled placement of ROM rockfill to construct the cap. Detailed observations and survey control are required to verify and confirm safe working conditions during cap construction.

To date, rockfill placement for cap construction has generally advanced over sandier near surface tailings from the south end of the impoundment towards the north. Rockfill placement over sandier tailings included the installation of a geosynthetic reinforcement layer over the tailings surface to facilitate trafficability during placement of the ROM rockfill. The extents of the Interim Waste Rock Cap from January 2024 are illustrated on Figure 1.

The 2024 waste rock placement plan includes for rockfill placement to continue from the north, east and west sides of the facility to advance the cap over softer tailings that are present towards the north end of the impoundment. Rockfill will be placed directly into the soft tailings to allow the rockfill to co-mingle and improve the density and strength characteristics of the near surface tailings. Some displacement and mounding of the near surface tailings has been observed along the leading edge of Interim Cap advancement. It is expected mounded tailings will need to be periodically excavated and relocated to tailings storage cells on the Interim Cap during rockfill placement. The tailings removal is intended to allow rockfill placement to continue to displace and consolidate the underlying soft tailings rather than allow the rockfill to extend up and onto the stiffer mounded tailings.

The proposed construction procedures to be implemented such that ongoing rockfill placement is completed safely and effectively are outlined below.

2.0 ROLES AND RESPONSIBILITIES

The personnel primarily responsible for the observations and monitoring of the Interim Cap construction include Stillwater Mine Environmental Department representatives, the Senior Tailings Engineer, the Contractor and Surface Crew heavy equipment operators.

Management responsibilities include:

- Provide proper training for operators conducting work in the area
- Supervisors must be trained to recognize signs of potential instability
- Monitoring of the construction practices

The responsibility for the workers includes:

- Ensure proper understanding of the construction requirements
- Be familiar with monitoring procedures and recognize any indication of potential instability during construction
- Complete daily construction monitoring forms

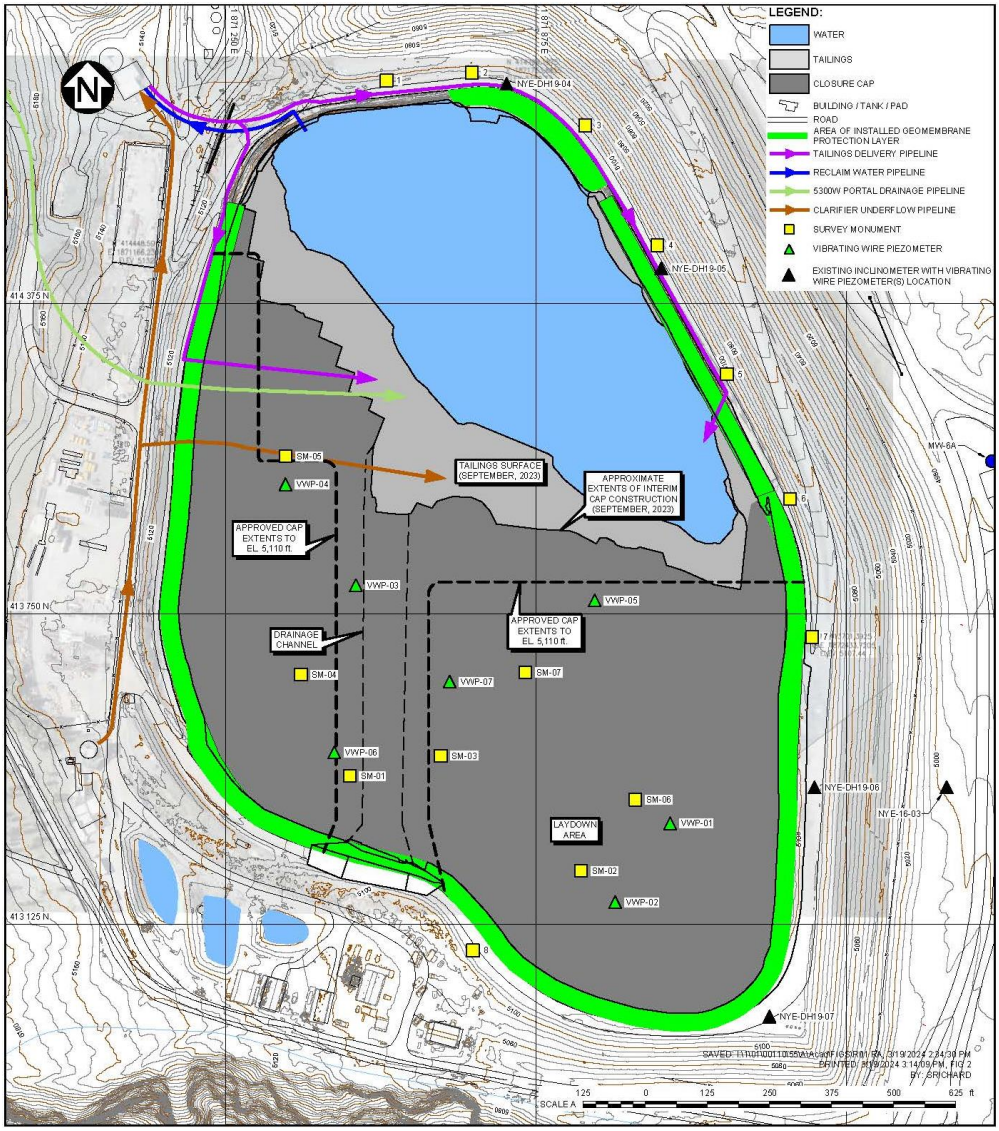


Figure 1 Nye TSF Interim Cap (as of January 2024)

3.0 2024 CONSTRUCTION PLAN

The 2024 construction plan includes for the completion of the Interim Cap such that the additional waste rock storage can be established over the Nye TSF in 2025. The following work will be completed during 2024:

- Rockfill placement over the remainder of the exposed tailings slimes will generally progress primarily from the North, East and West
- Excavation of Tailings Storage Cells and relocation of displaced tailings (as required)
- Establish the runoff location sump and relocate reclaim pipework and pumps as well as other water management pipework
- Completion of Drainage Channel side slope grading and installation of the boulder apron for the Overflow Swale outlet

The 2024 Interim Cap plan, section and details are shown on Drawings 1640 and 1641.

The proposed installation stages to complete the Interim Cap in 2024 are illustrated on Figures 2 to 4. The estimated quantities for each of the stages are summarized in Table 1.

4.0 CONSTRUCTION PROCEDURES

4.1 GENERAL

Procedures for rockfill placement on tailings shall include an observational approach, in which Operators, Supervisors, and Site Engineers are required to monitor construction for tension cracks and other signs of settlement throughout the construction process and adapt to change construction methods as needed. The described construction methodology applies to the placement of ROM rockfill over soft tailings that may or may not be covered by supernatant water.

4.2 WASTE ROCK PLACEMENT ON SOFT TAILINGS

The placement method includes for advancing the Interim Cap from the previously stabilized rockfill platform to allow the operator to extend the rockfill platform outwards across the soft tailings by displacing near surface tailings. The work procedure is summarized on Figure 5 and illustrated on Figure 6.

To control the displacement of soft tailings, placement methods are to include using previously placed rockfill as a guide embankment to direct tailings displacement along the sides and ahead of the fill area. Rockfill placement should be advanced asymmetrically, directing the displaced tailings towards the center of the facility as shown on Figure 7.

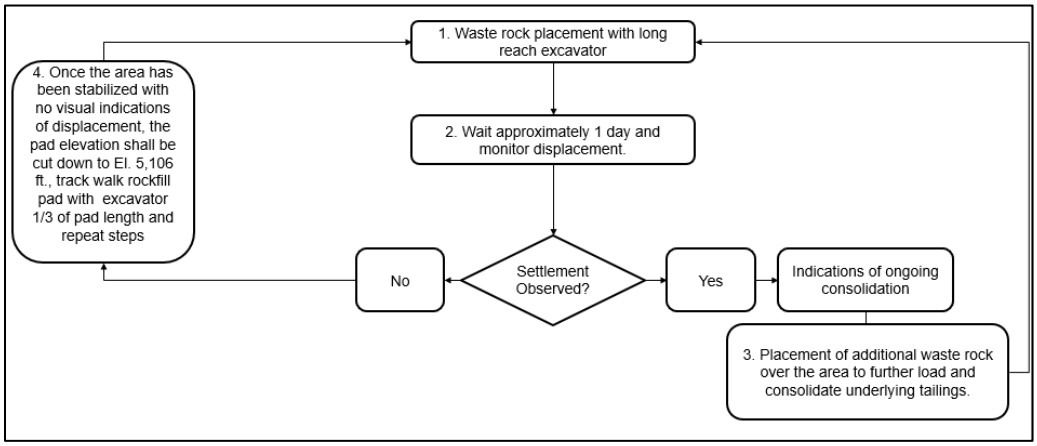


Figure 5 Flow Chart - Work Procedure for Rockfill Placement on Soft Tailings

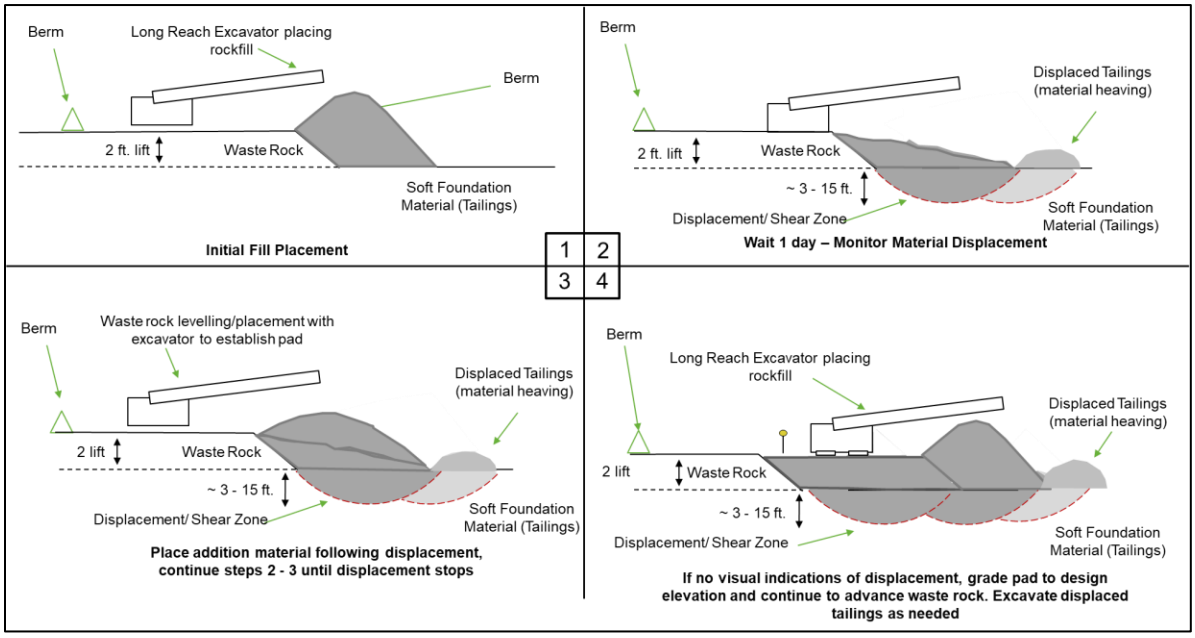


Figure 6 Work Procedure for Rockfill Placement on Soft Tailings

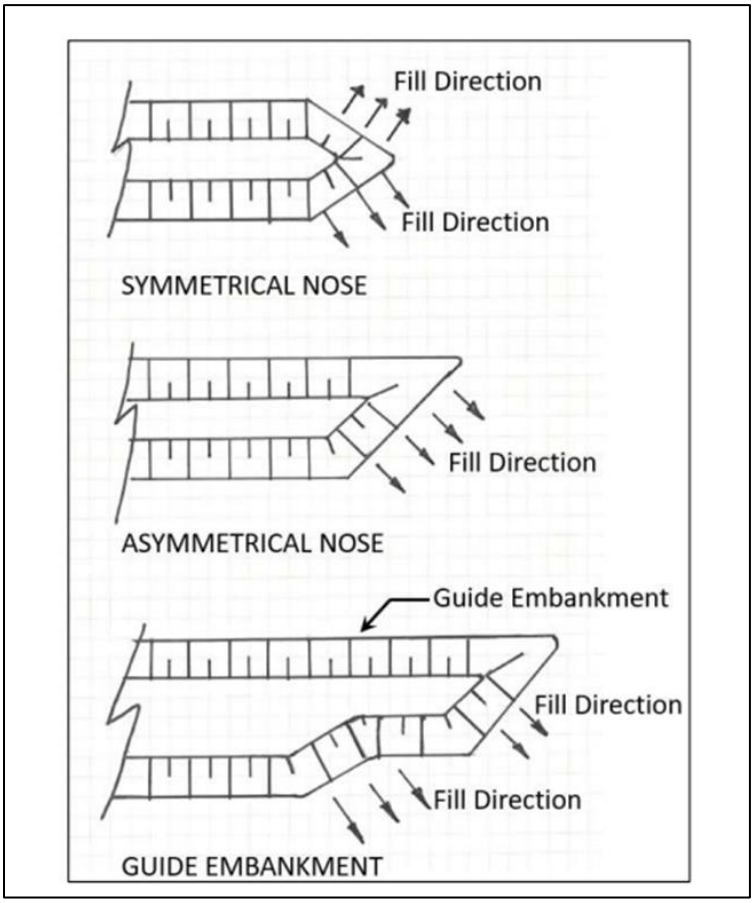


Figure 7 Utilizing a Guide Embankment When Building on Tailings

4.3 MONITORING PLAN

Visual Monitoring

The “Observational Approach” which includes visual monitoring and measurement of the construction area will be fundamental for the monitoring of displacement and potential hazards that may develop during the construction process. It is recommended that daily shift reports be prepared to document work progress, displacement and timely identification of potential hazards.

A daily report log template (Table 2) is attached for reference. The template should be updated appropriately as the work advances.

Survey Control

Periodic survey (monthly) of the Interim Cap advancement is required to document progress and confirm that the remainder of the Interim Cap is constructed to a maximum elevation of 5,106 ft. Surveying shall only be completed when there are no visual indicators of ongoing consolidation and/or displacement of the rockfill pad. Completion of surveys and confirmation of the Interim Cap elevation should be noted on the daily shift reports.

Physical Testing

The operator shall test the rockfill surface by tamping the pad with the excavator bucket and track walking the rockfill prior to advancing fully onto newly established pad areas. The pad will generally be evaluated in 1/3 increments to maintain 2/3 of the excavator on the stable rockfill pad at all times. If displacement of the rockfill pad is observed during the physical testing additional rockfill shall be added to the pad to increase the load and further consolidate the underlying tailings. Following placement of the additional rockfill, the evaluation procedures shall be repeated. Once the pad has been confirmed to be stable, the surface of the pad will be cut down to the final specified grade at El. 5,106 ft.

Test pits will periodically be excavated within stable pad areas to confirm the thickness of the rockfill pad and to evaluate the relative density of the underlying tailings with the excavator bucket. It is anticipated that a Cone Penetrating Testing program will be completed in 2025 to confirm the characteristics of the consolidated tailings below the Interim Cap.

5.0 INSTABILITY RECOGNITION DURING CONSTRUCTION

5.1 GENERAL

Instability along the leading edge of the Interim Cap is expected to occur and will consist of settlement, tension cracking and/or sloughing. Routine inspections before, during and after rockfill placement will be required to proactively monitor the construction conditions and apply changes that are necessary to mitigate potential hazards.

5.2 INSTABILITY TYPES

Cracking develops as excess tensile stresses develop within the fill due to differential settlement within the foundation tailings materials. Common instability types during placement of rockfill over tailings are known as longitudinal cracking and sloughing. Longitudinal cracking is the result of settlement of the foundation materials leading to tensile cracks forming along the working waste rock pad, slope, or berm parallel to the leading face of the cap, material sloughing along the leading edge tends to occur when excess pore pressures build up within the foundation material mass from increased loading conditions, reducing the strength of the foundation material causing the underlying material to settle rapidly or displace.

5.3 HAZARD MITIGATION METHODS

Instability can be mitigated by limiting the thickness of material that is placed at a time. Limiting the thickness of material placed allows the newly placed rockfill to consolidate the foundation in a slow and controlled manner. During initial rockfill placement it is expected that some of the near surface tailings will be displaced along the leading edge of the rockfill placement. As the tailings consolidate, interstitial water will drain to surface as excess pore pressures dissipate. This drainage is typically observed as ‘sand boils’ on the tailings surface with expelled pore water flowing through the overlying rockfill. If these drainage conditions are observed, the foundation (underlying tailings) has not yet fully consolidated from the rockfill placement.

If an area is deemed unsafe to work following a visual inspection, it shall be marked off and allowed to settle naturally over the course of 1-2 days, with intermittent inspections to monitor for any changing conditions. Work shall resume when there are no further indications of settlement or displacement as confirmed by visual observation and/or survey.

Inspections of the work area should be completed every shift to monitor changes and modify construction practices as needed.

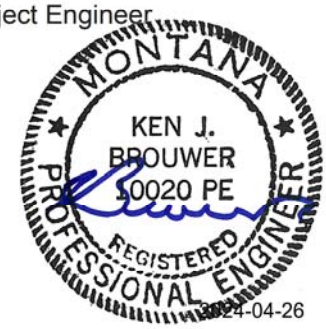
6.0 CLOSING

Please let us know if you have any questions related to the 2024 Interim Cap Construction Plan and rockfill placement procedures on soft tailings.

Yours truly,
Knight Piésold Ltd.

Prepared: _____
Bridget Adam, P.Eng.
Project Engineer

Reviewed: _____
Craig N. Hall, P.Eng.
Managing Principal



Reviewed and Approved: _____
Ken J. Brouwer, P.E.
Principal Engineer

Approval that this document adheres to the Knight Piésold Quality System: KJB

Attachments:

Table 1 Rev 0	2024 Waste Rock Placement Schedule
Table 2 Rev 0	Daily Interim Cap Construction Log
Figure 2 Rev 0	Nye TSF Interim Cap - Installation Stages (2024) - Sheet 1 of 3
Figure 3 Rev 0	Nye TSF Interim Cap - Installation Stages (2024) - Sheet 2 of 3
Figure 4 Rev 0	Nye TSF Interim Cap - Installation Stages (2024) - Sheet 3 of 3
Drawing 1640 Rev 0	Nye TSF - 2024 Interim Cap - Plan, Section and Detail
Drawing 1641 Rev 0	Nye TSF - 2024 Interim Cap - Sections

Copy To: Mr. Zane Leonard, Sibanye Stillwater

/bea

TABLE 1

STILLWATER MINING COMPANY
STILLWATER MINE

NYE TSF INTERIM CAP - 2024 WASTE ROCK PLACEMENT PLAN AND PROCEDURES ON SOFT TAILINGS
2024 WASTE ROCK PLACEMENT SCHEDULE

Print Apr-25-24 12:08:35

Time Period	Cap Area	Location	Approx. Length (ft)	Approx. Width (ft)	Approx. Area (ft^2)	Estimated Volume (ft^3)	Estimated Tons (tons)	Estimated Duration (mth)	Comments
Q1 2024 Mid February to End of March (1.5 months)	Q1-A1	Adjacent to Northeast Embankment	600	150	90,000	900,000	63,000	0.96	- Waste rock placement
	Q1-A2	Sump Area	200	150	30,000	300,000	21,000	0.32	- Waste rock placement
				Total	120,000	1,200,000	84,000	1.3	
Q2 2024 Start of April to Mid-May (1.5 months)	Q2-A1	Adjacent to Northeast & North Embankment	600	150	90,000	900,000	63,000	0.96	- Waste rock placement
	Sump	Initial Sump Excavation	100	100	10,000	60,000	4,200	0.25	- Sump Depth = 6 ft. (El. 5,106 to 5,100 ft), excavated waste rock place to construct adjacent cap. Sump excavation assumed to take 1 week.
	Q2-A2	Adjacent to Sump, from Sump Excavation	400	25	10,000	60,000	4,200		- Waste rock placement, waste rock from sump excavation
	TC-1	Tailings Storage Cell Excavation	300	100	30,000	120,000	8,400	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 60,000 ft3 (300*100*2 ft). Sump excavation assumed to take 1 week. - Locally place waste rock to raise pad to El. 5,110 ft.
				Total Waste Rock	140,000	1,140,000	79,800	1.5	
Q2 2024 Mid-May to End of June (1.5 months)	Q2-A3	Adjacent to North Embankment	250	150	37,500	375,000	26,250	0.40	- Waste rock placement
		Tailings Excavation	700	50	35,000	70,000		0.25	Completed in conjunction with Q2-A3 cap construction - placed into TC-1
	TC-2	Tailings Storage Cell Excavation	300	100	30,000	120,000	8,400	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 60,000 ft3 (300*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-2 used to Cap TC-1 and advance cap.
	Q2-A4	Advance Cap from South	700	50	35,000	350,000	24,500	0.37	- Waste rock placement
	Q2-A5	Advance Cap from North	350	50	17,500	175,000	12,250	0.19	- Waste rock placement
				Total Waste Rock	120,000	1,020,000	71,400	1.2	
Q3 2024 Start of July to Mid-August (1.5 months)	TC-3	Tailings Storage Cell Excavation	300	100	30,000	120,000	8,400	0.13	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 60,000 ft3 (300*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-3 used to Cap TC-2 and advance cap.
		Tailings Excavation	400	50	20,000	40,000		0.25	- Completed in conjunction with Q3-A1 cap construction
	Q3-A1	Advance Cap from North	450	200	90,000	900,000	63,000	0.96	- Waste rock placement
	TC-4	Tailings Storage Cell Excavation	250	100	25,000	100,000	7,000	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 50,000 ft3 (250*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-4 used to Cap TC-3 and advance cap.
		Tailings Excavation	400	50	20,000	40,000		0.25	- Completed in conjunction with Q3-A1 cap construction
				Total Waste Rock	145,000	1,120,000	78,400	1.34	
Q3 2024 Mid-August to End of September (1.5 months)		Sump Excavation	450	150	67,500	405,000	28,350	1.0	- Sump Depth = 6 ft. (El. 5,106 to 5,100 ft), excavated waste rock place to construct adjacent cap. Sump excavation assumed to take 4 weeks.
	Q3-A2	Advance Cap from North	450	150	67,500	675,000	47,250		- Waste Rock from Sump Excavation
	TC-5	Tailings Storage Cell Excavation	250	100	25,000	100,000	7,000	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 50,000 ft3 (250*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-5 used to Cap TC-4 and advance cap.
		Tailings Excavation	450	50	22,500	45,000			- Completed in conjunction with Q3-A2 cap construction
		Tailings Excavation	450	50	22,500	45,000			- Completed in conjunction with Q3-A2 cap construction
	Q3-A3	Advance Cap from East	350	100	35,000	350,000	24,500	0.37	- Waste rock placement
		Tailings Excavation	350	50	17,500	35,000			- Completed in conjunction with Q3-A3 cap construction
				Total Waste Rock	127,500	1,125,000	78,750	1.62	
Q4 2024 Start of October to Mid-December (2.5 months)		Sump Excavation	350	200	70,000	420,000	29,400	1.0	- Sump Depth = 6 ft. (El. 5,106 to 5,100 ft), excavated waste rock place to construct adjacent cap. Sump excavation assumed to take 4 weeks.
	Q4-A1	Advance Cap from East	300	150	45,000	450,000	31,500		- Waste rock from Sump Excavation
		Tailings Excavation	350	50	17,500	35,000			- Completed in conjunction with Q4-A1 cap construction
	TC-6	Tailings Storage Cell Excavation	250	100	25,000	100,000	7,000	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 50,000 ft3 (250*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-6 used to Cap TC-5 and advance cap.
		Tailings Excavation	350	50	17,500	35,000			- Completed in conjunction with Q4-A1 cap construction
	TC-7	Tailings Storage Cell Excavation	250	100	25,000	100,000	7,000	0.25	- Storage Cell Depth = 4 ft. (El. 5,110 to 5,106 ft), excavated waste rock hauled to construct cap. - Tailings Storage Capacity = 50,000 ft3 (250*100*2 ft). Sump excavation assumed to take 1 week. - Waste rock excavation from TC-6 used to Cap TC-5 and advance cap.
	Q4-A2	Advance Cap from East	300	150	45,000	450,000	31,500	0.48	
		Tailings Excavation	200	50	10,000	20,000			- Completed in conjunction with Q4-A2 cap construction
	Q4-A3	Advance Cap from East	200	100	20,000	200,000	14,000	0.21	
		Tailings Excavation	200	50	10,000	20,000			- Completed in conjunction with Q4-A3 cap construction
				Total Waste Rock	230,000	1,720,000	120,400	2.2	

Tailings Storage Cell Check

Item	Value	Unit
Total Tailings Storage	380,000	ft^3
Total Tailings Excavation	385,000	ft^3

Assumptions

Item	Value	Unit	Comments
Number of trucks Vorhes can receive per day	60	count	From 05Feb24 bi-weekly meeting, Tom Kircher
Truck Load Volume	45	yd^3	
Unit Weight in Truck	120	lb/ft^3	Estimate
Truck Load Mass	73	tons	Calculation
Daily Haulage	4,374	tons	Calculation
Monthly Haulage	65,610	tons	Calculation, Assumes 20 works days per month, 75% availability
Placed Density in Cap	140	lb/ft^3	Estimate
Average Cap Thickness	10	ft	Estimate
Average Tailings Excavation Thickness	2	ft	Estimate
Tailings Storage Cell Depth	4	ft	Estimate

\\NB4\project$\1\01\00110\55\A\Correspondence\NB24-00337 - Nye TSF Waste Rock Placement Procedure on Soft Tailings\Final\[Table 1 - 2024 Interim Cap Waste Rock Placement Schedule (version 1).xlsb.xlsx]Table

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	26APR'24	ISSUED WITH LETTER NB24-00337	BEA	CNH

TABLE 2

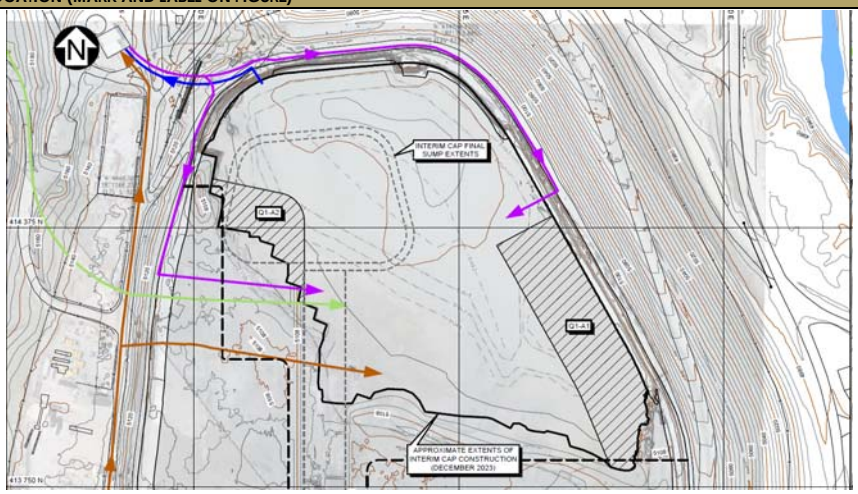
SIBANYE STILLWATER
STILLWATER MINE

NYE TSF INTERIM CAP - 2024 WASTE ROCK PLACEMENT PLAN AND PROCEDURES ON SOFT TAILINGS
DAILY INTERIM CAP CONSTRUCTION LOG

Print Apr-25-24 14:13:26

Inspector:	**Inspection Date:**	**Inspection Time:** **Signature:**
Weather Conditions	Precipitation (24hr): Temperature °F:	Wind Speed: Sky: Clear Partly Cloudy Cloudy Overcast
Photos Taken:	Yes No	

CONSTRUCTION LOCATION (MARK AND LABEL ON FIGURE)



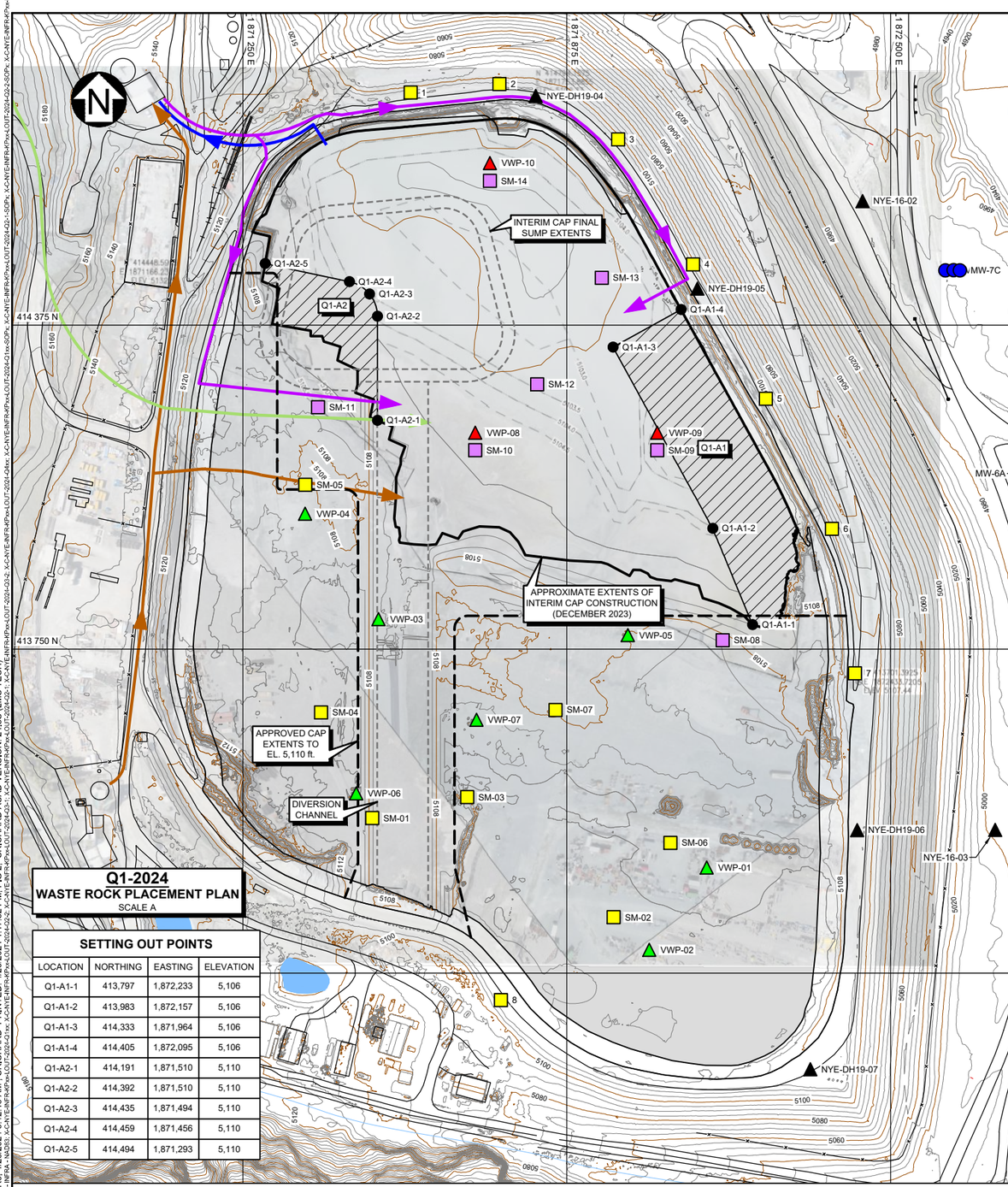
General Comments

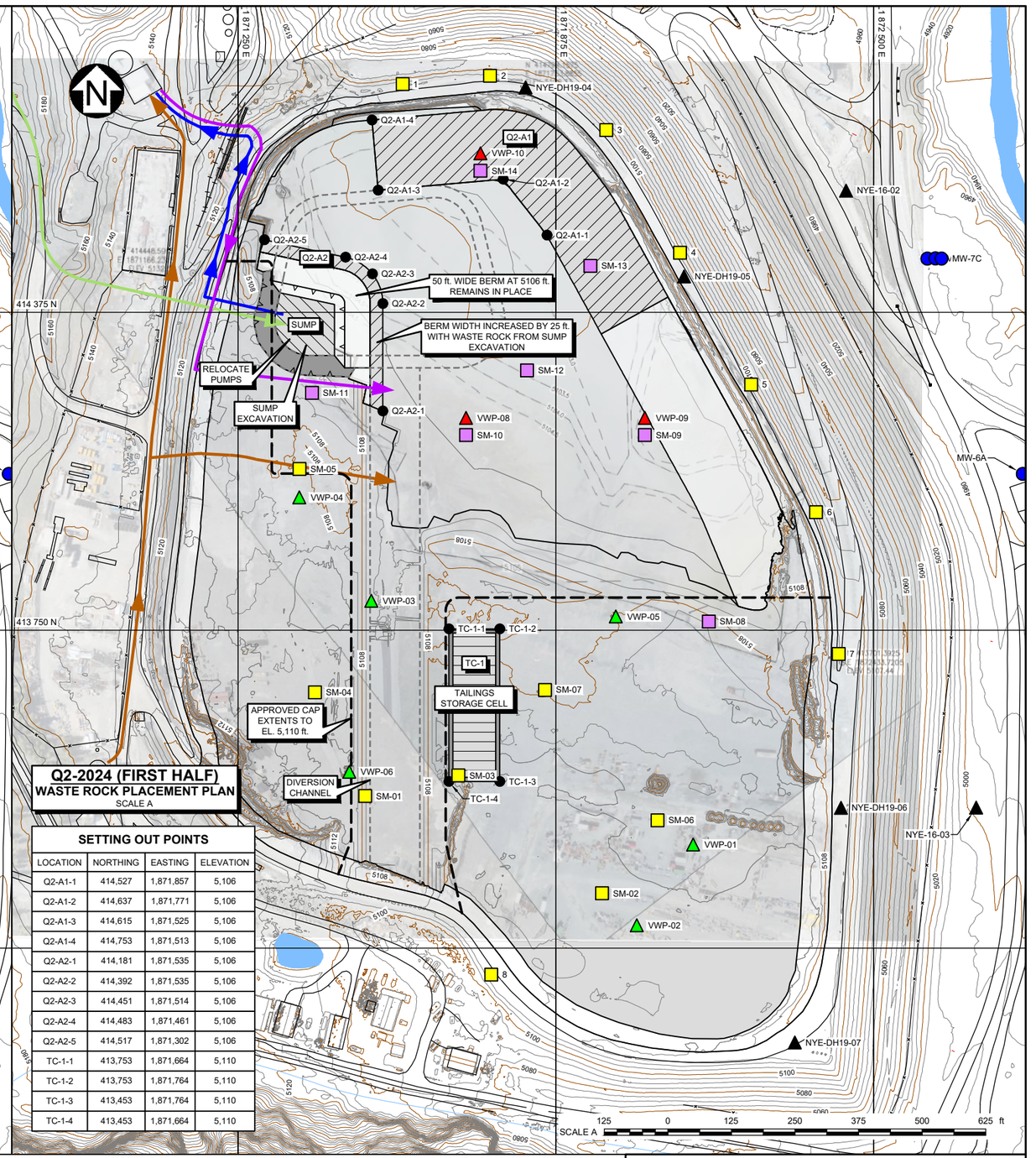
CONSTRUCTION ACTIVITIES

INTERIM CAP ROM Rockfill Placement	Activities Completed Today (circle one)		Condition/Issue/Defect Identified (circle one)		Comments
1- Placement of Rockfill Pad	Yes	No	Yes	No	
2 - Excavation of Tailings	Yes	No	Yes	No	
3 - Excavation of Rockfill to Establish Sump	Yes	No	Yes	No	
4 - Excavation of Rockfill to Establish Tailings Storage Cell	Yes	No	Yes	No	
Geomembrane Protection Layer					
Installation of Geomembrane Protection Layer	Yes	No	Yes	No	
Survey Check					
Survey Check of Interim Cap Construction Elevation	Yes	No	Yes	No	
Production					
SWM Haul Trucks	_____ Truck Loads Received				
Excavation of Tailings	_____ Truck Loads Hauled				
Excavation of Waste Rock	_____ Truck Loads Hauled				

CONSTRUCTION MONITORING

Weekly Instrumentation Check	Survey Completed? (circle one)		Condition/Issue/Defect Identified (circle one)		Comments
Closure Cap Piezometers	N/A		Yes	No	
Survey Monuments	Yes	No	Yes	No	
Water Elevation	El.:		Yes	No	





Q1-2024
WASTE ROCK PLACEMENT PLAN
SCALE A

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q1-A1-1	413,797	1,872,233	5,106
Q1-A1-2	413,983	1,872,157	5,106
Q1-A1-3	414,333	1,871,964	5,106
Q1-A1-4	414,405	1,872,095	5,106
Q1-A2-1	414,191	1,871,510	5,110
Q1-A2-2	414,392	1,871,510	5,110
Q1-A2-3	414,435	1,871,494	5,110
Q1-A2-4	414,459	1,871,456	5,110
Q1-A2-5	414,494	1,871,293	5,110

Q2-2024 (FIRST HALF)
WASTE ROCK PLACEMENT PLAN
SCALE A

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q2-A1-1	414,527	1,871,857	5,106
Q2-A1-2	414,637	1,871,771	5,106
Q2-A1-3	414,615	1,871,525	5,106
Q2-A1-4	414,753	1,871,513	5,106
Q2-A2-1	414,181	1,871,535	5,106
Q2-A2-2	414,392	1,871,535	5,106
Q2-A2-3	414,451	1,871,514	5,106
Q2-A2-4	414,483	1,871,461	5,106
Q2-A2-5	414,517	1,871,302	5,106
TC-1-1	413,753	1,871,664	5,110
TC-1-2	413,753	1,871,764	5,110
TC-1-3	413,453	1,871,764	5,110
TC-1-4	413,453	1,871,664	5,110

SCALE A 125 0 125 250 375 500 625 ft

LEGEND:

- WATER
- CONSTRUCTED CAP (EL. 5,106 ft.)
- BASE OF SUMP (EL. 5,100 ft.)
- MATERIAL PLACEMENT (EL. 5,106 ft.)
- BASE OF TAILINGS STORAGE CELLS (EL. 5,106 ft.)
- ROCKFILL SLOPE
- BUILDING / STRUCTURE
- ROAD
- RAILWAY
- FENCELINE
- CULVERT
- RIVER / STEAM / DRAINAGE
- APPROVED CAP EXTENTS TO EL. 5,110 ft.
- TAILINGS DELIVERY PIPELINE
- RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE
- EXISTING SURVEY MONUMENT
- PROPOSED SURVEY MONUMENT (APPROXIMATE)
- EXISTING INCLINOMETER WITH VIBRATING WIRE PIEZOMETER(S)
- EXISTING VIBRATING WIRE PIEZOMETER
- PROPOSED VIBRATING WIRE PIEZOMETER (APPROXIMATE)
- MONITORING WELL

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83 1992. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 1 ft. FOR THE CAP 5 ft. FOR SURROUNDING TOPOGRAPHY.
3. USGS TOPOGRAPHY PROVIDED BY STILLWATER MINING COMPANY.
4. SAFETY BERMS SHALL BE MIN. 2 ft. IN HEIGHT OR MID-AXLE HEIGHT OF THE LARGEST WHEELED VEHICLE ACCESSING THE AREA.
5. WASTE ROCK PLACEMENT WILL RESULT IN DISPLACEMENT OF FINE TAILINGS. WASTE ROCK DEPTH WILL VARY FROM APPROXIMATELY 5 TO 15 ft. DEPENDING ON IN SITU TAILINGS CONDITIONS.
6. TRACKED EQUIPMENT SHALL REMAIN 10 ft. AWAY FROM EDGE OF WASTE ROCK AT ALL TIMES. HAUL ROADS SHALL BE A MINIMUM OF 4 ft. THICK AND MINIMUM 50 ft. FROM EDGE OF WASTE ROCK PLACEMENT. WASTE ROCK PLACEMENT TO BE ADVANCED IN A SLOW AND CONTROLLED MANNER OVER A NUMBER OF STAGES BASED ON OBSERVED CONDITIONS. FOLLOWING EACH WASTE ROCK PLACEMENT A MINIMUM ALLOWANCE OF ONE DAY WILL BE REQUIRED TO ALLOW TAILINGS TO DRAIN AND CONSOLIDATE PRIOR TO PLACING ADDITIONAL WASTE ROCK.
7. EXCAVATION FOR TAILINGS STORAGE CELLS TO MAINTAIN A 20 ft. BUFFER AROUND INSTRUMENTATION LOCATIONS (i.e. NO EXCAVATION ROCKFILL EXCAVATION WITHIN 20 ft. OF INSTRUMENTATION LOCATION).

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	26APR'24	ISSUED WITH LETTER	BEA	SIR	CNH

STILLWATER MINING COMPANY

STILLWATER MINE

NYE TSF INTERIM CAP INSTALLATION STAGES (2024) SHEET 1 OF 3

Knight Piésold CONSULTING

P/A NO. NB101-110/55

REF NO. NB24-00337

FIGURE 2

REV 0

Q2-2024 (SECOND HALF)
WASTE ROCK PLACEMENT PLAN
SCALE A

Q3-2024 (FIRST HALF)
WASTE ROCK PLACEMENT PLAN
SCALE A

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q2-A3-1	414,613	1,871,500	5,106
Q2-A3-2	414,576	1,871,445	5,106
Q2-A3-3	414,496	1,871,401	5,106
Q2-A4-1	413,863	1,872,206	5,106
Q2-A4-2	414,068	1,871,540	5,106
Q2-A5-1	414,584	1,871,812	5,106
Q2-A5-2	414,551	1,871,430	5,106
TC-2-1	413,753	1,871,789	5,110
TC-2-2	413,753	1,871,889	5,110
TC-2-3	413,453	1,871,889	5,110
TC-2-4	413,453	1,871,789	5,110

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q3-A1-1	414,437	1,871,907	5,106
Q3-A1-2	414,437	1,871,523	5,106
TC-2-4	413,453	1,871,914	5,110
TC-3-1	413,753	1,871,914	5,110
TC-3-2	413,753	1,872,014	5,110
TC-3-3	413,453	1,872,014	5,110
TC-4-1	413,703	1,872,039	5,110
TC-4-2	413,703	1,872,139	5,110
TC-4-3	413,453	1,872,139	5,110
TC-4-4	413,453	1,872,039	5,110

LEGEND:

- WATER
- CONSTRUCTED CAP (EL. 5,106 ft.)
- BASE OF SUMP (EL. 5,100 ft.)
- MATERIAL PLACEMENT (EL. 5,106 ft.)
- BASE OF TAILINGS STORAGE CELLS (EL. 5,106 ft.)
- ROCKFILL SLOPE
- BUILDING / STRUCTURE
- ROAD
- RAILWAY
- FENCELINE
- CULVERT
- RIVER / STEAM / DRAINAGE
- APPROVED CAP EXTENTS TO EL. 5,110 ft.
- TAILINGS DELIVERY PIPELINE
- RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE
- EXISTING SURVEY MONUMENT
- PROPOSED SURVEY MONUMENT (APPROXIMATE)
- EXISTING INCLINOMETER WITH VIBRATING WIRE PIEZOMETER(S)
- EXISTING VIBRATING WIRE PIEZOMETER
- PROPOSED VIBRATING WIRE PIEZOMETER (APPROXIMATE)
- MONITORING WELL

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83 1992. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 1 ft. FOR THE CAP 5 ft. FOR SURROUNDING TOPOGRAPHY.
3. USGS TOPOGRAPHY PROVIDED BY STILLWATER MINING COMPANY.
4. SAFETY BERMS SHALL BE MIN. 2 ft. IN HEIGHT OR MID-AXLE HEIGHT OF THE LARGEST WHEELED VEHICLE ACCESSING THE AREA.
5. WASTE ROCK PLACEMENT WILL RESULT IN DISPLACEMENT OF FINE TAILINGS. WASTE ROCK DEPTH WILL VARY FROM APPROXIMATELY 5 TO 15 ft. DEPENDING ON IN SITU TAILINGS CONDITIONS.
6. TRACKED EQUIPMENT SHALL REMAIN 10 ft. AWAY FROM EDGE OF WASTE ROCK AT ALL TIMES. HAUL ROADS SHALL BE A MINIMUM OF 4 ft. THICK AND MINIMUM 50 ft. FROM EDGE OF WASTE ROCK PLACEMENT. WASTE ROCK PLACEMENT TO BE ADVANCED IN A SLOW AND CONTROLLED MANNER OVER A NUMBER OF STAGES BASED ON OBSERVED CONDITIONS. FOLLOWING EACH WASTE ROCK PLACEMENT A MINIMUM ALLOWANCE OF ONE DAY WILL BE REQUIRED TO ALLOW TAILINGS TO DRAIN AND CONSOLIDATE PRIOR TO PLACING ADDITIONAL WASTE ROCK.
7. EXCAVATION FOR TAILINGS STORAGE CELLS TO MAINTAIN A 20 ft. BUFFER AROUND INSTRUMENTATION LOCATIONS (i.e. NO EXCAVATION ROCKFILL EXCAVATION WITHIN 20 ft. OF INSTRUMENTATION LOCATION).

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	26APR'24	ISSUED WITH LETTER	BEA	SIR	CNH

STILLWATER MINING COMPANY

STILLWATER MINE

NYE TSF INTERIM CAP INSTALLATION STAGES (2024) SHEET 2 OF 3

Knight Piésold CONSULTING

P/A NO. NB101-110/55 | REF NO. NB24-00337

FIGURE 3 | REV 0

Q3-2024 (SECOND HALF)
WASTE ROCK PLACEMENT PLAN
SCALE A

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q3-A3-1	413,901	1,872,082	5,106
Q3-A3-2	413,940	1,872,066	5,106
Q3-A3-3	414,237	1,871,903	5,106
Q3-A3-4	414,237	1,871,535	5,106
Q3-S-1	414,414	1,871,332	5,100
Q3-S-2	414,525	1,871,357	5,100
Q3-S-3	414,582	1,871,424	5,100
Q3-S-4	414,600	1,871,631	5,100
Q3-S-5	414,549	1,871,705	5,100

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q3-S-6	414,494	1,871,719	5,100
Q3-S-7	414,474	1,871,494	5,100
Q3-S-8	414,414	1,871,440	5,100
Q3-S-9	414,391	1,871,440	5,100
TC-5-1	413,703	1,872,164	5,110
TC-5-2	413,703	1,872,264	5,110
TC-5-3	413,453	1,872,264	5,110
TC-5-4	413,453	1,872,164	5,110

Q4-2024
WASTE ROCK PLACEMENT PLAN
SCALE A

SETTING OUT POINTS

LOCATION	NORTHING	EASTING	ELEVATION
Q4-A1-1	414,237	1,871,731	5,106
Q4-A1-2	413,963	1,871,882	5,106
Q4-A2-1	414,237	1,871,607	5,106
Q4-A2-2	414,047	1,871,607	5,106
Q4-S-1	414,377	1,871,749	5,100
Q4-S-2	414,316	1,871,735	5,100
Q4-S-3	414,290	1,871,679	5,100
Q4-S-4	414,290	1,871,440	5,100
TC-6-1	413,428	1,871,664	5,110
TC-6-2	413,428	1,871,914	5,110
TC-6-3	413,328	1,871,914	5,110
TC-6-4	413,328	1,871,664	5,110
TC-7-1	413,428	1,871,947	5,110
TC-7-2	413,428	1,872,197	5,110
TC-7-3	413,328	1,872,197	5,110
TC-7-4	413,328	1,871,947	5,110

LEGEND:

- WATER
- CONSTRUCTED CAP (EL. 5,106 ft.)
- BASE OF SUMP (EL. 5,100 ft.)
- MATERIAL PLACEMENT (EL. 5,106 ft.)
- BASE OF TAILINGS STORAGE CELLS (EL. 5,106 ft.)
- ROCKFILL SLOPE
- BUILDING / STRUCTURE
- ROAD
- RAILWAY
- FENCELINE
- CULVERT
- RIVER / STEAM / DRAINAGE
- APPROVED CAP EXTENTS TO EL. 5,110 ft.
- TAILINGS DELIVERY PIPELINE
- RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE
- EXISTING SURVEY MONUMENT
- PROPOSED SURVEY MONUMENT (APPROXIMATE)
- EXISTING INCLINOMETER WITH VIBRATING WIRE PIEZOMETER(S)
- EXISTING VIBRATING WIRE PIEZOMETER
- PROPOSED VIBRATING WIRE PIEZOMETER (APPROXIMATE)
- MONITORING WELL

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83 1992. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 1 ft. FOR THE CAP 5 ft. FOR SURROUNDING TOPOGRAPHY.
3. USGS TOPOGRAPHY PROVIDED BY STILLWATER MINING COMPANY.
4. SAFETY BERMS SHALL BE MIN. 2 ft. IN HEIGHT OR MID-AXLE HEIGHT OF THE LARGEST WHEELED VEHICLE ACCESSING THE AREA.
5. WASTE ROCK PLACEMENT WILL RESULT IN DISPLACEMENT OF FINE TAILINGS. WASTE ROCK DEPTH WILL VARY FROM APPROXIMATELY 5 TO 15 ft. DEPENDING ON IN SITU TAILINGS CONDITIONS.
6. TRACKED EQUIPMENT SHALL REMAIN 10 ft. AWAY FROM EDGE OF WASTE ROCK AT ALL TIMES. HAUL ROADS SHALL BE A MINIMUM OF 4 ft. THICK AND MINIMUM 50 ft. FROM EDGE OF WASTE ROCK PLACEMENT. WASTE ROCK PLACEMENT TO BE ADVANCED IN A SLOW AND CONTROLLED MANNER OVER A NUMBER OF STAGES BASED ON OBSERVED CONDITIONS. FOLLOWING EACH WASTE ROCK PLACEMENT A MINIMUM ALLOWANCE OF ONE DAY WILL BE REQUIRED TO ALLOW TAILINGS TO DRAIN AND CONSOLIDATE PRIOR TO PLACING ADDITIONAL WASTE ROCK.
7. EXCAVATION FOR TAILINGS STORAGE CELLS TO MAINTAIN A 20 ft. BUFFER AROUND INSTRUMENTATION LOCATIONS (i.e. NO EXCAVATION ROCKFILL EXCAVATION WITHIN 20 ft. OF INSTRUMENTATION LOCATION).

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	26APR'24	ISSUED WITH LETTER	BEA	SIR	CNH

STILLWATER MINING COMPANY

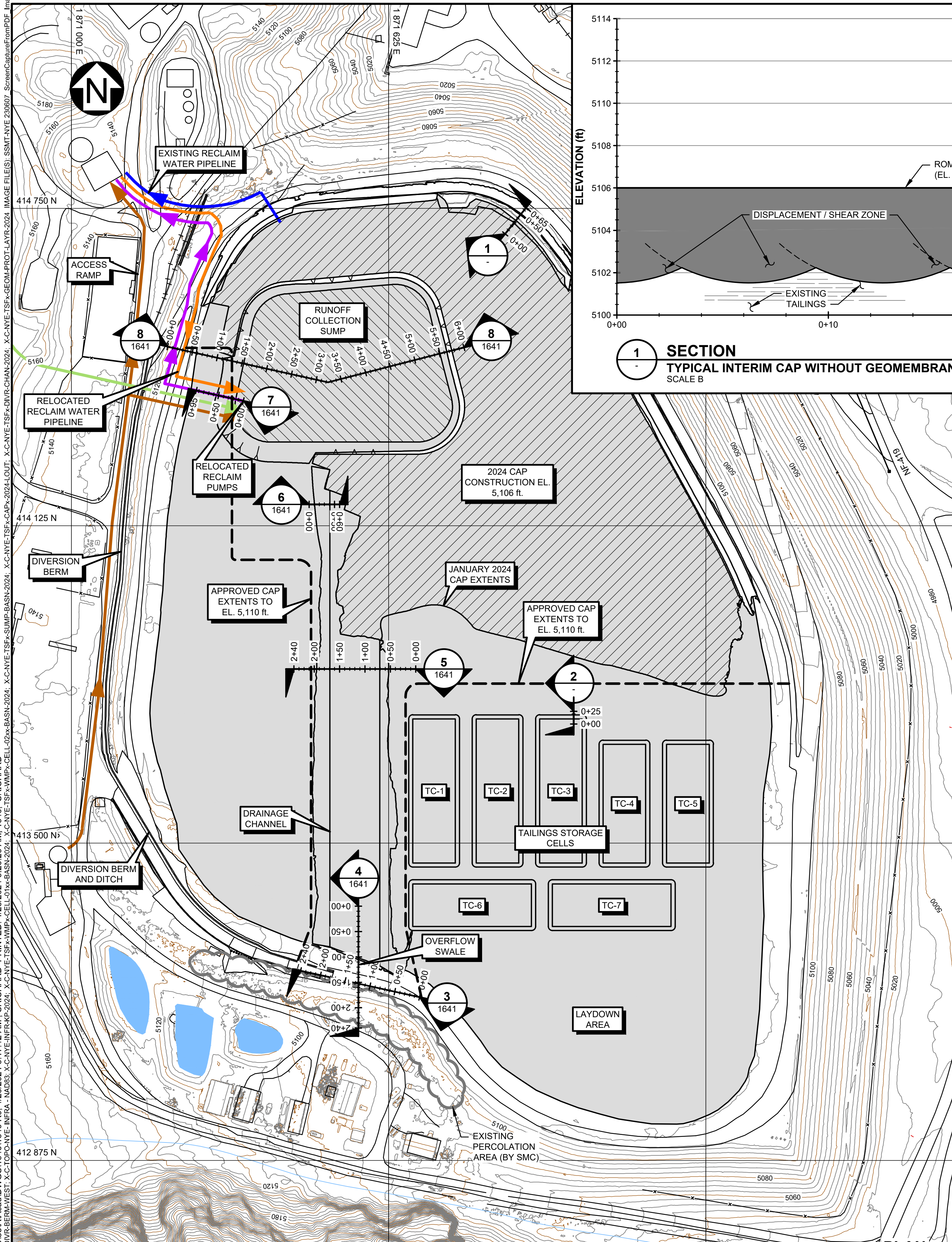
STILLWATER MINE

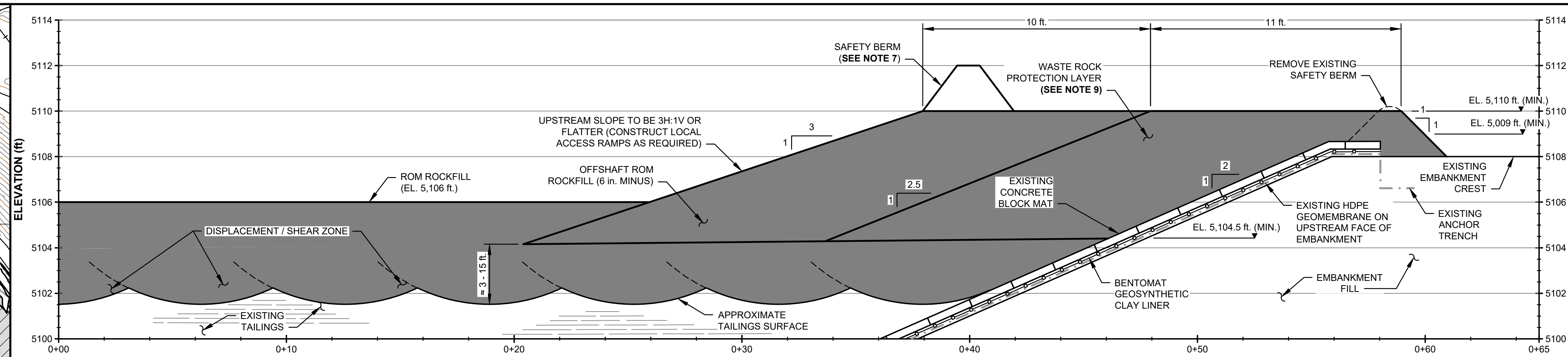
NYE TSF INTERIM CAP INSTALLATION STAGES (2024) SHEET 3 OF 3

Knight Piésold CONSULTING

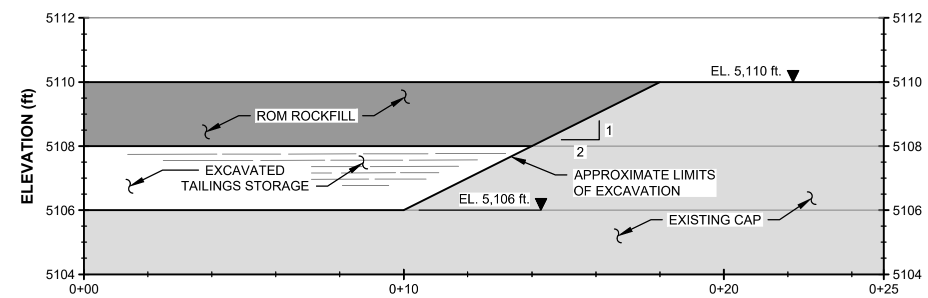
P/A NO. NB101-110/55 | REF NO. NB24-00337

FIGURE 4 | REV 0





1 SECTION
TYPICAL INTERIM CAP WITHOUT GEOMEMBRANE PROTECTION LAYER
SCALE B



2 SECTION
TYPICAL TAILINGS DEPOSITION CELL
SCALE B

LEGEND:

- WATER
- EXISTING CAP
- BASE OF SUMP (EL. 5,100 ft.)
- 2024 CAPPING MATERIAL (EL. 5,106 ft.)
- TAILINGS (SECTION VIEW)
- ROM ROCKFILL (SECTION VIEW)
- BUILDING/STRUCTURE
- ROAD
- FENCELINE
- RIVER / STREAM / DRAINAGE
- EXISTING GEOMEMBRANE
- GEOSYNTHETIC REINFORCEMENT
- GEOSYNTHETIC CLAY LINER
- APPROVED CAP EXTENTS TO EL. 5,110 ft.
- EXISTING RECLAIM WATER PIPELINE
- RELOCATED TAILINGS DELIVERY PIPELINE
- RELOCATED RECLAIM WATER PIPELINE
- 5300W PORTAL DRAINAGE PIPELINE
- CLARIFIER UNDERFLOW PIPELINE

NOTES:

1. HORIZONTAL DATUM IS MONTANA COORDINATE SYSTEM, SINGLE ZONE, NAD83 1992. UNITS ARE IN INTERNATIONAL SURVEY FEET.
2. CONTOURS ARE IN FEET. CONTOUR INTERVAL IS 5 ft.
3. USGS TOPOGRAPHY PROVIDED BY STILLWATER MINING COMPANY.
4. MIRAFI 440 GEOSYNTHETIC REINFORCEMENT TO BE INSTALLED OVER TAILINGS SURFACE TO SUPPORT INITIAL ROCKFILL PLACEMENT.
5. FOR MATERIAL SPECIFICATIONS **SEE DRG. NO. 1610**.
6. SAFETY BERMS SHALL BE MIN. 2 ft. IN HEIGHT OR MID-AXLE HEIGHT OF THE LARGEST WHEELED VEHICLE ACCESSING THE AREA.
7. ROCKFILL BERM TO BE ADVANCED FROM EAST AND WEST. ROCKFILL PLACEMENT WILL RESULT IN DISPLACEMENT OF FINE TAILINGS AND ADJACENT MUDWAVES. ROCKFILL DEPTH WILL VARY FROM APPROXIMATELY 5 TO 15 ft. DEPENDING ON IN SITU TAILINGS CONDITIONS.
8. ROM ROCKFILL TO BE PLACED IN APPROX. 2 ft. THICK LIFTS. INITIAL ROM ROCKFILL LIFT TO BE PLACED WITH A LOW GROUND PRESSURE DOZER (MAX. APPLIED PRESSURE = 5 PSI, CAT D6 LGP OR EQUIVALENT). EQUIPMENT TRACKS SHALL REMAIN 5 ft. AWAY FROM EDGE OF ROM ROCKFILL AT ALL TIMES. HAUL ROADS SHALL BE A MINIMUM OF 4 ft. THICK. ROCKFILL PLACEMENT TO BE ADVANCED IN A SLOW AND CONTROLLED MANNER OVER A NUMBER OF STAGES BASED ON OBSERVED CONDITIONS. FOLLOWING EACH ROCKFILL PLACEMENT A MINIMUM ALLOWANCE OF ONE DAY WILL BE REQUIRED TO ALLOW TAILINGS TO DRAIN AND CONSOLIDATE PRIOR TO PLACING ADDITIONAL ROCKFILL.
9. WASTE ROCK PROTECTION LAYER TO BE CONSTRUCTED USING LONG REACH EXCAVATOR STARTING FROM THE BOTTOM THEN UP TO MITIGATE THE CHANCE OF SLIPPAGE AND TEARING ALONG THE UNDERLYING GEOMEMBRANE AND / OR BENTOMAT.

ISSUED FOR CONSTRUCTION

SCALE A: 125 0 125 250 375 500 625 ft
SCALE B: 3 0 3 6 9 12 15 ft

MONTANA — KEN J. BROUWER 50020 PE — REGISTERED PROFESSIONAL ENGINEER — 2024-04-26

Knight Piésold CONSULTING

STILLWATER MINING COMPANY

STILLWATER MINE

NYE TSF
2024 INTERIM CAP
PLAN, SECTIONS AND DETAILS

DRG. NO.	DESCRIPTION
1641	2024 INTERIM CAP - SECTIONS AND DETAILS
1610	MATERIAL SPECIFICATIONS

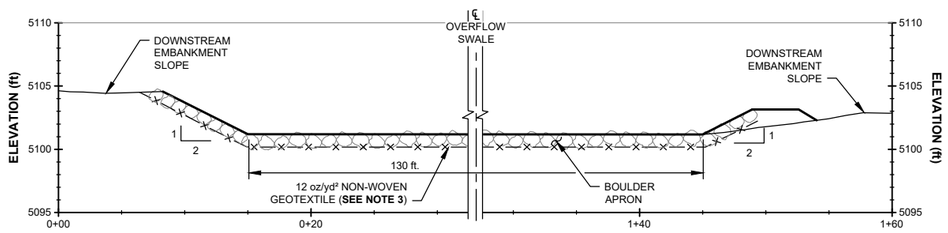
REFERENCE DRAWINGS

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED	APPROVED
0	26APR'24	ISSUED FOR CONSTRUCTION	BEA	SIR		

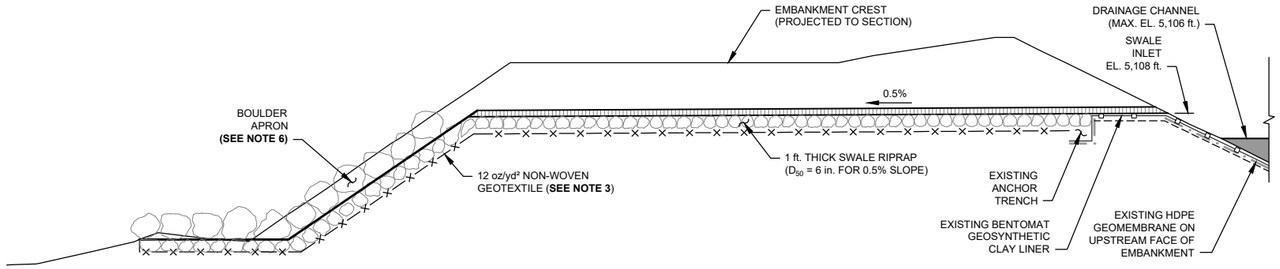
REVISIONS

	DRAWING NO.	REVISION
NB101-110/55	1640	0

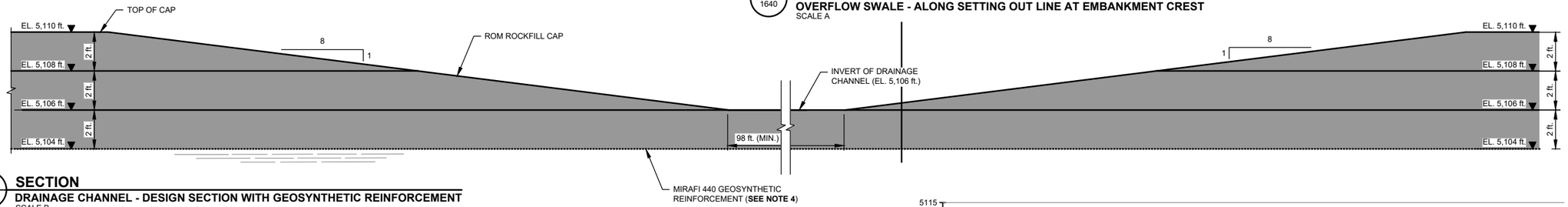
SAVED: I:\1\01\00110\55\A\Acad\DWGS\1640\1640 R0, 4/26/2024 9:17:12 AM, SRICHARD PRINTED: 4/26/2024 9:20:28 AM, 1640, SRICHARD



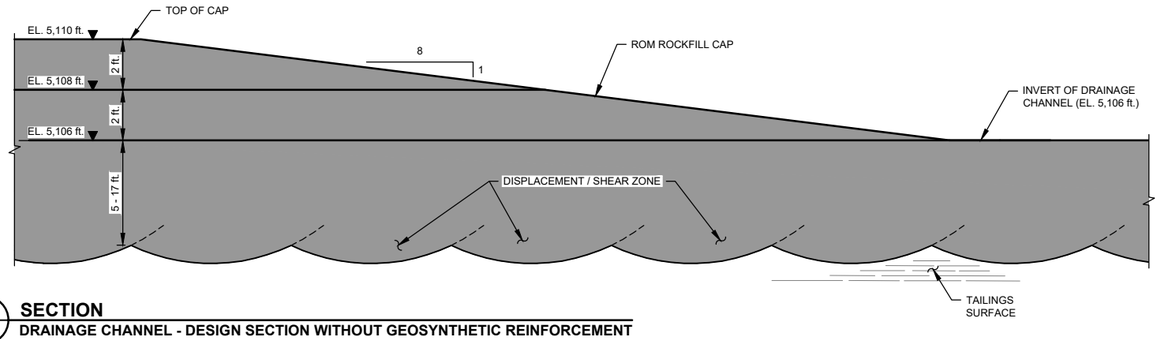
3 / 1640 **SECTION**
OVERFLOW SWALE - DOWNSTREAM EMBANKMENT SLOPE
SCALE A



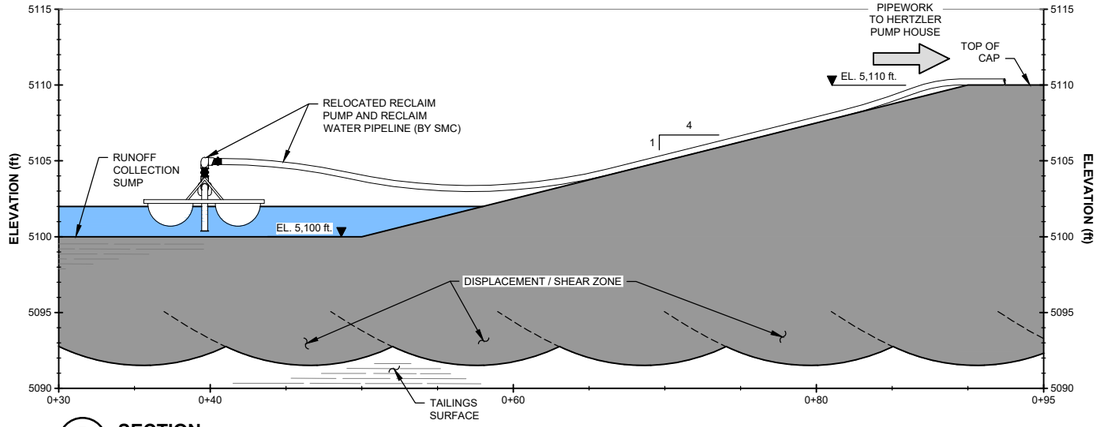
4 / 1640 **SECTION**
OVERFLOW SWALE - ALONG SETTING OUT LINE AT EMBANKMENT CREST
SCALE A



5 / 1640 **SECTION**
DRAINAGE CHANNEL - DESIGN SECTION WITH GEOSYNTHETIC REINFORCEMENT
SCALE B



6 / 1640 **SECTION**
DRAINAGE CHANNEL - DESIGN SECTION WITHOUT GEOSYNTHETIC REINFORCEMENT
SCALE B



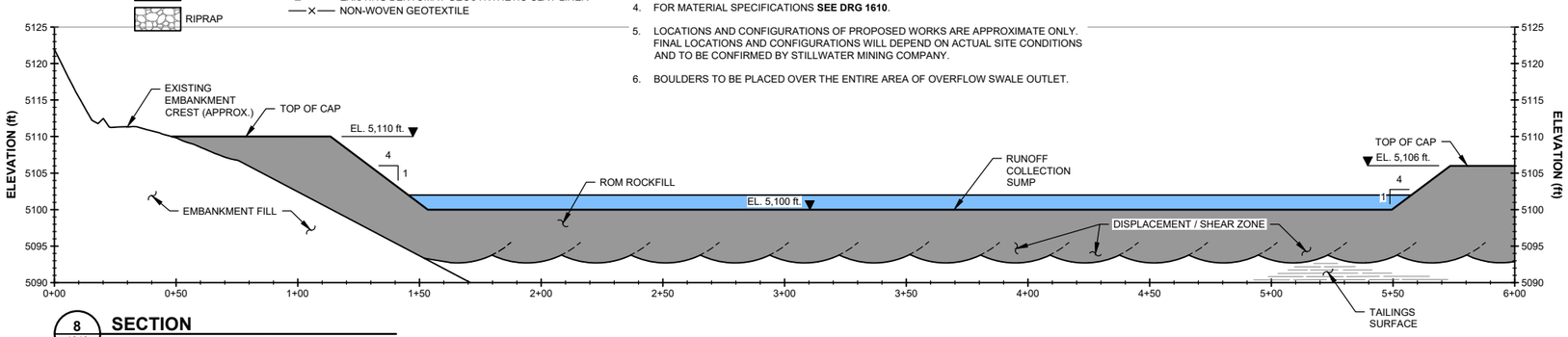
7 / 1640 **SECTION**
RUNOFF COLLECTION SUMP RECLAIM
SCALE C

LEGEND:

- WATER
- ROM ROCKFILL
- EXISTING TAILINGS
- RIPRAP
- BOULDER APRON
- ROAD TOPPING
- EXISTING HDPE GEOMEMBRANE
- EXISTING BENTOMAT GEOSYNTHETIC CLAY LINER
- NON-WOVEN GEOTEXTILE

NOTES:

1. TAILINGS BASIN SURFACE BASED ON INFORMATION PROVIDED BY STILLWATER MINING COMPANY.
2. DIMENSIONS AND ELEVATIONS ARE IN FEET, UNLESS NOTED OTHERWISE.
3. GEOSYNTHETICS TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS.
4. FOR MATERIAL SPECIFICATIONS **SEE DRG 1610**.
5. LOCATIONS AND CONFIGURATIONS OF PROPOSED WORKS ARE APPROXIMATE ONLY. FINAL LOCATIONS AND CONFIGURATIONS WILL DEPEND ON ACTUAL SITE CONDITIONS AND TO BE CONFIRMED BY STILLWATER MINING COMPANY.
6. BOULDERS TO BE PLACED OVER THE ENTIRE AREA OF OVERFLOW SWALE OUTLET.



8 / 1640 **SECTION**
RUNOFF COLLECTION - DESIGN SECTION
HORIZONTAL: SCALE D
VERTICAL: SCALE E

ISSUED FOR CONSTRUCTION

SCALE A: 5 0 5 10 15 20 25 30 ft
SCALE B: 3 0 3 6 9 12 15 ft
SCALE C: 5 0 5 10 15 20 25 ft
SCALE D: 30 0 30 60 90 120 150 ft
SCALE E: 10 0 10 20 30 40 50 ft

Knight Piésold CONSULTING

STILLWATER MINING COMPANY

STILLWATER MINE

NYE TSF
2024 INTERIM CAP
SECTIONS AND DETAILS

DRAWING NO.	REVISION
NB101-110/55	1641 / 0

DRG. NO.	DESCRIPTION
1640	2024 INTERIM CAP - PLAN, SECTIONS AND DETAILS
1610	MATERIAL SPECIFICATIONS

REFERENCE DRAWINGS

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED	APPROVED

REVISIONS

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED	APPROVED
0	26APR'24	ISSUED FOR CONSTRUCTION	BEA	SIR		

REVISIONS

PROFESSIONAL ENGINEER — PROVINCE OF BRITISH COLUMBIA — KEN J. BROUWER 30020 PE — REGISTERED — 2024-04-26

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