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VA101-126/24-10

MONTANA RESOURCES

YANKEE DOODLE TAILINGS IMPOUNDMENT - WATER BALANCE MODEL REPORT FOR 6,560 AMENDMENT DESIGN DOCUMENT

Rev	Description	Date
0	Issued in Final	December 13, 2024

EXECUTIVE SUMMARY

Montana Resources, LLC (MR) is in the process of preparing a permit amendment application (the 6,560 Amendment Application) for continued development of the Yankee Doodle Tailings Impoundment (YDTI) above the currently permitted maximum embankment crest elevation of 6,450 ft to facilitate continued operation of the mine after approximately 2034. The YDTI will continue to provide secure storage of mine tailings resulting from ongoing mine operations and water to support ore processing and facilitate the ongoing Butte Mine Flooding Operable Unit (BMFOU) remedy. MR has owned and operated the mine site since the 1980s and is currently mining the Continental Pit at a nominal Concentrator throughput rate of approximately 49,000 tons per day.

Knight Piésold Ltd. (KP) is developing the 6,560 Amendment Design Document (the Design Document) to support the 6,560 Amendment Application. This report presents the details of a water balance model that was developed as part of the design and forms part of the Design Document. The water balance model simulates the supply and demand for water at the mine on a month-by-month basis during ongoing mining operations and the resulting water inventory stored within the tailings impoundment during future operations and closure.

The YDTI water balance model was developed to simulate the supply and demand for water from the YDTI supernatant pond to support site water management. The model is used to assess water management requirements throughout the mine life, from the initiation of MR Mine operations (for calibration purposes), through current and future operating conditions, to the ultimate closure of the facility.

The water balance considers the following key model periods:

Calibration (Historical) Periods:

- **Early Operations:** January 1986 through June 2000
- **Suspension of Operations:** July 2000 through October 2003
- **Recent Operations:** November 2003 through December 2023

Predictive (Forward-Looking) Periods:

- **Future Operations:** January 2024 through December 2056
- **Closure:** January 2057 through December 2123

The model considers two scenarios for the Closure period:

- Scenario #1: Active and Passive Closure
    - Active Closure: Assumes active management of water during the first 20 years of closure. Pumped inflows to the YDTI and pumped discharges from the YDTI pond to the Polishing Plant to facilitate the BMFOU remedy are assumed to continue.
    - Passive Closure: All pumped inflows to and outflows from the YDTI assumed to be terminated. The BMFOU remedy is assumed to be managed elsewhere.
- Scenario #2: Passive Closure Only
    - Assumes the site transitions into Passive Closure immediately after the end of operations and all pumped inflows to and outflows from the YDTI are terminated. The BMFOU remedy is assumed to be managed elsewhere.

The water balance model indicates that the YDTI supernatant pond can be maintained near its target pond volume of 15,000 +/- 3,000 acre-ft (ac-ft) during future operations. Surplus conditions in the facility can be readily managed by temporarily increasing the active treatment and discharge via the Polishing Plant. Similarly, water inventory can be restored following temporary deficit conditions by temporarily reducing the rate of withdrawals to (and through) the Polishing Plant. These results demonstrate that the active water management systems at site allow operational control of the YDTI pond inventory.

Continuation of management of water in the YDTI is expected to cause a temporary increase in water inventory during the initial 3 to 5 years of Closure under Scenario #1. The increased water inventory is primarily associated with the pumping and recirculation of various flows to the YDTI. The model estimates active drawdown of the facility to a target stored water volume of 5,000 ac-ft can be achieved within 10 years of Closure in Scenario #1. In Scenario #2, the estimated time required to achieve the same volume of 5,000 ac-ft of stored water under average climate conditions is approximately 35 years.

During the Passive Closure phase in both scenarios, the YDTI pond volume will be governed by the hydrometeorological balance of the facility, which is in an overall deficit. The pond volume is expected to decrease over time, with the rate of decrease gradually declining as the pond surface area gets smaller resulting in reduced evaporation from the pond. The pond volume is expected to reach an equilibrium condition by the end of the Closure period under both closure scenarios, with direct precipitation on the pond and inflow runoff from surrounding areas being approximately equivalent to evaporation from the pond. The long-term Passive Closure Pond volumes are expected to range from approximately 500 ac-ft in very dry conditions to 7,000 ac-ft in very wet conditions with a 50th-percentile pond volume of approximately 2,000 ac-ft.

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ABBREVIATIONS

°C .... degrees Celsius
°F .... degrees Fahrenheit
ac-ft .... acre-feet
AR .... Atlantic Richfield Company
BMFOU .... Butte Mine Flooding Operable Unit
BPPS .... Berkeley Pit Pumping System
Butte Airport .... Butte Bert Mooney Airport
Design Document .... 6,560 Amendment Design Document
El. .... elevation
fasl .... feet above sea level
ft .... feet
gpm .... gallons per minute
HsB .... Horseshoe Bend
HsB CS .... Horseshoe Bend Capture System
in .... inches
KP .... Knight Piésold Ltd.
MBMG .... Montana Bureau of Mines and Geology
MGPD .... million gallons per day
MR .... Montana Resources, LLC
MTPH .... Main Tailings Pump House
NOAA .... National Oceanic and Atmospheric Administration
pcf .... pounds per cubic foot
PET .... potential evapotranspiration
Schafer .... Schafer Limited LLC
SLWS .... Silver Lake Water System
TSF .... tailings storage facility
USBC .... Upper Silver Bow Creek
USGS .... United States Geological Survey
WED .... West Embankment Drain
WRCC .... Western Regional Climate Centre
WTP .... water treatment plant
YDC .... Yankee Doodle Creek
YDTI .... Yankee Doodle Tailings Impoundment

1.0 INTRODUCTION

1.1 PROJECT BACKGROUND

Montana Resources, LLC (MR) operates an open pit copper and molybdenum mine located in Butte, Montana. MR has owned and operated the mine site since the 1980s and is currently mining the Continental Pit at a nominal Concentrator throughput rate of approximately 49,000 tons per day. The tailings from ore processing are conveyed to the Yankee Doodle Tailings Impoundment (YDTI) for disposal and permanent storage.

The current maximum embankment height is approximately 800 ft along the southern end of the impoundment. The supernatant pond is located on the northern side of the YDTI and is constrained by natural topography to the north and east and the tailings beach to the south and west. The elevation of the pond surface rises as the volume of tailings stored in the facility increases, and the pond provides a source of water to support continuous mill operations and facilitate water treatment strategies associated with the ongoing Butte Mine Flooding Operable Unit (BMFOU) remedy.

1.2 REPORT PURPOSE AND SCOPE

The YDTI is currently permitted to a maximum crest elevation (El.) of 6,450 feet (ft). The El. 6,450 ft embankment provides sufficient tailings storage capacity to support mining and ore processing until approximately 2034. MR is preparing a permit amendment application (the 6,560 Amendment Application) to facilitate continued operation of the mine thereafter by aligning approval for tailings storage at the YDTI with the current estimated ore reserves. The permit amendment application process requires the permit applicant (MR) to submit a design document when expansion of an existing facility is proposed. Knight Piésold Ltd. (KP) is developing the 6,560 Amendment Design Document (the Design Document) to support the 6,560 Amendment Application. The Design Document presents the plan to progressively raise the crest elevation of the YDTI embankments to a maximum design crest of El. 6,560 ft in two or more lifts to support continued mining and ore processing. The Design Document comprises a series of technical reports covering the subject areas and content to meet the requirements specified in Montana law as well as evaluating opportunities for continued risk reduction to enhance safety as part of the fundamental objective for ongoing continuous improvement of the safety of the YDTI.

This report presents the details of a water balance model that was developed as part of the Design Document. The water balance model simulates the supply and demand for water at the mine on a month-by-month basis during ongoing mining operations and the resulting water inventory stored within the tailings impoundment during future operations and closure. The water balance model is used to forecast water management requirements and expected pond volumes throughout the mine life, from the initiation of MR Mine operations (for calibration purposes), through current and future operating conditions, to the ultimate closure of the facility.

The water balance model was created using GoldSim®, a dynamic probabilistic simulation modelling software used extensively for mine site water management applications.

2.0 MODEL OVERVIEW

2.1 MODEL FRAMEWORK

The water balance outlined in this report was developed to simulate the supply and demand for water from the YDTI supernatant pond to support site water management. The model does not explicitly include detailed water routing and inventory within all site facilities, such as the open pits, the Concentrator, historical leaching activities, the Precipitation Plant, and water treatment plants.

The water balance model considers the period from January 1986 through December 2123. The model was divided into the following historical and predictive periods:

Historical periods:

1. Early Operations: January 1986 through June 2000
2. Suspension of Operations: July 2000 through October 2003
3. Recent Operations: November 2003 through December 2023

Predictive periods:

1. Future Operations: January 2024 through December 2056
2. Closure: January 2057 through December 2123

The model presented in this report considers two alternative scenarios for the closure period. A detailed description of the closure scenarios is presented in Section 2.3. Both scenarios (or a portion thereof) have the potential to occur, and the analysis presented in this report demonstrates the long-term similarities between the two scenarios. These scenarios were chosen to provide probable variations to consider for modelling purposes, while the actual closure scenario will likely be an adaptation based upon one of these scenarios.

2.2 SITE WATER MANAGEMENT – HISTORICAL PERIODS

The site water management strategies modelled for each of the three historical periods were approximated based on the available mine records (e.g., flow data, photos, and historical water management information obtained during interviews with the mine staff). The site water management strategies used on site varied during the 37-year historical period. The representation of these historical periods is approximate and used to calibrate key parameters for the purpose of modelling future conditions.

MR implemented changes to the tailings and water management operational practices starting in 2016 as part of the goal of gradually reducing the operating pond volume within the YDTI to approximately 15,000 acre-ft (ac-ft). The changes included reducing freshwater and make-up water demands, implementing multiple-spigot tailings discharge to enhance beach wetting and increase evaporation, and implementation of new water conveyance systems and treatment strategies under the BMFOU of Superfund. This included Atlantic Richfield Company (AR) constructing a new Polishing Plant in 2019 to facilitate discharge of water off-site from the YDTI.

A general arrangement of the current mine site layout is shown on Figure 2.1.

NOTES:

1. AERIAL IMAGE PROVIDED BY MONTANA RESOURCES, LLC IN JULY 2023.

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MONTANA RESOURCES

YANKEE DOODLE TAILINGS IMPOUNDMENT
6,560 AMENDMENT WATER BALANCE MODEL
CURRENT GENERAL ARRANGEMENT

Knight Piésold CONSULTING

P/A NO.	REF NO.
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FIGURE 2.1 REV 0

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XREF FILE(S): 5ft_01_2023-07-26; 2024-04-10 HsB Rock Disposal with Aug 2023 Image IMAGE FILE(S): 5ft_01 2023-07-26 04-10-2024 Arerial - Aug 2023 Survey Underlaid

2.3 SITE WATER MANAGEMENT – PREDICTIVE PERIODS

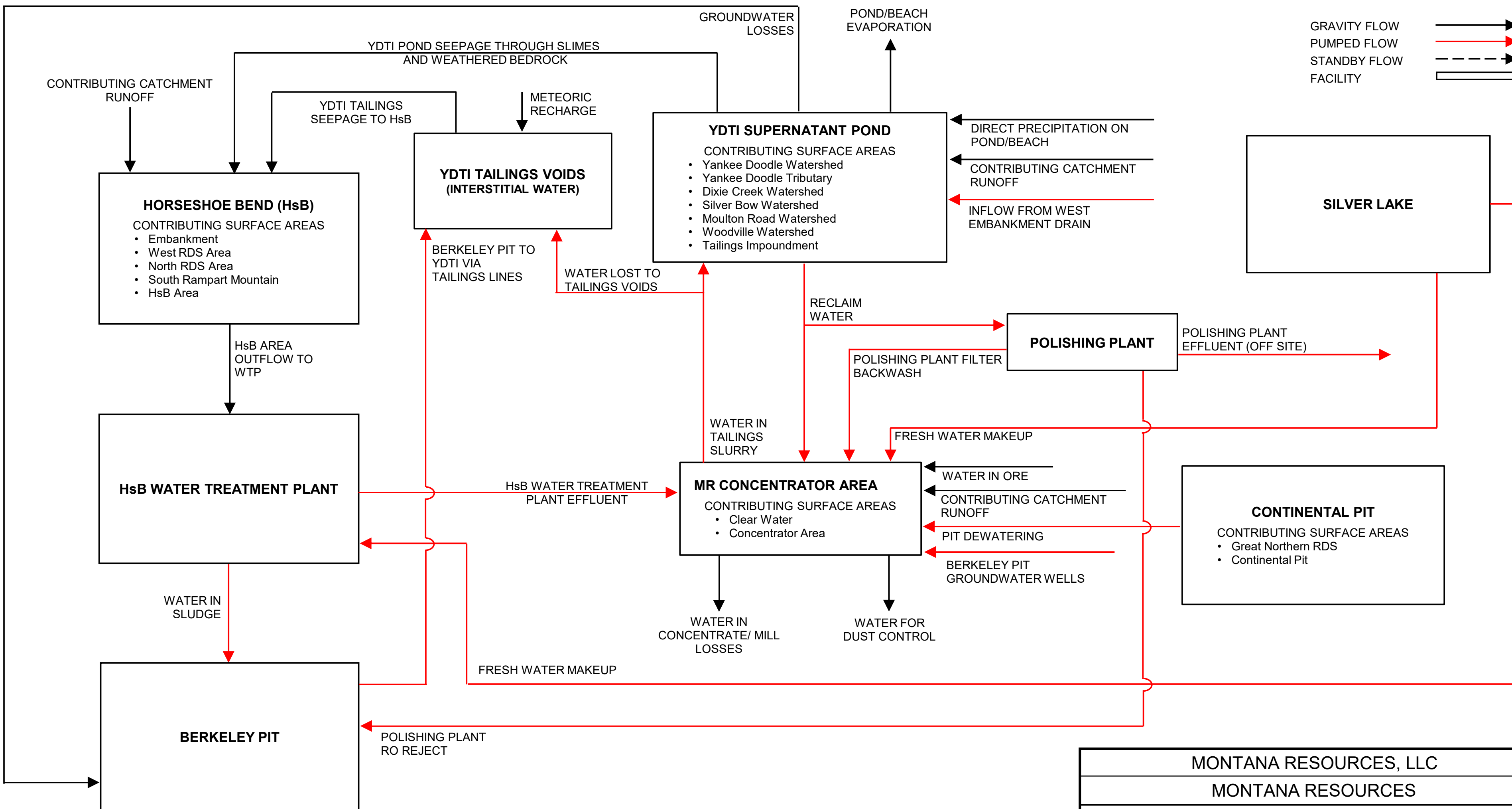
2.3.1 FUTURE OPERATIONS

The site water management strategies modelled for each of the predictive periods considers currently reasonable estimates of the future water management practices. The actual practices used in the future may differ from those presented in this report and differences will be considered in future updates to the operational water balance model for the facility.

The Future Operations period considers 33 years of future mining operations from January 2024 through December 2056. The site water management strategy for Future Operations is to continue using similar systems and water management strategies as are currently implemented on site. An operational YDTI pond water inventory target of approximately 15,000 ac-ft +/- 3,000 ac-ft (for normal seasonal fluctuations) is considered as the basis for modelling future conditions, which is consistent with current operational water inventory targets for the facility. The pond inventory will be maintained by adjusting the rate of outflow to the Polishing Plant as required, up to a maximum assumed treatment rate (for modelling purposes) of 7 million gallons per day (MGPD).

The Future Operations flow schematic is shown on Figure 2.2. The key water routing details incorporated in the water balance model include the following:

- Water enters the YDTI from direct precipitation, runoff from contributing catchments, and pumped inflows from tailings slurry water, treated BMFOU waters, the West Embankment Drain (WED), and the Woodville watershed runoff.
- Water is pumped from the YDTI pond to either the Concentrator for incorporation as process water or to the Polishing Plant for treatment and discharge off-site.
- Water collected in the HsB Area is directed to treatment at the HsB Water Treatment Plant (HsB WTP) or the HsB Capture System (HsB CS). The HsB WTP effluent is directed to the Concentrator for incorporation as process water and delivered to the YDTI. The HsB CS flows are conveyed via two HsB CS pump houses and metered into the tailings (which have additional lime to facilitate treatment of this water) at a manifold after the No. 3 (Tailings) Booster Pump House. The combined flow is discharged into the YDTI. The supernatant pond provides residence time for water treatment objectives to be achieved.
- Flows from Continental Pit dewatering, the Berkeley Pit depressurization wells, Polishing Plant filter backwash, and Concentrator catchment runoff are directed to the Concentrator.
- Silver Lake Water System (SLWS) provides fresh water for the HsB WTP and the Concentrator operations.



NOTES:

1. THE FLOW ROUTING PRESENTED IN THIS SCHEMATIC IS REPRESENTATIVE OF "FUTURE OPERATIONS" AS MODELLED IN THE WATER BALANCE. ALTERNATIVE ROUTING HISTORICALLY USED DURING OPERATIONS IS NOT PRESENTED.
2. YDTI GROUNDWATER LOSSES TO BERKELEY PIT ARE INCLUDED FOR CONSISTENCY WITH THE ARCADIS PHASE II WATER BALANCE MODEL (ARCADIS, 2019). OTHER FLOWS AT THE BERKELEY PIT ARE NOT MODELLED IN THE WATER BALANCE EXCEPT PUMPED FLOWS TO OR FROM MODELLED FACILITIES.
3. THE WATER BALANCE MODEL ASSUMES THAT FROM 2024 THROUGH TO 2056 SILVER LAKE FLOWS WILL NOT BE ROUTED DIRECTLY TO THE YDTI TAILINGS BEACH FOR TAILINGS DUST MITIGATION.

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FLOW SCHEMATIC
FUTURE OPERATIONS

Knight Piésold CONSULTING

VA101-00126/24

REF NO. 10

FIGURE 2.2

REV 0

2.3.2 CLOSURE SCENARIO #1

Closure Scenario #1 considers a two-phase closure process consisting of an Active Closure phase followed by a Passive Closure phase.

Active Closure

The Active Closure phase considers the 20-year period immediately following the Future Operations period, from January 2057 through December 2076. The key operational and water management changes between Future Operations and Active Closure are the following:

- The Concentrator operations and tailings production will cease.
- The Future Operations 15,000 ac-ft target pond inventory volume will be actively drawn down over a period of several years to an Active Closure target volume of approximately 5,000 ac-ft. Flows are assumed to be discharged via the Polishing Plant up to a maximum assumed rate (for modelling purposes) of 7 MGPD.
- The trafficable areas of the sub-aerial tailings beach will be reclaimed over a five-year period following the end of operations. The water balance model uses revised runoff and infiltration properties for the tailings beach following reclamation.
- The pond inventory will be maintained at approximately 5,000 ac-ft (with seasonal fluctuations) for the remaining years of the Active Closure period by increasing and decreasing the flows discharged via the Polishing Plant, as required.

The Active Closure flow schematic is shown on Figure 2.3. The key water routing details incorporated in the water balance model include the following:

- Water enters the YDTI from direct precipitation, runoff from contributing catchments, and pumped inflows from treatment (i.e., the HsB WTP and the HsB CS), Concentrator Area runoff, Continental Pit dewatering, Polishing Plant filter backwash, and the WED.
- Water is pumped from the YDTI pond to the Polishing Plant for final treatment and discharge off-site.
- The HsB WTP is the only mine facility receiving water from the SLWS in Active Closure.
- The Woodville and Clearwater catchments are assumed to not be contributing to the YDTI water balance.

Passive Closure

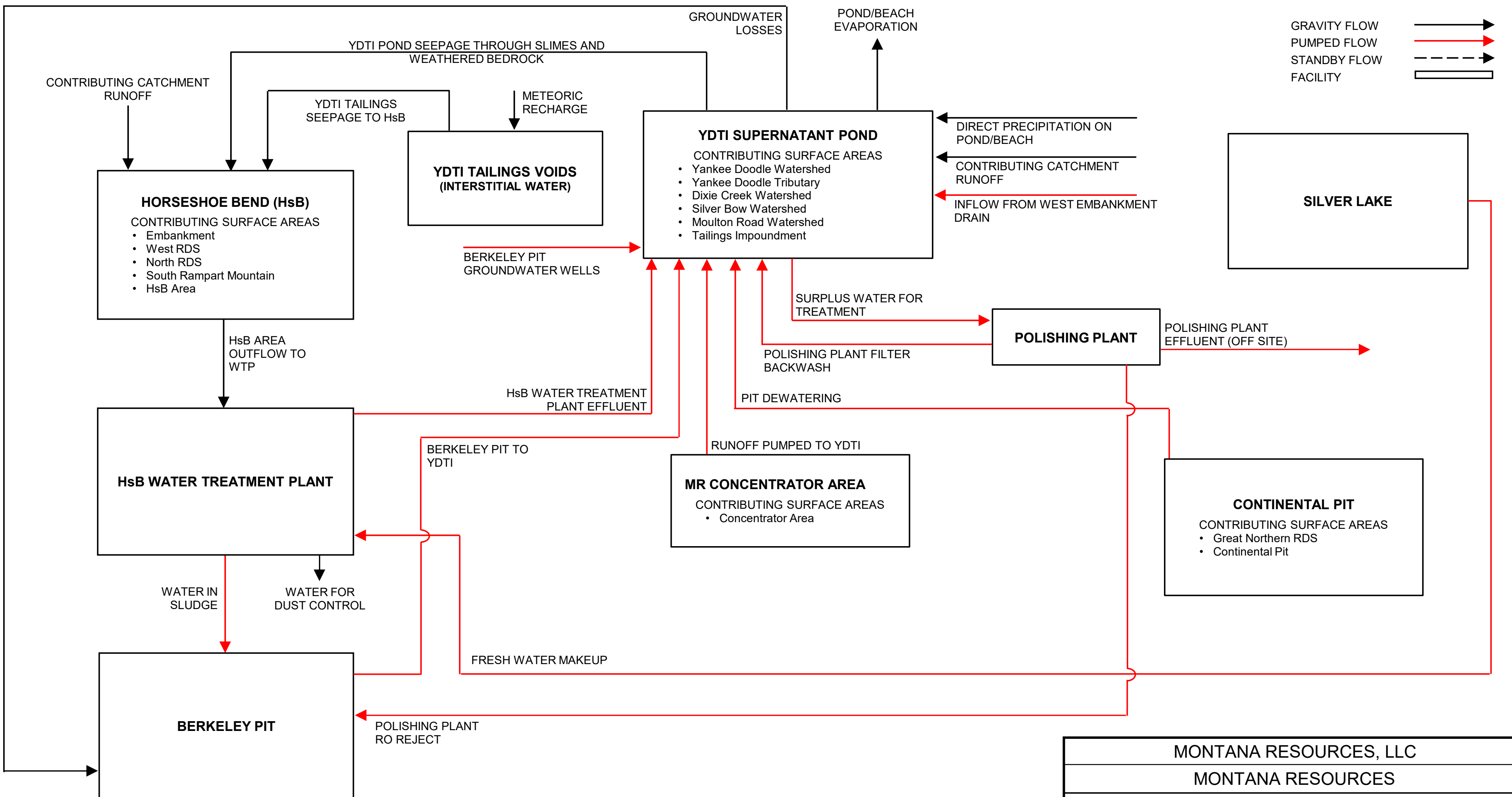
The Passive Closure phase considers the 47-year period immediately following the Active Closure period, from January 2077 through December 2123. The key water management changes between Active Closure and Passive Closure are the following:

- The YDTI will no longer recieve water from any downstream water sources.
- Active pumping of water out of the YDTI will be terminated.
- The YDTI pond inventory will passively drain down to a natural equilibrium volume with seasonal fluctuations.

The water balance model considers only the YDTI, and the disturbed areas previously contributing to the YDTI water balance model (e.g., MR Concentrator, Berkeley Pit, Continental Pit, etc.) are excluded from the Passive Closure phase of the model. The facilities receiving the outflows from these areas are not considered in the water balance model.

The Passive Closure flow schematic is shown on Figure 2.4. The key water routing details incorporated into the water balance model include the following:

- Water enters the YDTI from direct precipitation and runoff from contributing catchments.
- There is no planned discharge (gravity or pumped) from the YDTI pond. The spillway will only discharge following extreme storm events.
- The flows collected by the WED are directed to the HsB Area.
- Water collected in the HsB Area is assumed to be discharged to alternative water management systems under BMFOU that are separate from the YDTI water balance. These flows are therefore evaluated as losses to the YDTI water balance.
- Flows from the Berkeley Pit, Continental Pit dewatering, the Berkeley Pit depressurization wells, and Concentrator catchment runoff are assumed to no longer be directed to the YDTI, and therefore these flows no longer contribute to the YDTI water balance.
- The Woodville and Clearwater catchments are assumed to not be contributing to the site water balance.
- The SLWS inflows cease to contribute to the YDTI water balance.



NOTES:

1. YDTI GROUNDWATER LOSSES TO BERKELEY PIT ARE INCLUDED FOR CONSISTENCY WITH THE ARCADIS PHASE II WATER BALANCE MODEL (ARCADIS, 2019). OTHER FLOWS AT THE BERKELEY PIT ARE NOT MODELLED IN THE WATER BALANCE EXCEPT PUMPED FLOWS TO OR FROM MODELLED FACILITIES.
2. WATER FOR DUST CONTROL ASSUMED TO BE REQUIRED ONLY FOR THE FIRST FIVE YEARS OF ACTIVE CLOSURE.

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FLOW SCHEMATIC
ACTIVE CLOSURE

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REF NO. 10

FIGURE 2.3

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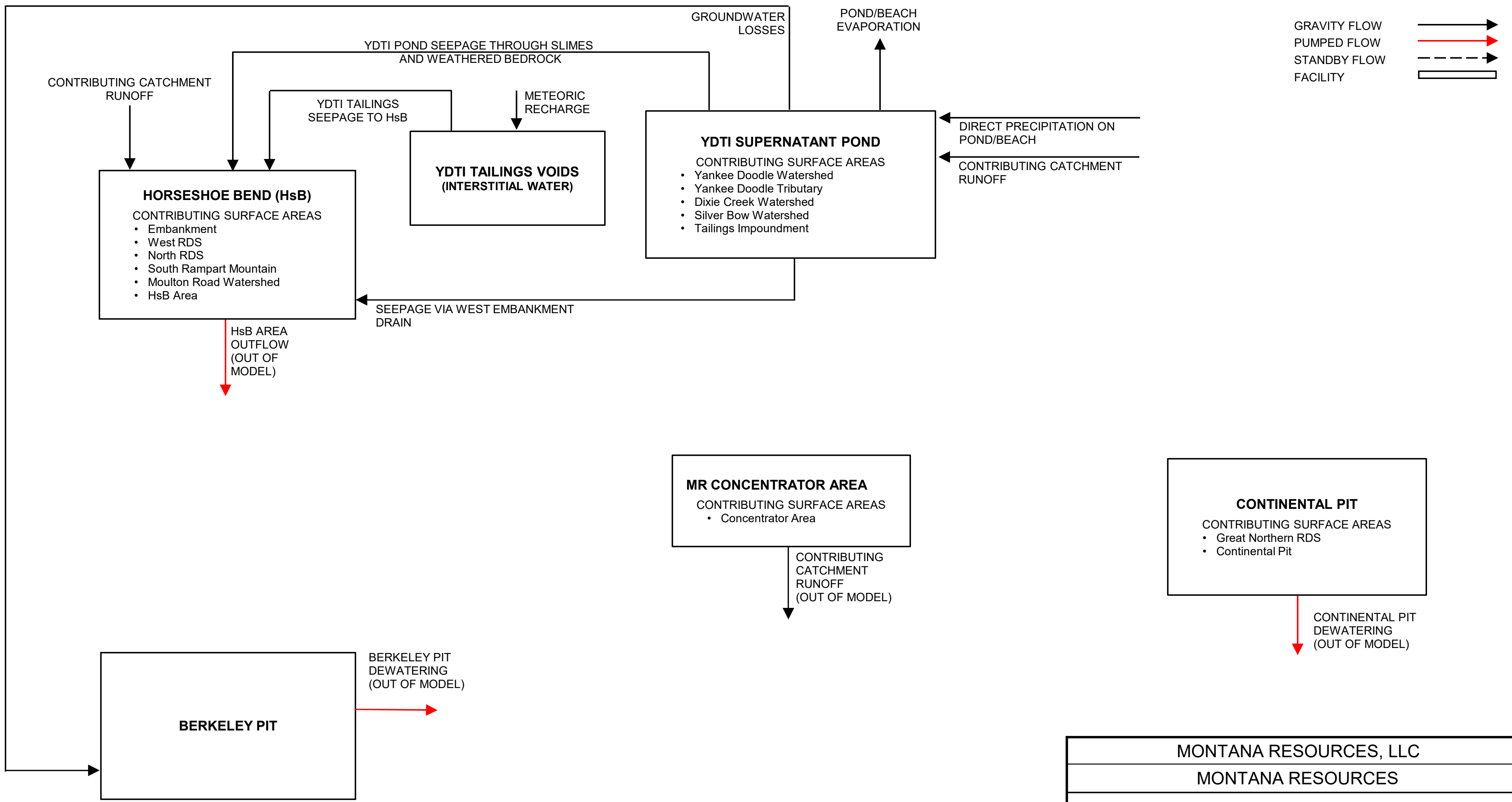

NOTES:

1. YDTI GROUNDWATER LOSSES TO BERKELEY PIT ARE INCLUDED FOR CONSISTENCY WITH THE ARCADIS PHASE II WATER BALANCE MODEL (ARCADIS, 2019). OTHER FLOWS AT THE BERKELEY PIT ARE NOT MODELLED IN THE WATER BALANCE EXCEPT PUMPED FLOWS TO OR FROM MODELLED FACILITIES.
2. FLOWS FROM THE BERKELEY PIT DEPRESSURIZATION WELLS ARE ASSUMED TO CONTRIBUTE TO FACILITIES OUTSIDE THE MODEL AND ARE NOT SHOWN HERE.

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PASSIVE CLOSURE FLOW SCHEMATIC

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VA101-00126/24

REF NO. 10

FIGURE 2.4

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2.3.3 CLOSURE SCENARIO #2

Closure Scenario #2 considers a single-phase only comprising Passive Closure immediately following the Future Operations phase.

Passive Closure

The Passive Closure phase in this scenario of the water balance model considers a 67-year period immediately following the Future Operations period, from January 2057 through December 2123. The Passive Closure incorporates an initial 5-year reclamation period similar to the Scenario #1 Active Closure phase. The key operational and water management changes between Future Operations and Passive Closure are the following:

- The Concentrator will be decommissioned and tailings production ceases.
- The YDTI reclaim barge will be decommissioned and there will be no pumping of water from the YDTI. The YDTI pond inventory volume will passively drain down to a natural equilibrium volume with seasonal fluctuations.
- The YDTI will no longer receive water from any downstream water sources.
- The trafficable areas of the sub-aerial tailings beach will be reclaimed over a five-year period following the end of operations. The water balance model uses revised runoff and infiltration properties for the tailings beach following reclamation.

The Passive Closure flow schematic is shown on Figure 2.4, and the water routing details incorporated in the water balance model are the same as described previously for the Passive Closure in Section 2.3.2.

2.4 KEY MODEL DATA

The water balance model uses a combination of measured historical data, calculated data and reasonable assumptions to evaluate the water flow rates and predicted volumes. The key inputs for the water balance model include the following:

- Hydrometeorology
  - Precipitation, temperature, and evaporation
  - Runoff characteristics
  - Climate variability
- YDTI properties
  - Configuration (e.g., capacity, surface area, elevation) and changes over time
  - Historical pond volumes
  - Operating philosophy, processes and controls
- Mill process and tailings production
  - Tailings slurry properties (e.g., slurry solids concentration, tailings specific gravity)
  - Ore throughput and water management routing
- Site water management systems (e.g., dust control, pit dewatering)
- Catchment Areas
  - Upstream contributing watershed catchments
  - Mine property sub-catchments

The key model assumptions and input parameters incorporated in the water balance model are shown in Table 2.1. Detailed descriptions of the assumptions and inputs are provided in the following sections.

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TABLE 2.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

YDTI WATER BALANCE FOR 6,560 AMENDMENT DESIGN DOCUMENT
INPUTS AND ASSUMPTIONS

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Model Input		Description	Value	Units	Source / Notes	Date
Hydrometeorological Parameters	Mean Annual Precipitation	YDTI Elevation	15.9	in/yr	Monthly total precipitation values based on data from Butte Mooney Airport, uplifted to match the mean monthly precipitation values presented in the Schafer Limited LLC Memo "MBMG Climate Information" dated Mar. 29, 2016.	29-Mar-16
		Upslope Elevation	22.2	in/yr	KP Climate Conditions Report (VA101-126/24-2), dated September 1, 2021	1-Sep-21
	Mean Annual Air Temperature	YDTI Elevation	41.0	°F	KP Climate Conditions Report (VA101-126/24-2), dated September 1, 2021	1-Sep-21
		Upslope Elevation	34.5	°F	KP Climate Conditions Report (VA101-126/24-2), dated September 1, 2021	1-Sep-21
	Rain/Snow	Calculated based on air temperature and precipitation stringfiles	-	-		
		Min temperature for rain	-1	°C	Assumption	
		Max temperature for snow	3	°C	Assumption	
	Mean Annual and Monthly Sublimation	0.5 in/mon from November to April	2.5	in/yr	Schafer Limited LLC Memo "MBMG Climate Information" dated Mar. 29, 2016	29-Mar-16
	Snowmelt	Calculated based on air temperature stringfile	-	-		
		Snowmelt Factor	1.1	in/°F	Assumption	
		Base Temperature (temperature at which snow starts to melt)	1	°C	Assumption	
	Mean Annual and Monthly Pond Evaporation	Monthly estimates generated using the Thornthwaite equation model in GoldSim were uplifted to match the mean monthly precipitation values presented in the Schafer memo	25.7	in/yr	Calculated based on Thornthwaite equation and Schafer Limited LLC Memo "MBMG Climate Information" dated Mar. 29, 2016	15-Jan-20
		Latitude of Temp Station	45.9	-		
	Runoff Coefficients	Pond Surface	1	-		
		Undiverted/Undisturbed Areas	0.15	-	Based on concurrent measured streamflows (USGS 12323500, 12323240, 12323600) and Butte Airport Precipitation.	20-Jun-23
		YDTI Embankment/Disturbed Areas	0.25	-	Calibrated to match observed pond volumes (unchanged from previous WBM). The undisturbed coefficient is used after the surfaces are reclaimed. Reclamation occurs progressively within 5 years of the end of Future Operations.	9-Oct-24
		Tailings Beach	varies	-	During Operations, the disturbed areas coefficient is used. The undisturbed coefficient is used after the surface is reclaimed.Reclamation occurs progressively within 5 years of the end of Future Operations.	9-Oct-24
Catchment Areas	Tailings Impoundment	Area at 6560 ft contour.	2056	acres	Values are based on final mine site configuration. Historical areas included in model as warranted.	9-Oct-24
	West YDTI	Undisturbed area. Flows to YDTI.	116	acres		
	Yankee Doodle	Undisturbed area. Flows to YDTI.	1755	acres		
	Yankee Doodle Tributary	Undisturbed area. Flows to YDTI.	356	acres		
	Dixie Creek	Undisturbed area. Flows to YDTI.	396	acres		
	Silver Bow	Undisturbed area. Flows to YDTI.	967	acres		
	Moulton Road	Predominantly undisturbed; a portion is disturbed. Captured by WED starting in 2019.	295	acres		
	Woodville	Undisturbed area. Directed to YDTI in Future Operations. Diverted at closure.	510	acres		
	Clear Water	Undisturbed area. Directed to Concentrator in Future Operations. Diverted at closure.	1405	acres		
	South Rampart Mountain	Undisturbed area. Flows to HsB.	495	acres		
	North RDS Area	Disturbed area. Flows to HsB.	310	acres		
	Great Northern RDS	Partially disturbed area. Flows to HsB.	325	acres		
	HsB Area	Disturbed area. Flows to HsB.	564	acres		
	Embankment	Disturbed area. Flows to HsB.	95	acres		
	West RDS Area	Partially disturbed area. Flows to HsB.	551	acres		
	Concentrator Area	Disturbed area. Directed to Concentrator in Future Operations and YDTI in Active Closure. Reports to offsite facilites in Passive Closure.	279	acres		
	Continental Pit	Disturbed area. Note that runoff is not modelled in the water balance, as it is implicitly captured in the Continental Pit dewatering rate.	1091	acres		
	Berkeley Pit	Not modelled.	782	acres		
Mill Process / Tailings Production	Tailings Solids Production	Historical rate varies. Assumed future rate of production of 18 M short ton/year.	varies	ton/yr	Historical mining rates provided by MR. Future rate of 18 M short ton/year assumed by KP based on 2007-2018 average.	17-Jan-20
	Slurry Solids Content	By weight	35	%	KP Design Basis Report VA101-126/12-1 Rev 2 dated June 30, 2017.	30-Jun-17
	Tailings S.G.		2.8	-	KP Memo VA16-00014.	18-Mar-16
	Tailings Initial "Settled" Dry Density	Representative dry density of the tailings during the "initial settling" stage of the tailings consolidation conceptual model	64	lb/ft^3	Refer to KP Letter VA18-01697 for a description of KP's tailings consolidation conceptual model. Calibrated to match observed pond volumes.	9-Oct-24
	Tailings Initial Draining Dry Density	Representative dry density of the tailings during the "initial draining" stage of the tailings consolidation conceptual model	84	lb/ft^3	Refer to KP Letter VA18-01697 for a description of KP's tailings consolidation conceptual model.	17-Jan-20
	Tailings Consolidated Dry Density	Representative dry density of the consolidated tailings as a result of the ongoing consolidation during the final stage of the tailings consolidation conceptual model	103	lb/ft^3	Refer to KP Letter VA18-01697 for a description of KP's tailings consolidation conceptual model. Calibrated to match observed pond volumes.	9-Oct-24
	Water Content in Ore		3	%	Provided by Josh Shutey (MR Senior Mine Engineer).	7-Oct-15
	Concentrate Water	Water lost with the concentrate. Constant during production periods.	5.61	gpm	Based on solids mass concentration values provided by Josh Shutey (MR Senior Mine Engineer) by email.	3-May-16
	Dust Control	Withdrawn from Concentrator. Assumed to be withdrawn from the HsB WTP at 50% of the operations rate in closure until surface reclamation completed.	varies	MGPD	Based on water truck counts provided by Mark Thompson (MR) by email. Forecast period assumes 0.35 MGPD based on historical average.	20-Jun-23
Continental Pit	Dewatering Rate	Estimated average Continental Pit dewatering rate, which includes surface water runoff form the Great Northern Leach Pad and Continental Pit catchment areas as well as groundwater inflows, pumped to the MR Concentrator.	0.5 - 0.7	MGPD	0.5 MGPD rate provided by MR, Mark Thompson by email in 2016. Rate assumed to increase proportionate to Continental Pit footprint expansion during Future Operations.	9-Oct-24
YDTI Properties	Initial Pond Volume	At start of model Jan 1986	2,000	acre-ft	Assumption/Calibration.	19-Jun-16
	Target Pond Volume	Future Operations	15,000	acre-ft		22-Mar-23
		Active Closure	5,000	acre-ft	Scenario #1 only.	9-Oct-24
	Pond Elevation	Based on measured pond elevations in historical period. Based on filling curves and area-capacity relationships in projected period.	varies	ft	Measured elevations provided by MR. Filling Curves and Area-Capacity relationships based on KP Muk3D model.	9-Oct-24
	Pond Area	Based on measured pond areas in historical period. Based on filling curves and area-capacity relationships in projected period.	varies	acre	Measured elevations provided by MR. Filling Curves and Area-Capacity relationships based on KP Muk3D model.	9-Oct-24
	Beach Area	Based on measured pond areas in historical period. Based on filling curves and area-capacity relationships in projected period.	varies	acre	Measured elevations provided by MR. Filling Curves and Area-Capacity relationships based on KP Muk3D model.	9-Oct-24
	Seepage Losses	Seepage to HsB and WED.	varies	gpm	Past seepage rates back-calculated from observed HsB and WED flows. Future seepage rates estimated using KP's YDTI Seepage Model and latest calibration inputs.	9-Oct-24
	Groundwater Losses	GW losses from the YDTI Pond reporting to Berkeley Pit	0.8	MGPD	Based on Arcadis BMFOU Phase 2 Site-Wide Water Balance Model (Arcadis, 2019).	14-Jan-20
	Tailings Beach Evaporation	Evaporation from the YDTI tailings beach surface area, as a function of the total evapotranspiration	40-60	%	KP Assumption based on the estimated percentage of active (i.e. fresh) tailings beach area out of the total tailings beach area. Increases from 40% to 60% in 2022 due to addition of tailings discharge locations around the perimeter of the facility. Zero at closure.	9-Oct-24
	Tailings Beach Infiltration	Infiltration into the YDTI tailings mass: Operations	30	%	KP estimate - See KP Letter VA18-01697.	10-Jan-20
		Infiltration into the YDTI tailings mass: Closure	10	%	KP estimate - See KP Letter VA18-01697. Transition to 10% infiltration rate coincides with reclamation activites, i.e., begins 1 year after the end of Future Operations and completed 5 years after the end of Future Operations.	9-Oct-24
	Silver Lake Inflows	1986 - Present	varies	MGPD	Data provided by MR.	24-Sep-18
		Projected Operations	1	MGPD		9-Oct-24
		Closure	0.32	MGPD	Minimum required for operation of the HsB water treatment plant.	22-Mar-23
West Embankment Drain (WED)	External Inflow	Groundwater inflow from offsite	15	gpm	External inflow estimates from Hydrometrics, 2024. Runoff calculated in the model based on climate inputs.	9-Oct-24
		Runoff from Moulton Road Watershed (flowed to YDTI prior to commissioning of the WED)	varies	gpm		25-May-18
	Capture Percentage	Meteoric Recharge	10-25	%	Remainder assumed recovered at HsB area.	9-Oct-24
		Initial Draining and Consolidation Water Release	10-25	%	Remainder assumed recovered at HsB area.	9-Oct-24
Horseshoe Bend	Runoff and Seepage	Runoff and seepage rates to the Horseshoe Bend, measured at the HsB Weir.	varies	gpm	Historical data from flow records measured at HsB Weir, taken at the HsB WTP, or calculated in the model. Rates from 1986 to 1995 estimated. Future rates calculated using seepage estimates developed using the seepage conceptual model, plus inflows from runoff.	17-Jan-20
	Water Treatment Plant (WTP)	WTP Recycle to Mill	92.5	%	Calculated from WTP flows provided by MR, Mark Thompson	1-Nov-17
		Sludge/Reject to Berkeley Pit	7.5	%	Calculated from WTP flows provided by MR, Mark Thompson	1-Nov-17
Berkeley Pit	Groundwater Depressurization Wells	Pumping Rate	varies	gpm	Historical data provided by MR, Mark Thompson by email. Flow starts in 2015. Forecast period at 135 gpm, based on average of recent flows. Directed to Concentrator during Historical and Future Operations. Directed to YDTI during Active Closure. Not considered in model in Passive Closure.	9-Oct-24
	Berkeley Pit Pumping System (BPPS)	Pumping Rate	varies	MGPD	Historical data provided by MR, Mark Thompson by email. Flow starts in 2020. Forecast period at 3 MGPD, based on average of recent flows. Directed to YDTI. Not considered in model in Passive Closure.	9-Oct-24
Polishing Plant	Treatment rate	Withdrawn from the YDTI supernatant pond	varies	MGPD	Historical data provided by MR, Mark Thompson by email. Forecast period assumed capped at 7 MGPD. Not considered during Passive Closure.	8-Mar-23
	Reject Rate	Reject to Berkeley Pit	varies	%	Measured flows provided by MR (Mark Thompson) used for historic period. Assumed 10% for Predictive periods.	12-Apr-21
	Filter Backwash	Water for filter maintenance.	0.5	MGPD	Estimate by MR. Sourced from YDTI supernatant pond. Flows to Concentrator during operations. Flows to YDTI in Active Closure. Not considered in model in Passive Closure.	14-Apr-23

M:\1\01\00126\24\A\Report\10 - YDTI Water Balance Report for A6560\Rev 0\Tables and Figures\[Table 2.1.xlsm]Table 2.1

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	RSD

3.0 HYDROMETEOROLOGY

3.1 CLIMATE CONDITIONS

A complete review of relevant climate data for the MR Mine was undertaken in 2021 and the results of the review are presented in the *YDTI Climate Conditions Report* (KP, 2021), which is included as a component of the Design Document. The review evaluated the data from three local climate stations:

- Butte Bert Mooney Airport climate station (El. 5,550 feet above sea level (fasl)). Data period: 1895 to 2021.
- MR Mine climate station (El. 6,350 fasl). Data period: 2014 to 2021.
- National Oceanic and Atmospheric Administration (NOAA) Moulton Reservoir climate station (El. 6,700 fasl). Data period: 1980 to 1986.

The review included consideration of information presented in Schafer (2016), which included estimated long-term average climate conditions for the YDTI facility.

The evaluation of concurrent data at the climate stations indicated the mean annual precipitation estimated in the Schafer memo is representative of precipitation conditions for MR mine locations near the YDTI embankment; however, it is not representative of conditions within the drainage area upslope of the YDTI.

The estimated long-term monthly average precipitation and evaporation values for the YDTI and upslope areas are summarized in Table 3.1 (as reported in KP, 2021).

Table 3.1 Monthly Average Precipitation and Evaporation for the YDTI and Upslope Areas

Month	Butte Airport Precipitation (in)	Estimated YDTI Precipitation (in)	Estimated Upslope of YDTI Precipitation (in)	Potential Free Water Evaporation including Sublimation (in)
Jan	0.55	1.22	1.30	0.5
Feb	0.48	0.96	1.78	0.5
Mar	0.77	1.06	2.06	0.5
Apr	1.10	1.47	1.75	2.12
May	1.82	2.14	3.30	2.95
Jun	2.17	2.22	2.46	3.70
Jul	1.26	1.53	1.78	5.43
Aug	1.27	1.11	1.25	4.93
Sep	1.13	1.52	2.19	3.34
Oct	0.74	1.06	1.63	3.16
Nov	0.62	0.63	1.18	0.5
Dec	0.57	0.99	1.46	0.5
Annual	**12.47**	**15.92**	**22.15**	**28.13**

Note(s):

1. "Upslope of YDTI" values are applicable to the Yankee Doodle, Dixie Creek, and Silver Bow watersheds. "YDTI" values are applicable to all other catchments.

Temperature values for the YDTI were assessed previously by correlating monthly average temperature values at the Butte Airport climate station with concurrent values for the Moulton Reservoir and the MR Mine climate stations, and then applying the correlation equations shown in Table 3.2 to the long-term temperature records for Butte Airport (KP, 2021). The resultant mean annual temperatures at the YDTI and the areas upslope of the YDTI are 40.0 degrees Fahrenheit (°F) and 34.5 °F, respectively.

Table 3.2 Temperature Correlation Equations

Location	Seasonal Period			
	Apr - Oct		Nov - Mar	
YDTI	Y = 1.0316 X - 2.0423	R^2 = 0.9848	Y = 0.7975 X + 7.2641	R^2 = 0.9176
Upslope of YDTI	Y = 0.9378 X - 4.4161	R^2 = 0.9895	Y = 0.8711 X - 0.5731	R^2 = 0.9861

Note(s):

1. Equations are applicable to monthly mean temperatures for Butte Airport.
2. “Upslope of YDTI” values are applicable to the Yankee Doodle, Dixie Creek, and Silver Bow watersheds. “YDTI” values are applicable to all other catchments.

3.2 WATER BALANCE CLIMATE DATA INPUTS

Monthly data are available from the Butte Bert Mooney Airport climate station for a period spanning 1895 through 2023, including 124 complete years of record. These data are available from the Western Regional Climate Center (WRCC) website and are summarized in Table A.1 and Table A.2, in Appendix A. Factors were applied to the precipitation and evaporation records to achieve the long-term average values shown in Table 3.1, and the correlations presented in Table 3.2 were applied to the temperature records. The resultant datasets were applied in the model as follows:

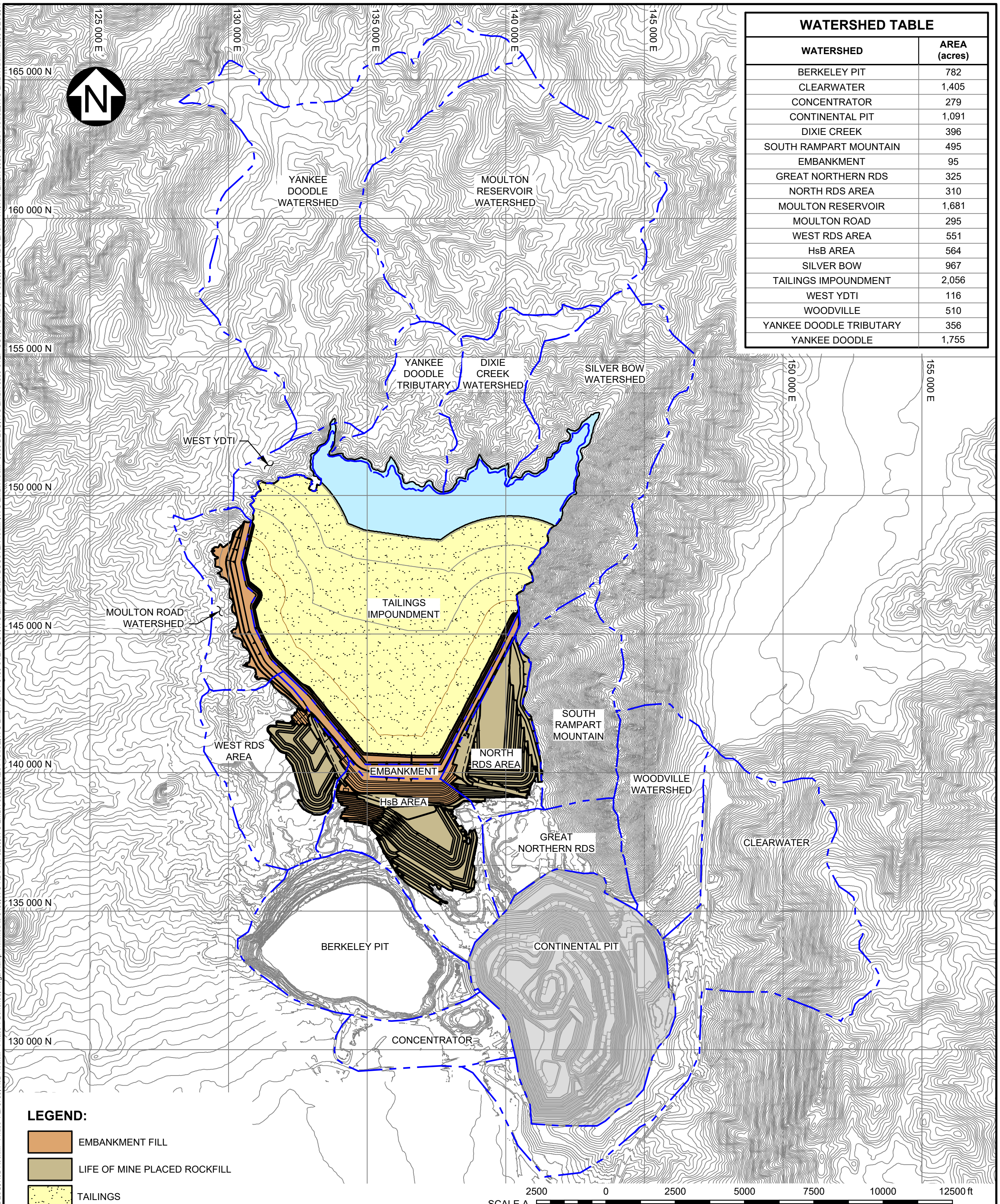
- **Historical periods:** Measured data were used in the model for each corresponding month.
- **Predictive periods:** Variable climate conditions were simulated by running the model with 124 different sequences of the available 124-year historical daily climate series. Each simulation run (or realization) was generated by incrementally stepping through the long-term climate record, beginning each subsequent realization with the following year of data, such that the first realization started with the 1895 data, the second realization started with the 1896 data, and so on. This preserved the inherent cyclical nature of the climate record while simulating potential future climate conditions and a corresponding range of predicted results for each month of each phase of the project.

3.3 RUNOFF

Runoff to site surfaces was estimated using the contributing surface area, the total free water, and a runoff coefficient applied to each surface. The catchment area delineations for the final El. 6,560 ft mine configuration are presented on Figure 3.1.

Free water estimates were assessed by modelling precipitation as rain or snow based on the temperature time series, and tracking snowpack accumulation. Snowmelt amount and timing were determined as a function of the snow accumulation, the sublimation rate, and the monthly temperature. Sublimation was estimated as 0.5 inches per month from November to March, as discussed in the Schafer memo. The amount of water available for runoff was then calculated as the sum of rainfall and snowmelt in each month.

SAVED: M:\1\01\00126\24\A\Acad\FIGS\A43, 10/24/2024 9:24:07 AM , PPETKOVIC PRINTED: 12/12/2024 9:37:22 AM, FIG 3.1, RMCLELLAN ACAD VERSION: 25.0S (LMS TECH)
XREF FILE(S): X-C-EMBK-WEST-6450-DESG; X-C-EMBK-EAST-6450-DESG; HsB Rockfill - Phase 1 El 5700; HsB Rockfill - Phase 1 Benched; Mega Ramp Trimmed to 6450; X-C-RDS-NS-6200; X-C-EMBK-6560-CREST-RAISE; X-C-EMBK-EAST-6450-STEP-OUT; X-C-EMBK-EAST-BOOSTER-RAMP; X-C-EMBK-RAMP-6500-DESG; X-C-EMBK-6500-STEP-OUT; X-C-RDS-NS-6350; X-C-RDS-EAST-PH1; X-C-EMBK-6560-CREST-RAISE; X-C-EMBK-RAMP-6560-DESG; X-C-RD



WATERSHED TABLE

WATERSHED	AREA (acres)
BERKELEY PIT	782
CLEARWATER	1,405
CONCENTRATOR	279
CONTINENTAL PIT	1,091
DIXIE CREEK	396
SOUTH RAMPART MOUNTAIN	495
EMBANKMENT	95
GREAT NORTHERN RDS	325
NORTH RDS AREA	310
MOULTON RESERVOIR	1,681
MOULTON ROAD	295
WEST RDS AREA	551
HsB AREA	564
SILVER BOW	967
TAILINGS IMPOUNDMENT	2,056
WEST YDTI	116
WOODVILLE	510
YANKEE DOODLE TRIBUTARY	356
YANKEE DOODLE	1,755

LEGEND:

- EMBANKMENT FILL
- LIFE OF MINE PLACED ROCKFILL
- TAILINGS
- SUPERNATANT POND
- WATERSHED BOUNDARIES

NOTES:

1. COORDINATE SYSTEM AND ELEVATIONS BASED ON ANACONDA MINE GRID.
2. TOPOGRAPHY PROVIDED BY MONTANA RESOURCES, LLC IN SEPTEMBER 2023.

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YANKEE DOODLE TAILINGS IMPOUNDMENT
6,560 AMENDMENT WATER BALANCE MODEL
CATCHMENT AREAS

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-126/24	10

FIGURE 3.1 REV 0

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
0	13DEC'24	ISSUED WITH REPORT	JRG	RMM	RSD

Runoff from the regional catchments was evaluated using United States Geological Survey (USGS) streamflow station and regional climate station data, and the surrounding catchments were found to have mean annual runoff coefficients ranging from 0.13 to 0.68, with a median runoff coefficient of 0.32, as described in Appendix B. Runoff coefficients were lowest at the stations nearest the Mine site.

Flow data collection at the Upper Silver Bow Creek (USBC) and Yankee Doodle Creek (YDC), which flow directly into the YDTI, commenced in late 2019. The YDC weir was replaced in September 2021, as the original 2019 weir was undersized. The available period of flow record is currently insufficient for assessing the site runoff characteristics.

Runoff coefficients of 0.25 and 0.15 were applied to the disturbed and undisturbed catchment areas in the water balance model, respectively, based on review and analysis of the flow data collected in these areas. A runoff coefficient of 1 was applied for the YDTI supernatant pond surface.

The surface characteristics of disturbed catchments were modelled to return to those of undisturbed catchments following reclamation. An annual runoff coefficient of 0.15 was applied to ‘reclaimed’ disturbed areas in closure. The water balance model assumes that progressive surface reclamation of disturbed areas commences one year after the end of operations and occurs at a linear rate with all surfaces reclaimed within five years.

3.4 EVAPORATION

Pond evaporation from the YDTI supernatant pond and wet tailings beach area was assumed to be approximately equal to potential evapotranspiration (PET) and was calculated using the empirical Thornthwaite equation (Thornthwaite, 1948) and the temperature time series. Monthly factors were applied to make the calculated evaporation values for the YDTI facility consistent with the Schafer memo values.

3.5 CLIMATE CHANGE

The effects of potential future changes in climate patterns in the MR mine area were considered but were not modelled in the YDTI water balance model because they are anticipated to be minor. Climate change modelling for Montana by the Intergovernmental Panel on Climate Change (IPCC) generally results in predictions of increases in temperature and increases in winter and spring precipitation (Gutiérrez et al., 2021), but these changes have offsetting effects on the annual water budget, and accordingly the models predict little to no change in mean annual runoff (IPCC, 2013).

These findings are supported by the United States Environmental Protection Agency (US EPA, 2016), who state that for Montana “Warmer temperatures increase evaporation and water use by plants. Increases in rainfall, however, are likely to offset these losses so that soil moisture increases slightly or remains about the same as today.”

Major changes to annual deficit conditions in the YDTI pond due to climate change are not anticipated. The timing of runoff into the YDTI pond could be slightly different than what was simulated with the current YDTI water balance model. Warmer temperatures would result in proportionally more winter rainfall and less winter snowfall, and correspondingly more winter runoff and less spring and summer runoff.

4.0 SITE FACILITIES

4.1 GENERAL

The following site facilities are considered in the water balance model:

- Concentrator
- Continental Pit
- Berkeley Pit
- Yankee Doodle Tailings Impoundment
- West Embankment Drain
- Horseshoe Bend Area
- Horseshoe Bend Water Treatment Plant
- Silver Lake Water System

Descriptions of the water sources, water routing, and input/operational assumptions associated with water management at each of these locations is detailed in the following sections.

4.2 CONCENTRATOR

4.2.1 GENERAL

The Concentrator receives water from the following sources:

- Contributing catchment runoff
- Water content in the ore
- Reclaim water from the YDTI
- HsB WTP effluent
- Continental Pit dewatering
- SLWS discharge
- Berkeley Pit depressurization wells (since 2015)
- Polishing Plant filter backwash (since 2019)

Water uses at the Concentrator include the following losses:

- Water in the concentrate
- Water used for dust control
- Water in the tailings slurry delivered to the YDTI

The Concentrator operates in a water balance, which is achieved by adjusting estimated reclaim water rates from the YDTI as required to match demand, after accounting for other inflows. Approximately 22 MGPD of water is required at the Concentrator in Future Operations based on the solids content of the slurry and estimated average daily throughput.

4.2.2 PRECIPITATION AND CONTRIBUTING RUNOFF

The Concentrator receives inflows from runoff from the following watershed catchments:

- Concentrator Area
- Clearwater catchment

The Clearwater catchment does not contribute to the YDTI water balance model after the end of Future Operations. The Concentrator Area runoff is assumed to be pumped to the YDTI during the Scenario #1 Active Closure period and is assumed to be directed to offsite water management facilities during the Passive Closure periods for both Scenario #1 and Scenario #2.

4.2.3 PRODUCTION SCHEDULE

The annual production schedule used in the water balance model for the historical period is summarized in Table 4.1. The annual production rate for the Future Operations period was estimated to be 18 million tons per year.

Table 4.1 Annual Production Schedule

Year	Annual Mill Production (million tons)	Year	Annual Mill Production (million tons)
1986	4.4	2005	18.2
1987	12.8	2006	18.1
1988	17.2	2007	18.4
1989	17.5	2008	17.9
1990	17.0	2009	18.0
1991	17.6	2010	17.2
1992	17.8	2011	16.7
1993	16.8	2012	18.1
1994	15.2	2013	17.1
1995	14.9	2014	17.2
1996	16	2015	17.7
1997	15.2	2016	18.2
1998	19.3	2017	17.8
1999	18.8	2018	17.0
2000(1,2)	8.0	2019	16.8
2001(2)	0	2020	16.5
2002(2)	0	2021	16.4
2003(1,2)	1.6	2022	15.6
2004	17.2	2023	16.0

Note(s):

1. Mill production in 2000 represents six months of production and in 2003 represents two months of production.
2. Mill production was paused when mining operations were suspended from July 2000 through October 2003.

4.2.4 CONCENTRATOR FLOW CONSIDERATIONS

The following water sources and losses are included in the water balance model:

- Water in the ore: the estimated average ore moisture content is approximately 3%. The ore water content therefore contributes an estimated average ore water flowrate of 0.4 MGPD, when considering an annual production rate of 18 million tons per year.
- Water in the concentrate: The water contained in the MR copper concentrate was assumed to account for a net water loss from the site water balance of approximately 0.01 MGPD, when considering an annual production rate of 18 million tons per year.
- Dust control water: Process water is applied to the MR mine roads using a spray truck to reduce the dust generated from mine roads. MR estimates an average dust control water consumption of approximately 0.4 MGPD in the Future Operations period. Measured values were used to estimate dust control demands in the historical model periods.

The flowrates considered above were applied as constant flow rates during the Future Operations period and were adjusted based on the recorded production data in the historical calibration periods.

4.3 CONTINENTAL PIT

The Continental Pit is located southeast of the YDTI, as shown on Figure 2.1. MR has been mining the Continental Pit since 1986. Inflows to the Continental Pit include groundwater inflows and surface water runoff from the Great Northern Leach Pad and Continental Pit catchment areas.

The water balance used an estimated average pumping rate of 0.5 MGPD for the dewatering flows from the Continental Pit during the historical calibration periods. This value was provided by MR in 2016. The dewatering rate for the predictive periods was assumed to increase proportionally to the increase in the Continental Pit footprint relative to 2016.

Water in the pit will be collected by the pit dewatering system and pumped to the Concentrator in the Future Operations period and to the YDTI in the Scenario #1 Active Closure period. However, during the Passive Closure periods the Continental Pit dewatering flow was assumed to not contribute to the YDTI water balance. These flows are assumed to be managed elsewhere as a component of the BMFOU remedy.

4.4 BERKELEY PIT

4.4.1 BERKELEY PIT PUMPING SYSTEM

Incorporation of Berkeley Pit water into the site water balance commenced in September 2019 as part of a pilot project associated with the BMFOU. The Berkeley Pit Pumping System (BPPS) conveys water from the Berkeley Pit to the HsB area where it can be managed by either the HsB WTP or HsB CS. The HsB CS flows are conveyed via two HsB CS pump houses and metered into the tailings (which have additional lime to facilitate treatment of this water) at a manifold after the No. 3 (Tailings) Booster Pump House. The combined flow is discharged into the YDTI, and the supernatant pond provides residence time for water treatment objectives to be achieved. Flows directed to the HsB WTP are treated before being conveyed to the Concentrator for incorporation into the tailings circuit and additional treatment at the YDTI.

Either system arrangement results in the water being conveyed to the YDTI. The water balance model assumes that BPPS flows are conveyed to the YDTI via the HsB CS.

Water is conveyed to the YDTI at an annual average flowrate of 2,100 to 2,500 gallons per minute (gpm) (3.0 to 3.6 MGPD). The flow records for the HsB CS were used for the historical periods in the water balance model.

A constant Berkeley Pit water inflow rate of 3 MGPD to the YDTI was assumed for Future Operations and for the Scenario #1 Active Closure period. These flow rates are considered reasonable as they are comparable to the BPPS flowrates recorded since commissioning in 2019. The actual BPPS pump rates during the predictive periods may vary depending on the various inflows to the Berkeley Pit.

The BPPS was assumed to not contribute to the YDTI water balance model during the Passive Closure periods. These flows are assumed to be managed elsewhere as a component of the BMFOU remedy.

4.4.2 BERKELEY PIT DEWATERING WELLS

Dewatering wells are used to depressurize the Berkeley Pit wall near the haul road to the primary crusher. Groundwater from the Berkeley Pit slope dewatering wells has been diverted to the Concentrator since 2015. The flow rates are measured and have been provided by MR, ranging from a high of 250 gpm in April 2017 to a low of 105 gpm in November 2023. The dewatering rate has shown an overall decreasing trend since the dewatering wells were brought online.

The water balance model used recorded data for the historical calibration periods and assumed a continuous dewatering well flowrate of 135 gpm for Future Operations and for the Scenario #1 Active Closure period. This assumption is considered reasonable as the Pit water levels are planned to be held constant during these periods.

The Berkeley Pit dewatering well flows are directed to the Concentrator in Future Operations and to the YDTI in Scenario #1 Active Closure. The Berkeley Pit dewatering wells are assumed to not contribute to the YDTI water balance model during Passive Closure periods. These flows are assumed to be managed elsewhere as a component of the BMFOU remedy.

4.5 YANKEE DOODLE TAILINGS IMPOUNDMENT

4.5.1 PRECIPITATION AND CONTRIBUTING RUNOFF

The YDTI receives direct precipitation on the YDTI beach and supernatant pond as well as runoff from the following catchment areas:

- Upslope watersheds:
  - Yankee Doodle Creek
  - Yankee Doodle Tributary
  - Dixie Creek
  - Silver Bow Creek
- Other watersheds:
  - Moulton Road (redirected to HsB Area during Passive Closure)
  - Woodville (not included in model after Future Operations)
- YDTI embankment

To estimate runoff, the water balance model uses the climate inputs and runoff coefficients outlined in Section 3.0.

Runoff from the Woodville watershed is mixed with the tailings slurry at the McQueen Booster Pump House and pumped to the YDTI via the tailings discharge lines.

The water balance model assumes no water contributes to the YDTI from the upslope Moulton Reservoir Watershed since runoff is captured behind the Moulton Reservoir Dams (except under exceptionally wet conditions) and is used as part of Butte's municipal water supply.

Precipitation falling on the YDTI beach was partitioned as direct runoff to the supernatant pond or as water infiltrating into the tailings mass that seeps to the HsB or WED for collection. Any water that is not attributed to runoff or infiltration was assumed to be lost to evaporation.

4.5.2 PUMPED INFLOWS

Water was assumed to be pumped directly to the YDTI from the following sources:

- Historical and Future Operations periods
  - Tailings slurry water
  - BPPS (via the HsB CS)
  - WED pumpback
- Active Closure period (Scenario #1 only):
  - BPPS
  - Berkeley Pit groundwater wells
  - Concentrator Area runoff
  - Continental Pit dewatering
  - HsB WTP effluent
  - Polishing Plant filter backwash
  - WED pumpback

All pumped inflows to the YDTI in Scenario #1 were assumed to terminate at the end of the Active Closure period. No pumped inflows were considered in Scenario #2 Closure.

4.5.3 TAILINGS SLURRY WATER

Tailings slurry will be delivered by pipeline to the YDTI during Future Operations. The solids content of the tailings slurry at the Concentrator is approximately 35%, which equates to a gravimetric moisture content of 186%. The volume of water conveyed from the Concentrator with the tailings slurry is directly proportional to the quantity of tailings produced.

Tailings are discharged sub-aerially onto the beach surface of the YDTI. Tailings accrete over time, and recently deposited tailings are typically paste-like, very soft, and have a relatively high moisture content. A large proportion of the tailings slurry water drains to the supernatant pond, while a portion of the tailings slurry water continually percolates into the tailings beach mass following deposition and recharges the phreatic surface within the impoundment. This interstitial water contained within the tailings voids is temporarily unavailable for reuse until it drains from the impoundment and is collected in the HsB area or by the WED.

4.5.4 YDTI TAILINGS SEEPAGE

4.5.4.1 CONCEPTUAL MODEL

A conceptual model for tailings deposition and consolidation behavior was used for predicting future seepage rates from tailings slurry water release at the YDTI for water balance modeling purposes (KP, 2018). The seepage conceptual model includes the following seepage flow paths:

- Tailings slurry water release
- Water from meteoric recharge (i.e., rainfall or snowmelt infiltrating through the tailings beach)
- Pond seepage from the YDTI supernatant pond through weathered bedrock and tailings slimes

A detailed characterization of each of the seepage terms, along with a description of the methodology and assumptions used to develop the conceptual model, are included as Appendix C. The estimated flow rates for some of the seepage terms were revised during calibration of the water balance model for the Design Document. The methodology and logic underlying the seepage calculations remained the same.

4.5.4.2 TAILINGS SEEPAGE

Slurry Water Seepage Pathways

The key properties associated with the tailings slurry seepage pathways described in Appendix C are summarized in Table 4.2.

Table 4.2 Summary of the Tailings Properties used in the Conceptual Model

Step	Tailings Properties		
	Dry Density	Gravimetric Moisture Content	Degree of Saturation
	(pcf)	(%)	(-)
Tailings Slurry	28	186	-
Initial Settling	64	61	1
Initial Draining [1]	84	29	0.75
Densification and Re-saturation	96	29	1
Consolidation [2] and Stored Moisture (Saturated)	103	24	1

Note(s):

1. The Initial Draining phase was modelled to occur over a three-year duration.
2. The Consolidation phase was modelled to occur over a six-year duration.

Slurry Water Receiving Locations

Tailings slurry water released during the Initial Settling stage was assumed to report directly to the YDTI pond.

The tailings slurry water released during the Initial Draining and Consolidation phases was assumed to report to HsB Area or to the WED. All Initial Draining and Consolidation water was assumed to report to the HsB Area from the start of historical operations until the commissioning of the WED in 2019. Following commissioning of the WED in 2019, 25% of the Initial Draining and Consolidation water released was assumed to report to the WED and the remaining 75% was assumed to report to the HsB Area. The historical capture rates were calibrated based on measured data collected at the WED and at the HsB Area.

The same 75% and 25% split of Initial Draining and Consolidation water reporting to the HsB Area and WED was assumed for the predictive periods.

Estimated Seepage Flows – Historical Periods

The HsB Area flow records were used to assess seepage in the historical periods and calibrate the model against observed seepage rates. Refer to Section 4.7 for details regarding seepage estimation at the HsB Area.

Estimated Seepage Flows – Predictive Periods

The tailings slurry water seepage rates in the predictive periods will be governed primarily by tailings slurry water release. Settling, draining, and consolidation of the tailings slurry was assumed to occur continuously throughout Future Operations.

The seepage flow rates are expected to decrease following the termination of tailings deposition. The characteristics of the flow reduction observed during the mining shut-down period (2000 to 2003) were used to develop estimates of drain-down behaviour. The results from this analysis led to the following key assumptions:

- The tailings slurry water initial release pathway was assumed to stop contributing to seepage flows three years after mine closure in 2056. This was modelled in the water balance by setting the water arriving at the HsB Area and WED in a given time step to the moving average of the initial release flows over the preceding three years.
- The consolidation pathway was assumed to stop six years after mine closure. The consolidation pathway was modelled in the water balance by linearly decreasing the release rate from the nominal rate at the end of operations to 0 gpm at the end of 2062. The released water was then set to arrive at the HsB and WED based on the moving average of the release flows over the preceding three years.

4.5.4.3 METEORIC RECHARGE

Meteoric recharge is calculated based on the beach area, available free water, and a rate of water infiltration through the beach surface. The water balance assumed 30% of the total free water on the tailings beaches infiltrates into the tailings mass in Future Operations. The proportion of infiltrated water was assumed to decrease to 10% of the total free water on the tailings beach following reclamation, which was expected to begin one year after the end of Future Operations and be completed in the first five years of closure.

The meteoric recharge component of total YDTI seepage varies throughout the predictive periods due to variable climate inputs and predicted increases in the tailings beach area available for meteoric recharge during that time. All meteoric recharge water was assumed to report to the HsB Area from the start of the historical calibration period until the commissioning of the WED in 2019. Following commissioning of the WED, 25% of the meteoric water was assumed to report to the WED and the remaining 75% was assumed to report to the HsB Area. The same 75% and 25% split of meteoric water reporting to the HsB Area and WED was assumed in the predictive periods.

4.5.4.4 POND SEEPAGE

Seepage to the Horseshoe Bend

Losses from the YDTI supernatant pond to the HsB Area through tailings slimes and weathered bedrock were incorporated into the model. Losses were calculated using Darcy's law and inputs that were previously developed as part of the seepage conceptual model described in Appendix C.

Groundwater Losses

Losses to groundwater from the YDTI supernatant pond to the Berkeley Pit were modelled as 0.8 MGPD for the water balance in the historical and predictive periods. This value is consistent with estimates by Arcadis (Arcadis, 2019).

4.5.5 EVAPORATION

Monthly evaporation losses at the YDTI supernatant pond were estimated by multiplying the lake evaporation rates presented in Section 3.4 by the supernatant pond surface area. The evaporation losses from the freshly deposited tailings slurry water and wet beach areas were accounted for in the model by applying the estimated evaporation rates to the active (i.e., fresh) tailings beach area. The active tailings beach area was assumed to comprise 40% of the total tailings beach area until 2021, during which time the tailings were simultaneously discharged from two locations at any given time. The active tailings beach area was increased to be 60% of the total tailings beach area from 2022 through the Future Operations period to account for an increased wet beach area resulting from recent changes to the tailings distribution system. The increased wet beach area is directly associated with an operational change that incorporated discharging tailings simultaneously from multiple locations. The active tailings beach area is assumed to be zero in the closure phases.

4.5.6 RECLAIM TO THE CONCENTRATOR

The supernatant pond provides a source of water to support continuous mill operations. The water balance model simulates the supply and demand for water to the Concentrator to support ore processing on a continuous basis. The balance of water required at the Concentrator in addition to inflows from elsewhere on site was modelled as the required reclaim water rate from the supernatant pond.

4.5.7 WITHDRAWAL TO THE POLISHING PLANT

The Polishing Plant is sized to facilitate inflow of up to 10 MGPD of water from the YDTI depending on prevailing climate conditions and influent chemistry. The Polishing Plant treatment rate during Future Operations was assumed to be adjusted as needed to maintain the supernatant pond volume within the target operating range of 15,000 ac-ft +/- 3,000 ac-ft.

The minimum Polishing Plant discharge rate was generally assumed to equal the expected BPPS inflow rate of 3 MGPD during Future Operations.

The water balance model incorporates an increased discharge rate up to an assumed value of 7 MGPD, a rate that is higher than the BPPS inflow rate, for the first several years of the Scenario #1 Active Closure period. This higher rate facilitates active drawdown of the YDTI pond inventory to the target of approximately 5,000 ac-ft during Active Closure. The discharge rate is assumed to be reduced once the pond achieves a volume of approximately 5,000 ac-ft, and then fluctuates as required to maintain the YDTI supernatant pond target volume of the 5,000 ac-ft with seasonal fluctuations.

No water withdrawals to the Polishing Plant are modelled during Passive Closure phases.

4.6 WEST EMBANKMENT DRAIN

The WED was commissioned in 2019 and collects seepage from the YDTI, surface runoff from the Moulton Road watershed at the eastern side of the West Ridge, and groundwater inflows to the WED from the contributing upgradient West Ridge catchment area. The WED contributions to the YDTI supernatant pond were modelled as a combination of:

- Contribution from external groundwater and runoff sources.
- Tailings slurry water released during Initial Draining and Consolidation of tailings near the WED.
- Meteoric recharge water from the beach area adjacent to the WED.

The seepage from the YDTI pond to the WED was assumed to be negligible for the purpose of water balance modelling.

The average annual rate of inflow from non-YDTI sources was estimated as 53 gpm (Hydrometrics, 2024). This was modelled in the water balance using a constant 15 gpm groundwater inflow rate plus inflows from runoff to attain a long-term average rate similar to the estimated rate. Runoff estimates were evaluated using the method outlined in Section 3.3.

The inflows to the WED were modelled as 25% of the water released during Initial Draining and Consolidation and 25% of the meteoric recharge water on the beach surface. Further details regarding tailings slurry water release and meteoric recharge estimates are outlined in Section 4.5.

Water collected in the WED was assumed to be pumped back to the YDTI supernatant pond during Future Operations and the Scenario #1 Active Closure period. Collected water was modelled to flow via gravity discharge to the HsB Area during Passive Closure and assumed to be managed elsewhere with other BMFOU waters.

4.7 HORSESHOE BEND AREA

4.7.1 GENERAL

Inflows to the HsB Area consist of:

- Runoff and groundwater discharge to the HsB Area, which originates from a combination of upstream and adjacent catchments.
- Seepage that migrates through the free-draining YDTI rockfill embankments.
- Water collected in the WED (Passive Closure only).

The water routings for the HsB Area are as follows:

- Historical periods:
  - 1986 to early 1996: HsB Area flows directed to the Berkeley Pit.
  - 1996 to 2000: HsB Area flows pumped to the YDTI.
  - July 2000 to November 2003 (suspension period): HsB Area flows directed to the Berkeley Pit.
  - November 2003 to 2023: HsB Area flows directed to the HsB WTP.
- Future Operations period: HsB Area flows directed to the HsB WTP.
- Active Closure period (Scenario #1): HsB Area flows directed to the HsB WTP.
- Passive Closure period: HsB Area flows routed to facilities outside the YDTI water balance model (i.e., managed elsewhere).

4.7.2 PRECIPITATION AND CONTRIBUTING RUNOFF

There are five catchment areas that contribute runoff to the HsB Area. These include:

- West Rock Disposal Site (RDS) catchment
- North RDS catchment
- Great Northern RDS catchment
- YDTI Embankment catchment
- HsB Area catchment

The estimated surface water runoff to the HsB Area ranges from 180 to 600 gpm (0.3 to 0.9 MGPD) in the predictive periods. This flow estimate was evaluated using the method outlined in Section 3.0.

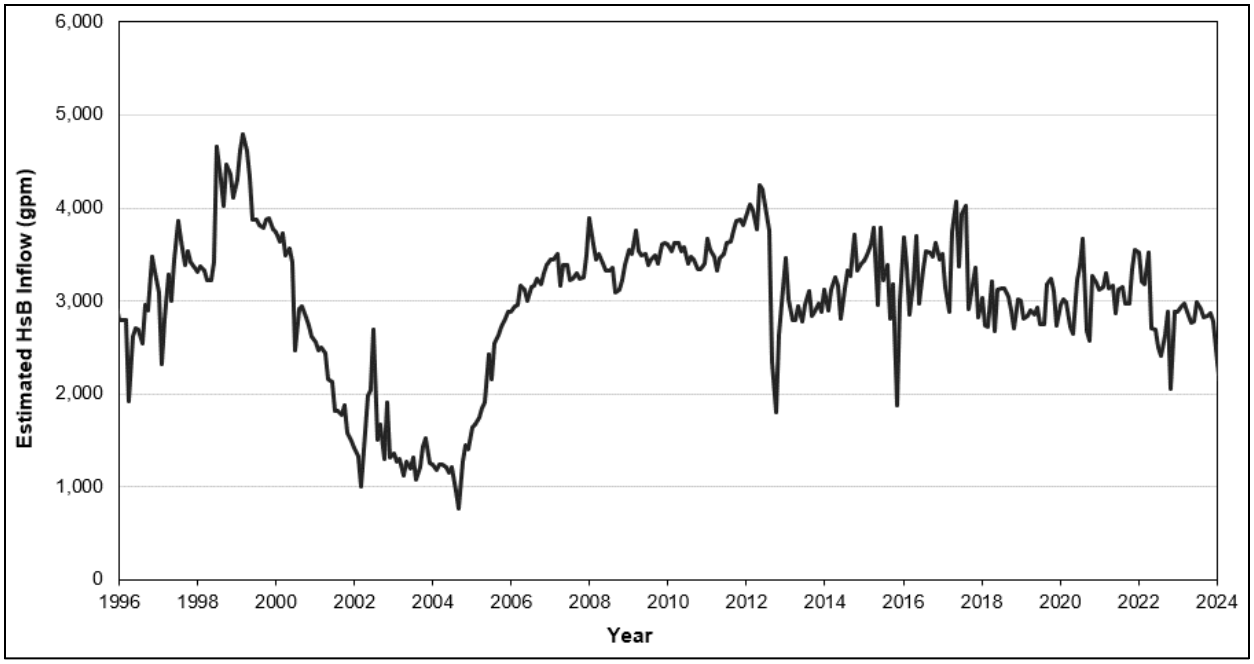
4.7.3 YDTI SEEPAGE INFLOWS

4.7.3.1 ESTIMATED SEEPAGE FLOWS - HISTORICAL PERIOD (1986 TO 2023)

The historical seepage component of HsB Area flows was estimated by subtracting the estimated contributing runoff flow from the total estimated HsB Area inflows. HsB Area flows have been measured regularly since 1996 using a weir (the HsB Weir) established by the Montana Bureau of Mines and Geology (MBMG) near the south end of the HsB Pond. The weir was upgraded in late 2015 to facilitate more reliable data collection.

The HsB WTP inflow measurements were used to estimate HsB Area inflows for the 2005 to 2015 period. Measurements from the HsB Weir were used for the period of 1996 to 2005, when the HsB WTP was not yet online, and after replacement of the HsB Weir in 2015. An HsB flow rate of approximately 3,000 gpm was assumed in the water balance model for the period prior to the availability of the measured flows at the HsB Weir (prior to 1996).

Estimates of inflow rates at the HsB Area since 1996 are shown on Figure 4.1. The estimated seepage component of the inflows, after accounting for runoff, ranges from 860 to 4,000 gpm (1.2 to 5.8 MGPD) on an annual average basis over the historical periods (1986 to 2023).



Note(s):

1. Values are estimates of total inflow to the HsB Area using data from the HsB Weir and the HsB WTP.
2. A constant flow rate of 3,000 gpm assumed prior to 1996.

Figure 4.1 HsB Inflow Estimates – Historical Periods

4.7.3.2 ESTIMATED SEEPAGE FLOWS – PREDICTIVE PERIODS

As outlined in Section 4.5, the seepage reporting to the HsB Area from the YDTI includes the following seepage flow paths:

- Tailings slurry water release from Initial Draining and Consolidation
- Pond seepage from the YDTI supernatant pond through weathered bedrock and tailings slimes
- Water from meteoric recharge (i.e., rainfall or snowmelt infiltrating through the tailings beach)

The estimated YDTI seepage rates reporting directly to the HsB Weir following mine closure are modelled to decrease from approximately 2,700 gpm at the end of 2056 to approximately 215 gpm by the end of 2062 following the completion of the drain-down period. The long-term average seepage rate reporting to the HsB Area is expected to be approximately 215 gpm from 2063 onwards, with year-to-year variation due to variable meteoric recharge rates.

4.7.4 MISCELLANEOUS HSB AREA FLOW CONSIDERATIONS

The water balance model does not explicitly model the following processes and facilities, as they are operated as closed-loop systems during the majority of the calibration period with minimal water loss or gain or did not substantially impact the calibration of the water balance model.

- Historical Leach Operations: Leach operations in the HsB Area were initiated in the 1960s with leaching of uncrushed low-grade rockfill in the area immediately south of the YDTI. The leach operations were suspended in 1999 but recommenced again in 2004, and recirculation flows were further increased in 2012. The recirculation to the leach pads continued through until summer 2021, when the operations were again suspended to facilitate drain-down of the rock disposal areas adjacent to the YDTI embankments. The interstitial water in these areas drained down gradually as recirculation slowed and ceased, and flows were incorporated into the overall site water balance. The potential impact of these additional flows would be a short-term underprediction of the water inventory during this phase of the calibration period.
- Precipitation Plant: Water collected in the HsB Area is directed to the Precipitation Plant for processing, before being discharged from the area. The water balance model does not explicitly include the Precipitation Plant because any losses due to evaporation from the precipitation cells or outflows to facilitate copper recovery are not considered substantial and the effects on the YDTI water balance predictions are minimal.
- Short-term mine activities: Mine activities, such as dewatering of the leach dumps (e.g. in 1998 and 1999) and temporary alterations to water management practices/routing likely had short-term effects on flows observed at the HsB Area. These activities are not explicitly accounted for in the present analysis because their impact on the water balance predictions is minimal.

4.8 HORSESHOE BEND WATER TREATMENT PLANT

The HsB WTP was commissioned in 2003 and is located east of the Berkeley Pit and south of the HsB Area. The HsB WTP typically receives flows collected in the HsB Area (and/or flows from the BPPS), along with freshwater inflows of 0.3 MGPD from SLWS, which is detailed further in Section 4.9.

Measured flows from the HsB Area were used to estimate inflows to the HsB WTP for the historical calibration period. The influent flows to the HsB WTP during Future Operations and the Scenario #1 Active Closure period were calculated as the sum of the estimated YDTI seepage, surface runoff contributing to the HsB Area, and the freshwater requirements of approximately 0.3 MGPD. The freshwater requirement of 0.3 MGPD was provided by MR.

The HsB WTP was not modelled in Passive Closure, as outflows from the HsB Area were assumed to be directed to a water management facility outside the YDTI water balance model during this period.

The HsB WTP generates the following discharge flows:

- Effluent:
  - Future Operations: 100% of flow assumed routed to the Concentrator for incorporation into the mill circuit.
  - Active Closure: 0.2 MGPD of flow used for dust control (initial five years only), remaining flow is routed to the YDTI.
- Sludge:
  - Future Operations and Active Closure: 100% of flow assumed discharged to the Berkeley Pit for all model periods (excluding Passive Closure). The flowrate was estimated as 7.5% of the total HsB WTP influent based on measurements by MR.

4.9 SILVER LAKE WATER SYSTEM

Freshwater from SLWS is delivered to the mine site primarily to meet the freshwater requirements for the Concentrator and the HsB WTP, and to provide make-up water to fulfill any process water deficits from the YDTI supernatant pond.

SLWS water usage from 1986 to 1995 was estimated by MR based on pumping records, while water usage from 1996 to December 2023 was based on measured monthly flow data. No SLWS water was delivered to the site during the mine suspension period between July 2000 and October 2003. The water balance model assumes the HsB WTP freshwater requirement of approximately 0.3 MGPD was included in the total SLWS flows delivered to the mine site since November 2003. Average annual flow rates for SLWS usage since 1986 are summarized in Table 4.3.

Freshwater from SLWS was historically used as a mitigation measure to enhance wetting of the tailings beaches for dust control purposes. Large campaigns of SLWS water pumping were undertaken during 2013 and 2014 to increase water inventory and to keep tailings “wet to the greatest extent possible” as required by MR’s Montana Air Quality Permit. This practice was later replaced with other management strategies, such as using multiple tailings discharge points to facilitate beach wetting and application of dust suppressants.

MR has made a number of process changes over the past few years in an effort to reduce SLWS usage (KP, 2019). For modeling Future Operations (2024 through to 2056), the total SLWS water delivered to the mine site (including what is used at the HsB WTP) was assumed to be supplied at a rate of 1.0 MGPD, consistent with conditions achieved since 2018.

Water inflows from SLWS are expected to decrease in the Scenario #1 Active Closure period, consisting only of the 0.3 MGPD required for the HsB WTP. No inflows from SLWS are expected to be required at modelled facilities in Passive Closure.

Table 4.3 SLWS Historical Water Usage

Year	Annual Average Flow (million gallons per day)	Year	Annual Average Flow (million gallons per day)
1986	8.2	2005	8.9
1987	6.0	2006	7.1
1988	10.6	2007	4.6
1989	7.3	2008	3.6
1990	5.7	2009	3.4
1991	4.1	2010	3.0
1992	4.1	2011	1.8
1993	4.0	2012	3.7
1994	4.0	2013	6.9
1995	3.8	2014	7.5
1996	2.5	2015	6.3
1997	2.7	2016	3.5
1998	1.6	2017	1.7
1999	1.5	2018	0.8
2000	0.7	2019	1.1
2001	0	2020	1.1
2002	0	2021	1.2
2003	0.8	2022	1.1
2004	7.9	2023	1.2

5.0 MODEL CALIBRATION

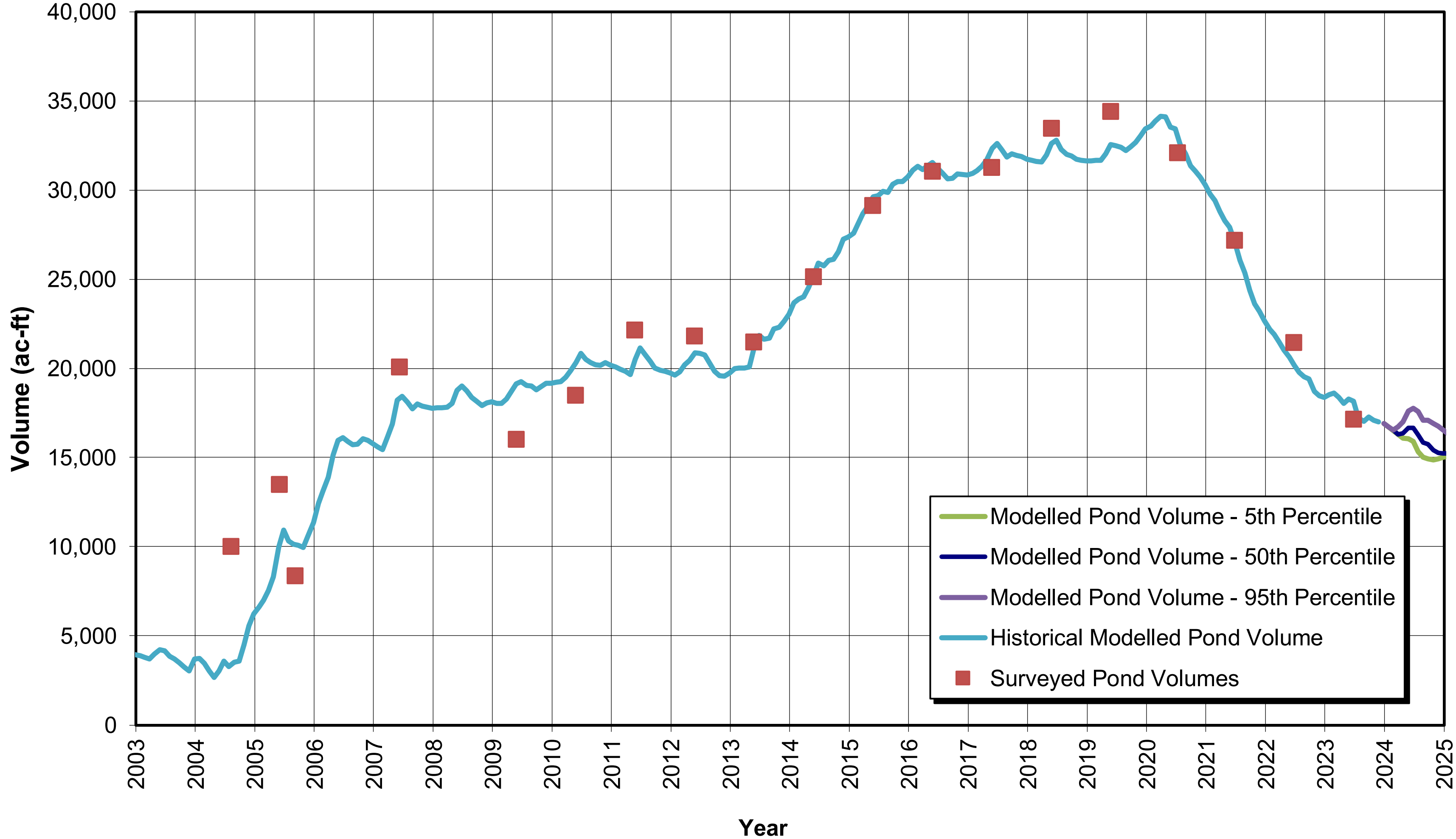
The Recent Operations period was used as the calibration period for the model. The model calibration was undertaken by comparing the predicted supernatant pond volumes in the model with pond volumes estimated from bathymetric surveys.

The model was calibrated predominantly via adjustment of the seepage and runoff assumptions. The model is highly sensitive to relatively minor changes in these parameters due to the length of the calibration period, as minor adjustments to runoff or seepage yield significant impacts to the total volume of water reporting to the site over the calibration period, which spans nearly 40 years. The best estimated values for the major calibration parameters are presented in Table 5.1, below.

Table 5.1 Assumed Values for Key Calibration Parameters

Parameter	Value
Runoff Coefficient for Undisturbed Catchments	0.15
Runoff Coefficient for Disturbed Catchments	0.25
Tailings Initial Settling Density (pcf)	64
Tailings Consolidation Density (pcf)	103

MR provided measured YDTI pond volumes from July 2004 to July 2023. These values were compared with the model results presented on Figure 5.1 to assess how well the model simulates actual conditions. The measured pond volumes generally match well with the modelled pond volumes, recognizing that there is some uncertainty associated with the measured values due to the difficulty in obtaining accurate bathymetric data at the pond edges. The calibration of the model is considered reasonable based on this comparison and appropriate for the purpose of estimating future conditions at the YDTI.



NOTES:

1. CALIBRATION ASSUMES 15% RUNOFF COEFFICIENT FOR UNDISTURBED AREAS AND 25% RUNOFF COEFFICIENT FOR DISTURBED AREAS.

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WATER BALANCE MODEL
SIMULATED SUPERNATANT POND VOLUMES
CALIBRATION PERIOD

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VA101-126/24	10

FIGURE 5.1 REV 0

6.0 RESULTS

6.1 GENERAL

The water balance was modelled deterministically from 1986 through 2023 using available measured temperature and precipitation data. For the 100-year predictive periods, for which climate data are not available, the water balance was modelled stochastically using the 124-year historical temperature and precipitation datasets stepped incrementally through the model. This modeling approach resulted in 124 different climate conditions for each month of the 100-year forecast period, which provides a good basis for stochastic modeling and preserves the inherent cyclical nature of the climate record. The results presented for the stochastic modeling period after 2023 are shown in terms of low, middle, and high values, which essentially correspond to dry, average, and wet climate conditions, as follows:

- 5th Percentile: The results correspond to very dry conditions, as only 5 percent of the results were lower.
- 50th Percentile: The results correspond to the median or “normal” conditions, as 50 percent of the results were higher and 50 percent were lower.
- 95th Percentile: The results correspond to very wet conditions, as only 5 percent of the results were higher.

The major inflows and outflows at each major mine component are summarized in Appendix D. The average annual historical and Future Operations flows are presented in Appendix D1 and Appendix D2, respectively. The Scenario #1 Closure period results are presented in Appendix D3. The Scenario #2 Closure period results are presented in Appendix D4.

6.2 SCENARIO #1: ACTIVE AND PASSIVE CLOSURE

The YDTI supernatant pond volume results for Scenario #1 are provided on Figure 6.1.

The results indicate that the pond volume can be maintained at approximately 15,000 +/- 3,000 ac-ft for the remainder of mine operations. Surplus conditions in the facility can be readily managed by temporarily increasing the active treatment and discharge via the Polishing Plant. Similarly, water inventory can be restored following temporary deficit conditions by temporarily reducing the rate of withdrawals through the Polishing Plant. These results demonstrate that the active water management systems at site allow operational control of the YDTI pond inventory.

The YDTI supernatant pond volume is projected to rise at the start of Active Closure, coinciding with a temporary period of net surplus. This surplus is driven by pumped inflows to the YDTI, as the continued seepage release from the tailings directed to the YDTI, plus the influx of other pumped flows that had previously been directed to the Concentrator, will exceed total outflows. Outflows will be reduced relative to the Future Operations period due to the termination of losses to voids, and they will be limited by the assumed Polishing Plant water treatment capacity of 7 MGPD. The pond volume drawdown is expected to begin within approximately 5 years of closure, corresponding to an expected decrease in the rate of seepage out of the facility.

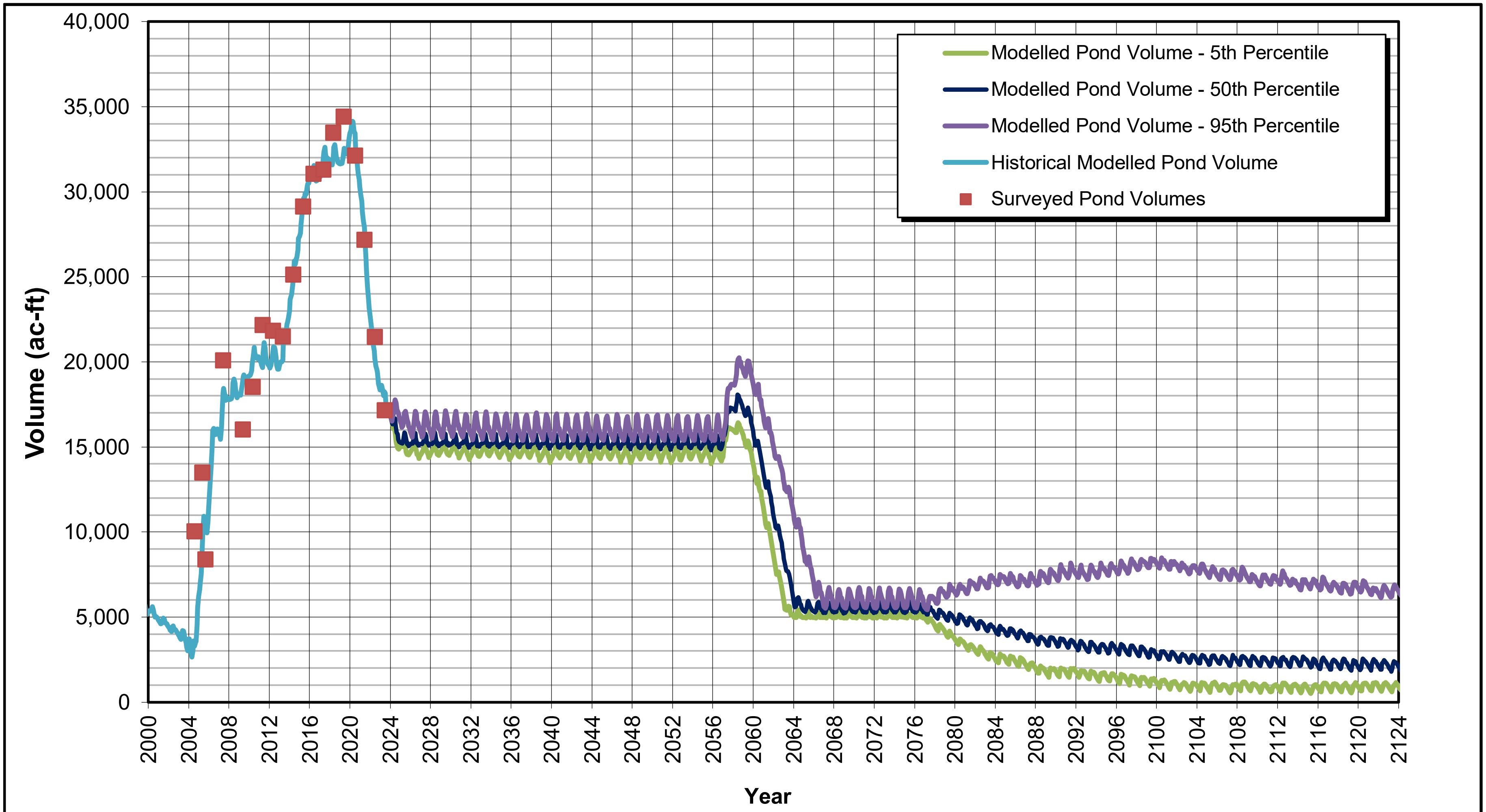
Pond volumes are projected to temporarily rise to approximately 17,500 ac-ft under average climate conditions or 20,000 ac-ft under very wet climate scenarios, assuming an average discharge rate of 7 MGPD from the Polishing Plant. Draw down of the YDTI supernatant pond to the Active Closure target pond volume of 5,000 ac-ft was forecast to occur within six to ten years following the end of operations depending on prevailing climate conditions. The pond can be maintained at a volume of approximately 5,000 ac-ft +/- 1,500 ac-ft over the remainder of Active Closure by adjusting pumped outflows to the Polishing Plant.

The supernatant pond volume is predicted to decline towards equilibrium conditions in Passive Closure under most climate conditions, as shown on Figure 6.1. Pond volume reductions in Passive Closure are governed by losses to seepage and evaporation. The reduction in the pond surface area as the pond shrinks is expected to result in a corresponding decrease in evaporative losses. In extended wet periods, net meteoric inflows may exceed outflows from seepage and evaporation, causing the pond to rise temporarily, as presented in the 95th percentile case. The pond volume may increase up to approximately 8,500 ac-ft if the start of Passive Closure coincides with the start of a very wet climate cycle.

Inflows from runoff are expected to produce a net inflow of approximately 1.2 MGPD in the modelled Passive Closure period after accounting for evaporation. The meteoric inflows were offset by approximately 1.3 MGPD of seepage and evaporation out of the pond for a net outflow of 0.1 MGPD, on average, over the Passive Closure period.

The pond is forecast to reduce to an equilibrium volume of approximately 2,000 ac-ft under 50th percentile conditions and approximately 7,000 ac-ft under 95th percentile conditions, after approximately 30 years of Passive Closure.

A summary of the typical annual inflows and outflows for the YDTI during Future Operations, Active Closure, and Passive Closure (January 2024 to December 2123) are shown in Table 6.1, based on the 50th percentile model results.



NOTES:

1. RESULTS ASSUME 15% RUNOFF COEFFICIENT FOR UNDISTURBED AREAS, 25% RUNOFF COEFFICIENT FOR DISTURBED AREAS.
2. INCLUDES MINIMUM SILVER LAKE INFLOWS OF 1.0 MGPD UNTIL DEC 2056.
3. TARGET POND VOLUME IS 15,000 ac-ft TARGET POND VOLUME UNTIL DEC 2056. TARGET POND VOLUME IS 5,000 ac-ft UNTIL DEC 2076.

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SIMULATED YDTI SUPERNATANT POND VOLUMES
SCENARIO #1

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FIGURE 6.1

REV 0

Table 6.1 Summary of Average YDTI Water Balance Results – Scenario #1

Period	Future Operations (2024 – 2056)	Active Closure (2057 – 2076)	Passive Closure (2077 - 2123)
Inflows (MGPD)			
Direct Precipitation on Pond/Beach	0.7	0.6	0.5
Runoff from Contributing Catchments	0.9	0.8	0.8
Net Inflow from WED	0.2	0.2	-
Water in Tailings Slurry	21.9	-	-
Inflow from Berkeley Pit	3.0	3.2	-
Inflow from HsB WTP	-	1.2	-
Continental Pit Dewatering	-	0.7	-
Polishing Plant Filter Backwash	-	0.5	-
Total Inflows	**26.7**	**7.2**	**1.2**
Outflows (MGPD)			
Evaporation from Pond	0.5	0.6	0.3
Evaporation from Tailings Beaches	1.9	-	-
Pond Seepage to HsB	0.1	0.2	0.2
Pond Seepage to Berkeley Pit	0.8	0.8	0.8
Void Losses	6.1	-	-
Withdrawal to the Polishing Plant	1.8	6.1	-
Withdrawal to the Concentrator	15.4	-	-
Total Outflows	**26.7**	**7.8**	**1.3**
Balance (MGPD)			
Change to YDTI Pond Volume (MGPD)	**0.0**	**-0.6**	**-0.1**

Note(s):

1. Void loss estimates consider only the water that does not flow immediately to the YDTI supernatant pond. A portion of the void loss water is expected to be recovered at the HsB and WED.

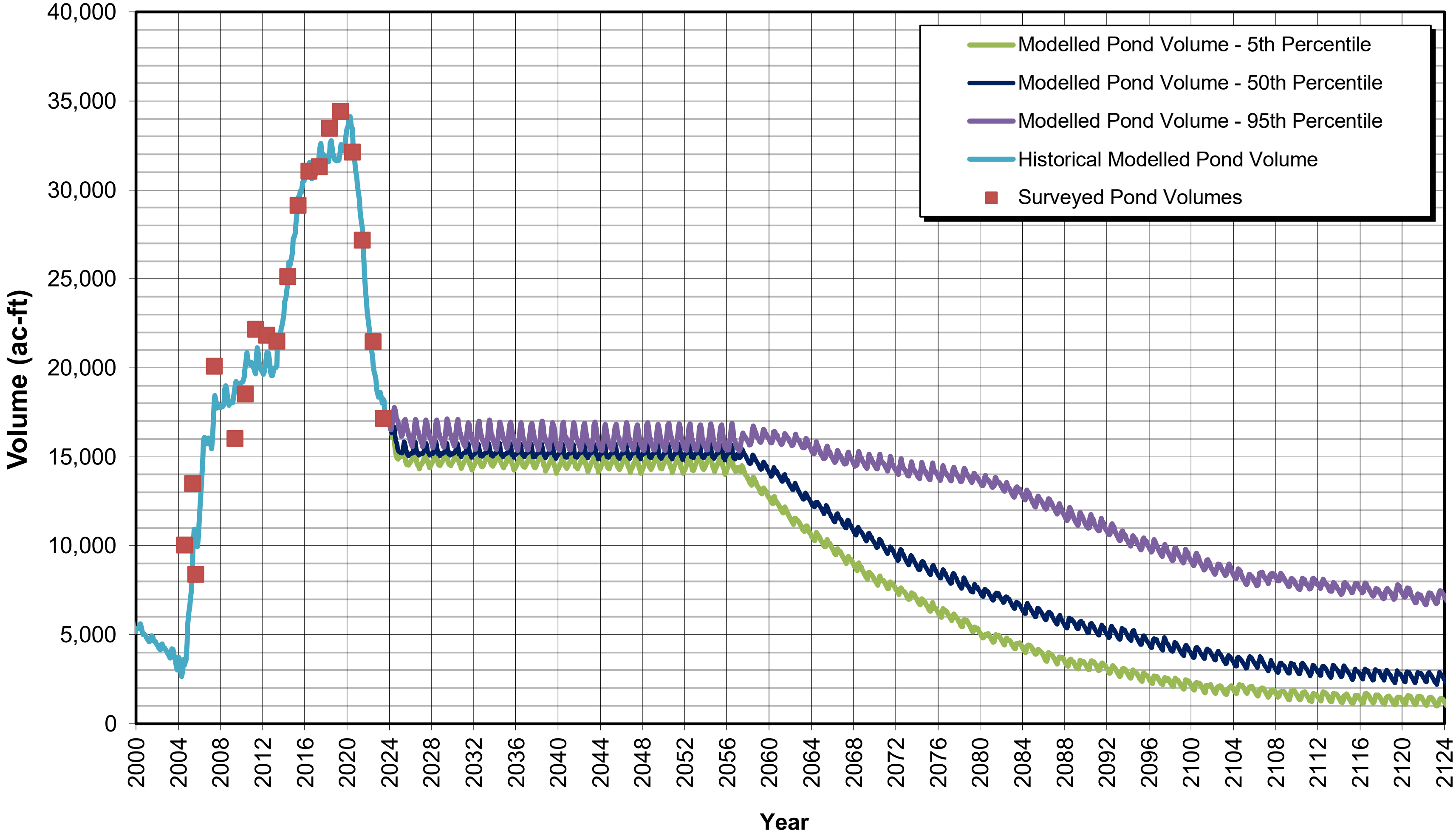
6.3 SCENARIO #2: PASSIVE CLOSURE ONLY

The YDTI supernatant pond volume results for Scenario #2 are provided on Figure 6.2. The Future Operations results are unchanged from Scenario #1.

The YDTI supernatant pond is expected to gradually reduce in volume and area over the Closure period. All pumped inflows to the YDTI will terminate at the start of the closure period in Scenario #2. The increase in pond volume observed at the start of closure in Scenario #1 therefore does not occur and the pond volumes will be controlled solely by the balance between inflows from runoff and direct precipitation versus losses to evaporation and seepage.

Natural reduction of the YDTI supernatant pond to a volume of 5,000 ac-ft is estimated to occur within 35 years of the end of operations under 50th percentile climate conditions. Continued draw down of the pond is subsequently expected, with the facility reaching equilibrium pond volumes generally consistent with the Scenario #1 volumes at the end of Passive Closure, approximately 2,000 ac-ft under 50th percentile conditions and approximately 7,000 ac-ft under 95th percentile conditions.

A summary of the typical annual inflows and outflows for the YDTI during Future Operations and Passive Closure (January 2024 to December 2123) are shown in Table 6.2, based on the 50th percentile model results.



NOTES:
1. RESULTS ASSUME 15% RUNOFF COEFFICIENT FOR UNDISTURBED AREAS, 25% RUNOFF COEFFICIENT FOR DISTURBED AREAS.
2. INCLUDES MINIMUM SILVER LAKE INFLOWS OF 1.0 MGPD UNTIL DEC 2056.
3. TARGET POND VOLUME IS 15,000 ac-ft TARGET POND VOLUME UNTIL DEC 2056. TARGET POND VOLUME IS 5,000 ac-ft UNTIL DEC 2076.

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FIGURE 6.2 REV 0

Table 6.2 Summary of Average YDTI Water Balance Results – Scenario #2

Period	Future Operations (2024 – 2056)	Passive Closure (2057 – 2123)
Inflows (MGPD)		
Direct Precipitation on Pond/Beach	0.7	0.5
Runoff from Contributing Catchments	0.9	0.8
Net Inflow from WED	0.2	-
Water in Tailings Slurry	21.9	-
Inflow from Berkeley Pit	3.0	-
Inflow from HsB WTP	-	-
Continental Pit Dewatering	-	-
Polishing Plant Filter Backwash	-	-
Total Inflows (MGPD)	**26.7**	**1.3**
Outflows (MGPD)		
Evaporation from Pond	0.5	0.5
Evaporation from Tailings Beaches	1.9	-
Pond Seepage to HsB	0.1	0.2
Pond Seepage to Berkeley Pit	0.8	0.8
Void Losses	6.1	-
Withdrawal to the AR Polishing Plant	1.8	-
Withdrawal to the Concentrator	15.4	-
Total Outflows (MGPD)	**26.7**	**1.5**
Balance (MGPD)		
Change to YDTI Pond Volume (MGPD)	**0.0**	**-0.2**

Note(s):

1. Void loss estimates consider only the water that does not flow immediately to the YDTI supernatant pond. A portion of the void loss water is expected to be recovered at the HsB and WED.

6.4 SEEPAGE RATES

The seepage out of the facility is governed primarily by slurry water release from the tailings mass. The seepage rates in Scenario #1 and Scenario #2 are therefore similar, although the average pond seepage and meteoric recharge rates may vary by approximately 5 to 10 gpm in the Closure period depending on the closure strategy and rate of draw down of the remnant pond.

The forecasted seepage rates to the HsB area and WED during the predictive periods are summarized in Table 6.3 and Table 6.4, respectively.

Table 6.3 Forecasted Mean Annual Seepage to HsB Area during the Predictive Periods (gpm)

Component	Description	Future Operations	Closure	
		2024 - 2056	2057- 2062	2063 - 2123
Tailings Slurry Water	Initial Draining	1,995	545	0
	Consolidation	255	135	0
Meteoric Recharge	Infiltration of Precipitation on Tailings Beach	250	225	100
Seepage from YDTI Pond	Seepage through Tailings Slimes	25	60	25
	Seepage through Weathered Bedrock	75	85	85
Total		**2,600**	**1,050**	**210**

Note(s):

1. Results shown are from Scenario #1. Seepage results are similar for Scenario #1 and Scenario #2.
2. Results for Closure are divided into the period with ongoing slurry water release and facility drain down (2057 – 2062) and the period when slurry water release is anticipated to be complete (2063 – 2123).

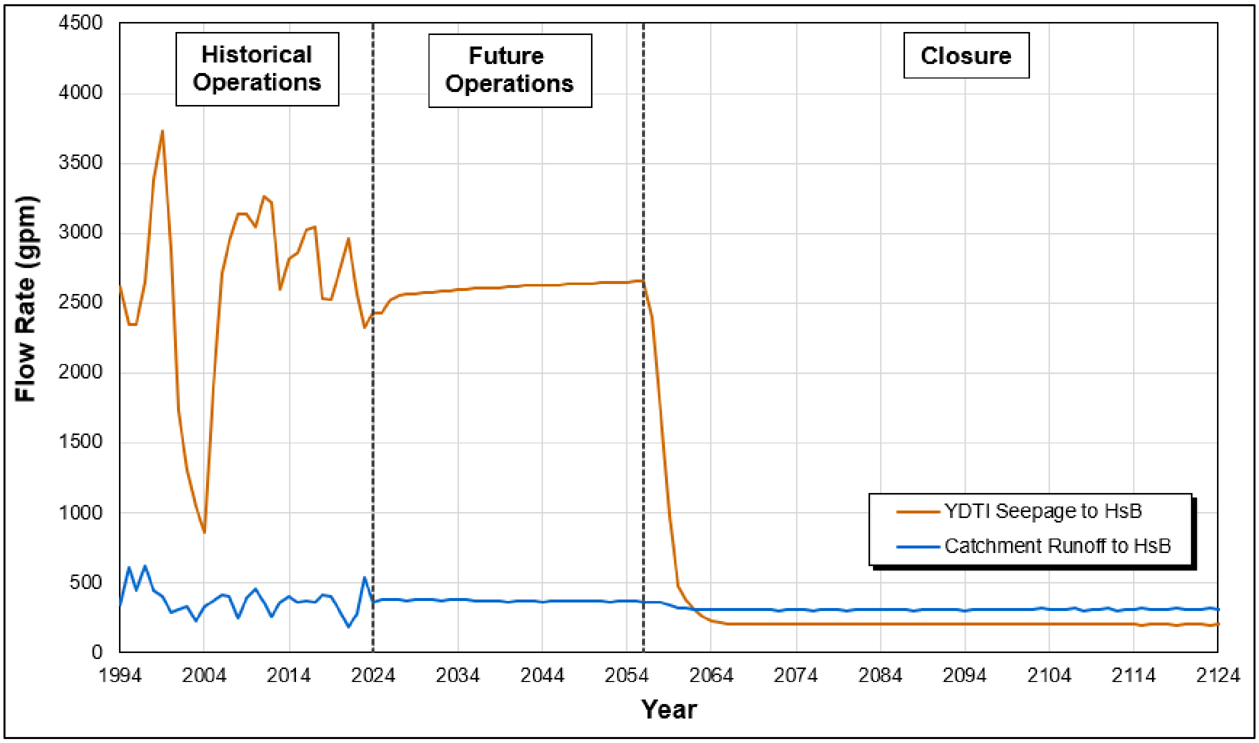
Table 6.4 Forecasted Mean Annual Seepage to WED during the Predictive Periods (gpm)

Component	Description	Future Operations	Closure	
		2024 - 2056	2057- 2062	2063 - 2123
Tailings Slurry Water	Initial Draining	665	180	0
	Consolidation	85	45	0
Meteoric Recharge	Infiltration of Precipitation on Tailings Beach	85	75	35
Total		**835**	**300**	**35**

Note(s):

1. Results shown are from Scenario #1. Seepage results are similar for Scenario #1 and Scenario #2.
2. Results for Closure are divided into the period with ongoing slurry water release and facility draindown (2057 – 2062) and the period where slurry water release is anticipated to be complete (2063 – 2123).

The estimated annual average seepage and runoff flows reporting to the HsB Area for the period of 1994 through 2123 are shown on Figure 6.3.

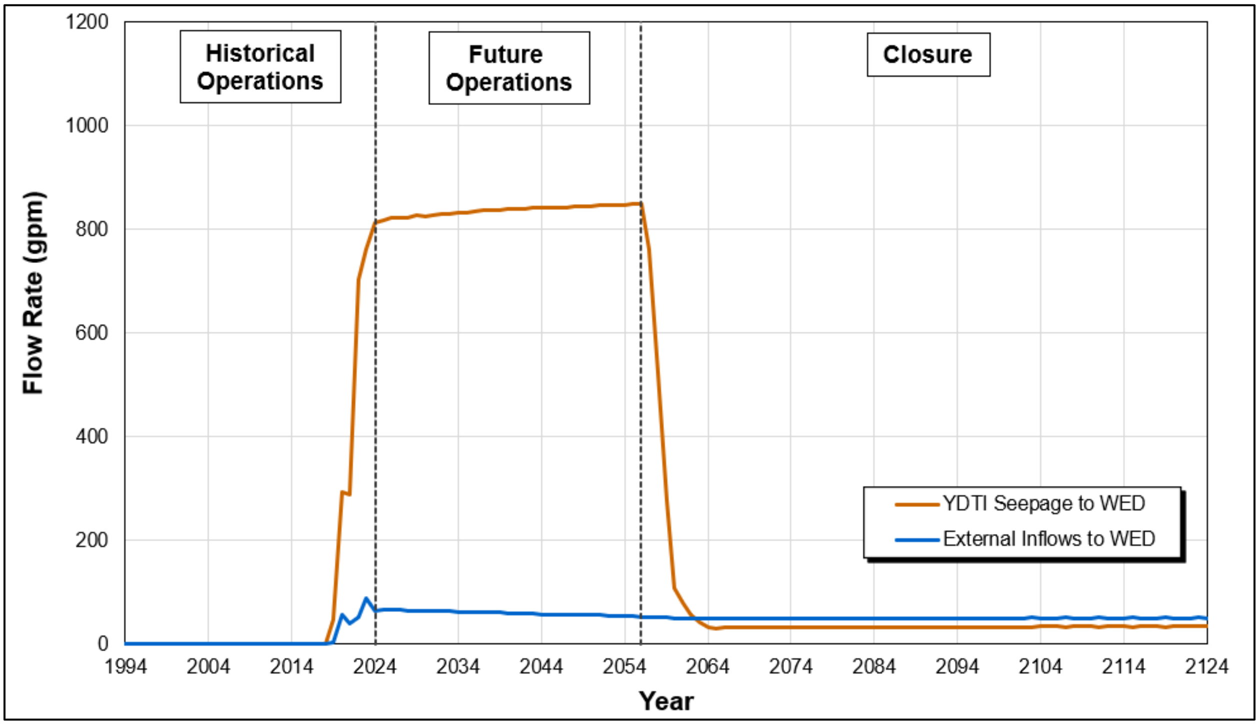


Note(s):

1. Results shown are from Scenario #1. Seepage results are similar for Scenario #1 and Scenario #2.

Figure 6.3 Estimated Seepage and Runoff Flows Reporting to the HsB Area

The estimated annual average seepage and runoff flows reporting to the WED for the period of 1994 through 2123 are shown on Figure 6.4.



Note(s):

1. Results shown are from Scenario #1. Seepage results are similar for Scenario #1 and Scenario #2.

Figure 6.4 Estimated Seepage and Runoff Flows Reporting to the WED

7.0 CONCLUSION

7.1 SUMMARY

The water balance model provides a good basis for simulating flow rates and volumes at the MR mine for planned Future Operations and Closure. The model was able to simulate measured pond volumes well, particularly from 2011 onwards, recognizing that there is some uncertainty associated with the measured values due to the difficulty in obtaining accurate bathymetric data at the pond edges.

The YDTI supernatant pond volume is expected to increase at the start of Closure in Scenario #1, as continued pump back of flows to the YDTI, along with a reduction in losses, may cause a temporary increase in volume. Seepage rates to the HsB Area and WED are forecast to decline within five years of closure, allowing active draw down of the facility via the Polishing Plant (modelled 7 MGPD discharge capacity). Draw down to the targeted Active Closure pond volume of 5,000 acre-ft is expected within approximately 10 years of closure under all climate conditions.

The remnant pond volume is expected to decrease gradually over the Closure period, as the net outflows are expected to exceed inflows. The rate of decrease will decline as the pond surface area decreases, reducing the evaporation out of the facility. The pond volume is expected to decrease to below 5,000 ac-ft within 35 years of closure (50^{th} percentile climate conditions) under fully passive closure conditions.

The facility is expected to reach a long-term equilibrium volume of approximately 2,000 acre-ft (50^{th} percentile conditions) by the end of Passive Closure under both closure scenarios. The long-term Passive Closure pond volume could be as high as approximately 7,500 acre-ft under very wet (95^{th} percentile) climate conditions.

7.2 LIMITATIONS

The accuracy of the water volumes simulated in the water balance is ultimately limited by the accuracy of the model inputs and assumptions. Water balance modelling is intended as a tool for planning, and model inputs are based on the best available estimates at the time of reporting. Deviations from the forecast may be expected resulting from changes to mine planning, adjustments to operational strategies, and other factors.

The seepage behaviour is expected to have a significant impact on the closure results. Drain down characteristics are expected to influence the extent of pond volume increase at the start of Closure, as well as the duration required for active drawdown to the target volume of 5,000 ac-ft (Scenario #1). Seepage outflows from the YDTI supernatant pond are expected to have a substantial impact on the equilibrium pond volume and the pond drawdown rates in Passive Closure.

The equilibrium pond volumes in Passive Closure are highly sensitive to the long-term climate inputs. The climate record presented herein is the best available estimate of site climate characteristics. However, precipitation and evaporation patterns across the site may differ from what is presented. Further investigations regarding site climate conditions, particularly for the areas directly contributing to the YDTI, would reduce uncertainty in the long-term Passive Closure conditions.

7.3 RECOMMENDATIONS

It is recommended that the inputs used in the model continue to be monitored, and review and update of the water balance be undertaken periodically as more input data becomes available, especially if site conditions and/or water management strategies change substantially.

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9.0 CERTIFICATION

This report was prepared and reviewed by the undersigned.

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EGBC PERMIT TO PRACTICE

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

APPENDIX A

Mean Monthly Precipitation and Temperature Tables

(Tables A.1 to A.2)

Knight Piésold CONSULTING

TABLE A.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

YDTI WATER BALANCE FOR 6,560 AMENDMENT DESIGN DOCUMENT
TOTAL MONTHLY PRECIPITATION AT BUTTE BERT MOONEY AIRPORT

Print Oct/09/24 14:44:26

Year	Precipitation (inches)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1895	0.9	0.1	0.3	0.3	1.1	0.9	1.1	0.2	1.2	0.2	0.3	0.5	**7.0**
1896	0.3	0.4	0.3	0.6	1.4	1.1	1.2	0.9	2.0	0.5	1.6	1.0	**11.1**
1897	1.2	0.7	1.0	1.6	1.4	3.0	1.2	0.3	1.0	1.1	1.5	1.1	**15.2**
1900	0.3	1.1	1.2	2.8	2.9	0.7	1.1	0.5	1.4	2.1	0.2	0.4	**14.6**
1901	0.6	0.7	1.7	2.4	3.4	2.0	0.6	0.3	0.9	0.5	0.0	1.7	**14.6**
1902	0.0	1.0	0.8	1.4	3.2	0.8	1.2	0.3	0.1	0.2	0.7	0.9	**10.3**
1903	0.4	0.1	1.3	1.3	1.2	0.8	0.7	0.6	0.5	0.7	1.9	0.9	**10.3**
1904	1.4	2.9	2.1	0.3	1.0	1.0	2.0	0.4	0.0	0.1	0.1	1.4	**12.6**
1905	0.7	0.1	1.2	0.9	2.1	3.2	1.8	1.0	0.5	0.7	0.4	0.2	**12.4**
1906	1.1	1.7	0.9	1.7	3.6	2.0	0.2	2.2	0.5	0.0	0.8	1.0	**15.7**
1907	0.8	1.0	0.6	1.3	1.3	2.9	2.8	2.2	1.5	0.2	0.1	0.2	**14.8**
1908	0.5	0.8	0.9	0.4	5.7	4.2	0.7	0.8	2.5	1.3	0.2	0.2	**18.0**
1909	1.6	0.1	1.5	0.9	2.5	1.8	3.5	0.7	3.3	1.0	2.7	1.2	**20.6**
1910	0.4	0.6	0.8	0.2	1.7	1.8	0.5	0.8	2.2	1.4	1.6	0.3	**12.0**
1911	1.7	0.6	0.2	2.4	2.2	3.3	0.4	1.7	1.2	3.3	1.0	1.1	**19.0**
1912	0.3	0.6	0.8	0.6	2.0	0.9	1.6	1.9	1.0	1.2	0.4	0.6	**11.9**
1913	0.3	0.1	0.6	1.4	1.6	8.9	1.7	1.1	0.5	0.7	0.5	0.1	**17.6**
1914	1.2	0.6	0.2	1.1	1.9	2.5	1.0	0.0	0.3	1.4	0.2	0.0	**10.3**
1915	0.5	0.6	0.6	0.7	2.9	4.8	2.3	0.3	1.4	0.0	1.2	1.5	**16.7**
1916	1.1	0.5	1.1	1.3	2.8	2.6	1.5	0.4	2.0	1.0	1.0	1.7	**16.9**
1917	0.8	1.5	1.1	0.9	2.2	2.1	0.5	0.0	1.5	1.4	0.2	1.7	**13.9**
1918	1.9	0.8	3.2	1.4	0.6	1.1	2.5	1.1	1.9	1.5	0.4	0.0	**16.4**
1919	0.3	0.9	0.6	0.7	0.5	0.5	0.2	0.6	0.4	1.4	1.8	1.8	**9.7**
1920	0.2	0.9	2.1	1.3	1.5	2.3	0.9	1.3	1.0	2.1	0.3	0.5	**14.3**
1921	1.0	0.5	1.6	1.0	2.4	2.3	1.0	0.9	1.8	0.3	3.0	1.3	**17.1**
1922	0.3	1.1	0.9	2.9	1.5	2.4	1.3	3.3	0.3	0.1	0.9	0.5	**15.3**
1923	0.3	0.6	0.8	1.0	2.3	1.9	1.3	1.1	0.2	0.9	0.4	0.7	**11.7**
1924	0.6	0.8	1.3	0.4	0.7	0.7	1.4	0.3	0.7	0.7	1.0	0.4	**9.0**
1925	0.7	0.0	1.0	1.3	2.4	2.6	1.4	1.0	2.1	2.4	0.0	1.3	**16.1**
1926	0.6	0.9	0.4	0.4	2.0	1.8	1.8	1.6	1.7	0.2	1.2	0.9	**13.4**
1927	0.9	1.0	0.9	0.8	5.8	0.7	0.9	3.0	1.2	1.2	2.1	1.4	**19.9**
1928	1.9	0.6	0.5	1.1	0.3	2.3	1.6	2.5	0.8	1.1	0.1	1.0	**13.6**
1929	1.6	1.3	1.3	2.3	0.8	1.9	0.3	0.2	1.2	0.8	0.3	1.0	**12.8**
1930	1.0	0.4	1.0	2.3	0.7	1.1	0.4	1.4	1.8	1.0	0.3	0.1	**11.6**
1932	0.4	0.1	0.5	1.1	0.8	2.1	2.0	1.1	0.1	1.2	0.3	0.5	**10.2**
1933	0.3	0.4	0.1	0.4	1.8	0.7	0.1	2.2	0.5	0.6	0.2	0.4	**7.6**
1934	0.1	0.9	0.5	0.5	0.1	4.1	0.4	0.4	0.6	1.8	0.2	0.8	**10.3**
1935	0.2	0.1	0.5	1.3	1.3	1.3	0.9	0.3	0.0	0.6	0.2	0.1	**6.9**
1936	0.3	0.8	0.1	1.3	0.9	3.8	1.4	0.9	0.5	0.5	0.2	0.3	**10.9**
1937	0.3	0.2	0.7	0.4	0.5	1.3	4.4	0.7	1.8	0.2	0.1	0.4	**10.9**
1938	0.2	0.3	1.3	0.6	4.7	4.5	2.4	0.7	0.3	1.4	0.6	0.0	**16.9**
1941	0.1	0.2	0.4	1.4	2.2	2.7	2.0	1.3	1.5	0.9	0.6	1.2	**14.5**
1942	0.7	0.5	0.6	1.5	2.9	1.8	0.2	0.3	0.3	0.5	1.0	0.5	**10.8**
1943	1.2	0.7	0.6	2.3	1.3	1.9	0.8	2.2	0.4	0.7	0.6	0.2	**12.7**
1944	0.2	0.6	0.2	0.4	2.8	5.1	0.6	1.4	1.1	0.4	0.5	0.2	**13.3**
1945	0.2	0.1	0.9	0.7	2.4	2.2	0.2	0.2	1.0	0.6	0.7	0.8	**9.9**
1946	0.3	0.3	0.7	0.3	2.4	1.4	1.5	1.6	3.3	1.8	1.2	0.7	**15.4**
1947	0.7	0.5	0.8	1.1	0.3	3.6	1.1	1.0	3.5	1.3	1.5	0.6	**16.0**
1948	0.7	0.7	0.8	0.6	2.6	5.4	2.4	1.6	0.6	0.4	0.4	0.9	**17.0**
1949	0.5	0.9	0.6	0.6	1.7	2.4	0.6	0.7	1.7	0.6	0.5	0.3	**11.4**
1950	0.7	0.3	1.7	0.8	1.1	2.1	1.5	1.0	1.3	0.5	1.2	0.6	**12.7**
1951	0.9	0.8	1.0	0.9	1.8	0.9	0.6	1.7	1.0	1.0	0.4	1.2	**12.1**
1952	0.3	0.9	1.5	0.3	3.1	2.1	1.8	0.9	0.2	0.1	0.8	0.2	**12.0**
1953	0.7	1.0	0.5	1.4	2.2	2.5	0.0	0.4	0.4	0.2	0.2	0.3	**9.8**
1954	0.5	0.1	0.2	0.8	0.6	2.0	0.5	1.8	0.7	0.3	0.0	0.1	**7.6**
1955	0.3	0.2	0.6	1.2	1.6	3.0	2.6	0.0	1.1	0.4	0.7	1.1	**12.7**
1956	0.5	0.0	0.2	1.3	1.2	1.6	1.9	2.0	0.5	1.0	0.1	0.3	**10.5**
1957	0.5	0.2	0.6	0.5	2.7	1.8	0.6	0.6	1.0	0.9	0.1	0.3	**9.8**
1958	0.1	0.2	0.5	1.4	1.1	4.2	0.9	1.5	0.7	0.1	0.4	0.4	**11.5**
1959	0.1	0.9	0.1	0.3	1.9	2.9	0.8	1.4	0.9	0.8	0.5	0.1	**10.6**
1960	0.4	0.2	0.8	1.1	1.2	1.1	0.3	2.0	0.5	0.2	0.4	0.3	**8.4**
1961	0.0	0.1	0.8	1.1	2.2	1.2	1.9	0.7	2.2	0.4	0.4	0.1	**11.0**
1962	0.6	0.6	0.5	0.2	2.6	1.7	2.2	1.6	0.1	1.0	1.1	0.3	**12.4**
1963	1.1	0.1	0.6	1.4	1.5	3.4	0.6	0.5	1.7	1.3	0.5	0.4	**13.1**
1964	0.8	0.3	0.7	1.0	1.6	4.6	0.5	1.6	0.3	0.0	0.5	1.1	**13.0**
1965	0.4	0.3	0.6	1.0	1.4	3.6	0.7	2.5	2.2	0.4	0.4	0.3	**13.7**
1966	0.3	0.3	0.3	0.3	0.8	2.4	0.2	0.5	1.6	0.5	0.4	0.5	**8.2**
1967	0.5	0.2	1.1	2.6	3.0	3.8	0.5	0.2	1.0	2.2	0.3	0.7	**16.0**
1968	0.9	0.1	0.6	1.0	1.7	2.4	0.2	2.4	2.1	0.4	1.0	0.3	**12.9**
1969	1.7	0.2	0.2	1.3	2.2	5.8	2.4	0.4	0.7	0.4	0.2	0.2	**15.6**
1970	0.4	0.3	1.1	0.4	1.1	1.6	2.1	0.5	1.8	0.6	0.8	0.3	**10.8**
1971	0.7	0.3	0.9	1.0	1.6	1.9	0.2	1.1	0.9	0.5	0.5	0.7	**10.4**
1972	1.1	0.3	1.4	0.4	0.6	1.2	0.8	1.2	0.4	0.3	0.2	0.5	**8.4**
1973	0.2	0.8	0.3	0.6	0.9	2.2	0.4	0.5	0.7	1.0	0.7	0.7	**8.8**
1974	0.2	0.3	0.9	0.1	1.8	0.3	0.5	2.0	0.4	0.8	0.5	0.6	**8.3**
1975	1.4	0.6	0.8	2.5	1.7	1.9	3.5	2.0	0.5	3.1	0.5	0.4	**18.6**
1976	0.2	0.4	0.3	0.5	1.3	3.3	0.9	2.4	2.0	0.3	0.2	0.1	**11.8**
1977	0.8	0.0	0.7	0.7	1.6	1.8	1.8	1.3	3.2	0.6	0.5	0.8	**13.8**
1978	0.3	0.7	0.5	1.4	2.0	0.7	2.4	1.2	2.4	0.1	0.4	0.5	**12.6**
1979	0.4	0.5	0.5	1.9	0.5	0.9	0.4	1.9	0.1	0.5	0.4	0.2	**8.3**
1980	0.5	0.7	0.9	1.5	4.5	4.6	1.3	1.4	2.3	1.1	0.7	0.2	**19.6**
1981	0.1	0.5	1.0	1.0	4.8	1.8	1.0	0.4	0.8	0.9	0.9	0.4	**13.6**
1982	0.8	0.4	1.8	0.9	1.7	3.0	0.8	0.4	1.4	0.6	0.3	0.8	**12.8**
1983	0.1	0.2	0.9	0.6	1.0	1.8	3.0	2.4	1.2	0.6	0.3	0.6	**12.6**
1984	0.3	0.5	0.7	1.1	1.4	2.8	0.7	1.4	0.7	0.6	0.6	0.3	**11.0**
1985	0.2	0.3	0.7	0.2	1.7	1.2	0.3	1.5	1.8	0.8	0.6	0.2	**9.5**
1986	0.3	0.9	0.9	0.7	1.0	1.6	1.5	1.8	2.5	0.3	1.3	0.1	**12.8**
1987	0.2	0.5	0.9	0.3	3.9	0.5	4.2	1.5	0.1	0.0	0.2	0.6	**12.8**
1988	0.5	0.2	0.6	1.2	2.0	0.8	0.3	0.2	1.1	0.4	0.6	0.6	**8.3**
1989	1.3	0.7	1.2	0.9	1.7	0.8	1.9	1.6	1.5	1.1	0.4	0.6	**13.8**
1990	0.5	0.1	0.7	0.7	2.2	1.2	0.9	2.3	0.1	0.3	0.6	0.3	**9.8**
1991	0.5	0.2	1.4	0.9	2.4	2.4	0.2	0.9	1.5	0.7	0.8	0.4	**12.1**
1992	0.4	0.2	0.6	0.3	1.0	4.1	1.6	0.7	0.6	1.4	0.6	0.4	**11.6**
1993	0.6	0.7	0.4	1.7	1.8	4.3	3.1	3.1	0.1	1.3	0.3	0.6	**18.0**
1994	0.1	0.4	0.3	1.2	2.5	1.4	2.2	0.2	0.1	1.7	1.5	0.5	**12.1**
1995	0.5	0.5	1.1	1.5	2.1	4.6	3.4	0.5	2.2	0.7	1.2	0.9	**19.3**
1996	0.9	1.3	1.4	1.6	3.1	1.3	1.5	1.5	0.8	0.6	1.3	2.0	**17.1**
1997	1.4	0.7	1.1	1.8	3.1	4.2	3.0	1.7	0.6	1.6	0.6	0.2	**20.0**
1998	0.9	0.4	1.0	1.8	2.7	3.2	1.8	0.5	1.0	0.4	0.7	1.1	**15.5**
1999	0.4	0.5	0.6	1.5	2.2	2.1	0.1	2.9	0.5	0.1	0.2	0.5	**11.5**
2000	0.4	0.5	0.6	0.6	1.9	0.5	0.6	0.2	1.1	1.6	0.4	0.2	**8.6**
2001	0.2	0.1	0.6	1.5	0.9	2.5	1.4	0.4	1.0	1.1	0.5	0.3	**10.4**
2002	0.5	0.2	0.4	0.8	1.6	2.6	1.0	2.5	1.2	0.1	0.3	0.2	**11.1**
2003	0.7	0.9	0.4	2.6	1.1	1.0	0.4	1.8	0.2	0.1	0.3	0.4	**9.7**
2004	0.3	0.2	0.2	1.5	2.0	2.0	0.9	2.0	1.4	0.3	0.1	0.4	**11.1**
2005	0.0	0.2	0.7	0.9	2.9	2.5	0.4	1.7	1.3	1.0	1.0	0.8	**13.2**
2006	0.5	0.2	0.5	3.1	1.3	2.8	0.7	0.1	0.5	2.1	0.3	0.4	**12.4**
2007	0.1	0.8	0.3	1.1	2.8	2.1	0.6	0.7	2.6	1.1	0.3	0.2	**12.6**
2008	0.6	0.4	0.1	0.6	1.8	2.3	1.0	0.7	0.6	0.3	1.0	0.7	**10.0**
2009	0.2	0.2	1.3	1.1	1.0	2.5	1.2	2.9	0.7	1.3	0.2	0.1	**12.5**
2010	0.7	0.2	0.4	1.1	2.9	4.1	1.0	2.1	1.1	0.7	0.5	0.6	**15.4**
2011	0.3	0.4	0.6	0.9	2.6	3.9	0.7	0.7	0.4	0.7	0.3	0.3	**11.8**
2012	0.1	0.2	1.2	1.2	1.2	1.1	2.2	0.2	0.0	0.4	1.0	0.3	**9.0**
2013	0.3	0.1	0.3	0.2	2.4	1.7	0.7	1.6	3.0	0.6	0.2	0.2	**11.3**
2014	0.2	0.6	1.3	1.4	0.8	3.4	0.7	3.1	1.0	0.8	1.0	0.6	**14.8**
2015	0.2	0.1	0.4	0.9	1.8	0.9	1.9	0.7	2.4	0.9	1.2	0.7	**11.9**
2016	0.3	0.1	0.5	1.2	1.5	0.9	0.9	0.7	1.3	2.3	0.5	0.4	**10.6**
2017	0.3	0.5	0.9	2.0	1.6	2.8	0.5	0.2	1.8	0.2	0.7	0.5	**12.0**
2018	0.6	0.7	0.4	1.8	3.1	3.2	0.1	1.3	0.9	0.5	0.8	0.3	**13.8**
2019	0.1	1.1	0.7	1.8	2.5	0.8	1.5	1.5	2.0	0.3	0.2	0.1	**12.7**
2020	0.1	0.5	0.5	0.6	1.4	4.4	0.6	0.2	0.5	0.8	0.5	0.1	**10.2**
2021	0.2	0.7	0.3	0.4	1.3	0.4	0.4	1.6	0.1	0.5	0.3	0.4	**6.5**
2022	0.6	0.0	0.2	0.4	1.6	1.9	1.0	1.1	1.5	0.6	0.4	0.5	**9.7**
2023	0.4	0.1	0.8	1.3	2.7	4.9	0.7	2.7	2.7	1.1	0.3	0.3	**18.0**
Minimum	**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**6.5**
Average	**0.6**	**0.5**	**0.8**	**1.1**	**1.9**	**2.3**	**1.2**	**1.2**	**1.1**	**0.8**	**0.6**	**0.6**	**12.7**
Maximum	**1.9**	**2.9**	**3.2**	**3.1**	**5.8**	**8.9**	**4.4**	**3.3**	**3.5**	**3.3**	**3.0**	**2.0**	**20.6**

\\KPL\VA-Prj$\1\01\00126\31\A\Data\Task 450 - Water Balance - 2024 Update\1-Data\1 - Climate\[Climate Stringfiles.xlsm]Table A.1

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	20OCT'21	ISSUED WITH REPORT VA101-00126/24-10	SKC	JV

TABLE A.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

YDTI WATER BALANCE FOR 6,560 AMENDMENT DESIGN DOCUMENT
AVERAGE MONTHLY TEMPERATURE AT BUTTE BERT MOONEY AIRPORT

Print Oct/09/24 14:44:26

Year	Average Temperature (°F)												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1895	18.5	22.6	27.7	42.4	47.9	51.8	60.9	63.3	49.0	45.7	29.3	20.5	**40.0**
1896	26.2	29.9	26.8	34.7	41.8	58.9	65.3	62.3	50.8	44.0	23.2	32.3	**41.3**
1897	19.2	22.5	21.7	41.6	56.7	55.4	59.9	65.7	54.4	43.8	30.3	23.1	**41.2**
1900	30.2	23.9	37.6	44.7	52.5	63.8	63.9	59.2	51.3	43.8	33.7	30.5	**44.6**
1901	25.5	20.6	30.2	36.5	51.4	49.3	65.7	63.0	45.8	48.3	38.2	26.5	**41.7**
1902	21.6	31.6	30.5	40.0	50.5	54.5	60.3	60.9	51.6	46.4	32.8	26.6	**42.3**
1903	27.2	20.7	30.8	38.7	45.8	59.5	60.2	63.1	50.8	47.3	32.7	28.7	**42.1**
1904	26.6	26.2	30.3	43.4	49.1	55.9	62.2	64.7	56.9	47.4	40.7	28.3	**44.3**
1905	24.4	22.4	37.0	42.0	46.0	53.9	63.9	64.0	56.4	37.1	33.3	23.9	**42.0**
1906	25.3	27.8	22.1	43.0	46.8	53.4	66.9	62.0	52.7	43.5	30.6	31.4	**42.1**
1907	14.7	32.3	34.2	38.8	47.1	52.2	61.9	59.0	54.6	49.4	36.0	26.4	**42.2**
1908	25.7	27.7	32.2	44.4	46.7	51.1	67.8	62.4	57.2	42.4	34.6	25.6	**43.1**
1909	22.9	29.3	33.6	35.3	45.6	57.5	63.4	64.9	54.3	45.6	33.8	18.1	**42.0**
1910	21.3	20.1	42.7	48.5	53.0	59.6	67.7	61.1	51.9	48.3	33.6	26.0	**44.5**
1911	25.0	19.0	37.6	37.4	46.8	59.0	63.1	60.1	50.1	38.9	26.9	22.7	**40.6**
1912	25.4	28.0	22.7	41.0	46.8	60.0	60.5	59.0	44.5	37.9	35.4	25.1	**40.5**
1913	25.7	16.6	27.1	41.8	48.6	58.0	61.3	64.9	54.4	38.2	34.0	22.9	**41.1**
1914	28.2	24.7	35.9	40.7	50.7	55.5	66.2	63.0	52.8	44.0	37.5	19.5	**43.2**
1915	23.2	29.9	35.4	48.0	46.4	51.2	58.6	67.1	49.6	45.1	27.0	21.7	**41.9**
1916	9.8	27.4	40.5	41.8	41.8	52.3	63.7	61.5	53.5	39.9	26.7	18.8	**39.8**
1917	19.2	24.4	23.2	36.1	46.7	54.9	68.6	63.7	58.3	45.0	41.1	33.4	**42.9**
1918	23.4	24.6	38.4	38.4	46.4	64.4	65.2	61.2	56.2	46.4	29.8	26.5	**43.4**
1919	29.3	24.1	34.1	44.1	52.0	63.5	69.2	66.4	56.5	34.7	27.2	19.7	**43.4**
1920	27.7	25.9	28.0	32.8	45.1	54.1	67.6	64.8	55.0	40.6	30.7	27.6	**41.6**
1921	27.5	32.1	35.5	38.5	49.7	60.9	67.0	64.7	47.6	49.5	33.1	22.7	**44.1**
1922	17.7	18.3	29.7	36.4	47.9	61.8	64.1	66.1	59.0	49.0	30.0	21.6	**41.8**
1923	25.7	21.1	30.2	39.9	48.5	56.2	68.7	63.7	57.3	41.0	36.9	23.6	**42.7**
1924	22.0	32.6	27.5	39.1	52.2	56.6	64.8	63.2	55.1	45.1	31.7	17.7	**42.3**
1925	27.6	33.7	35.2	44.3	53.0	57.3	68.0	62.3	53.5	37.6	33.2	31.8	**44.8**
1926	24.1	32.0	34.9	46.1	50.5	59.1	67.7	63.2	46.8	46.2	35.5	24.2	**44.2**
1927	22.9	26.7	32.9	38.7	43.3	58.6	65.8	60.1	53.2	46.6	35.4	17.3	**41.8**
1928	24.9	23.2	34.8	38.4	55.3	53.6	65.6	61.5	56.3	44.2	35.1	24.8	**43.1**
1929	15.9	19.2	33.7	36.7	48.6	56.9	66.6	67.4	48.5	45.0	32.0	32.1	**41.9**
1930	6.7	32.0	30.5	48.3	50.6	58.6	68.0	67.5	56.3	41.4	32.6	24.9	**43.1**
1932	10.9	20.9	24.3	38.5	48.5	56.5	63.1	60.7	51.4	38.3	34.4	9.9	**38.1**
1933	16.6	10.1	29.6	36.6	43.0	60.1	65.8	59.6	50.6	46.4	34.2	29.6	**40.2**
1934	26.9	29.5	37.8	45.6	54.6	55.2	64.5	63.8	48.3	45.3	35.3	19.0	**43.8**
1935	17.4	23.2	26.2	33.7	43.2	53.4	63.2	59.7	52.9	38.6	23.6	20.3	**37.9**
1936	17.4	4.5	28.3	40.0	52.7	57.8	67.3	61.3	49.4	40.1	21.0	19.9	**38.3**
1937	-5.5	16.9	25.7	36.5	49.5	53.9	64.1	60.4	53.9	45.5	31.6	21.7	**37.8**
1938	16.4	22.1	28.9	39.1	43.9	56.1	62.2	60.3	57.3	41.6	23.9	23.0	**39.6**
1941	20.5	24.9	33.6	38.1	48.4	55.8	63.3	60.8	45.5	38.9	30.8	18.6	**39.9**
1942	7.3	10.3	22.8	40.6	42.9	50.8	63.4	61.3	52.9	41.1	26.7	22.6	**36.9**
1943	8.8	18.6	17.8	43.2	43.2	51.8	61.2	60.2	52.8	43.4	31.0	17.9	**37.5**
1944	15.8	19.8	24.0	39.2	47.8	52.6	60.1	58.2	51.4	46.3	25.9	15.5	**38.0**
1945	22.1	24.8	28.7	34.1	45.9	50.5	62.8	61.4	48.8	44.4	26.7	16.3	**38.9**
1946	18.0	21.1	33.6	41.6	44.7	54.2	63.6	59.8	49.3	33.9	25.3	23.7	**39.1**
1947	13.1	22.0	30.6	39.0	49.5	50.3	64.2	60.4	50.7	44.9	21.6	18.8	**38.8**
1948	16.0	16.3	19.4	38.2	47.7	56.8	58.5	59.3	50.7	41.6	26.5	9.4	**36.7**
1949	-1.8	13.1	22.8	42.1	49.9	53.2	61.0	62.0	51.4	35.4	38.3	18.3	**37.1**
1950	9.1	23.1	25.3	36.3	42.4	52.1	58.6	58.7	48.1	43.1	25.9	24.0	**37.2**
1951	10.0	20.5	20.5	36.8	46.8	48.6	61.8	57.9	48.7	37.9	26.6	13.6	**35.8**
1952	14.2	15.1	18.2	40.4	48.1	55.0	59.7	60.1	53.8	43.9	20.8	18.0	**37.3**
1953	29.5	23.9	30.9	34.8	42.6	52.9	63.6	60.5	54.5	43.7	34.3	23.5	**41.2**
1954	19.0	29.0	23.1	38.9	47.7	49.7	64.2	57.6	51.3	39.5	36.6	19.3	**39.7**
1955	13.9	15.4	18.3	33.7	43.8	53.5	61.2	62.3	49.9	42.4	19.1	16.0	**35.8**
1956	15.4	14.3	25.4	38.2	48.9	55.3	61.7	57.4	52.2	39.7	26.8	25.3	**38.4**
1957	5.4	22.0	29.6	35.7	49.2	54.7	62.3	60.8	51.0	39.3	25.9	25.5	**38.4**
1958	18.8	29.1	25.2	35.8	53.6	54.4	58.0	62.5	49.8	42.9	27.5	26.7	**40.3**
1959	20.7	14.0	27.8	37.2	41.5	55.8	60.7	57.3	48.0	39.6	21.5	21.8	**37.2**
1960	13.4	15.5	26.4	36.5	45.0	55.5	65.1	57.2	51.9	40.4	29.2	19.8	**38.0**
1961	23.0	31.7	30.6	35.3	47.4	60.7	64.4	65.4	44.6	38.5	24.0	16.5	**40.2**
1962	6.7	17.7	21.8	41.3	46.1	54.8	59.5	58.3	51.0	43.9	27.1	22.9	**37.6**
1963	7.4	34.4	35.2	38.6	50.0	55.0	62.5	62.8	57.9	47.3	32.1	17.4	**41.7**
1964	17.0	19.2	24.8	36.3	47.5	54.6	65.2	57.9	49.5	42.8	27.9	18.2	**38.4**
1965	23.0	23.3	20.2	40.6	43.9	54.8	62.0	59.2	41.0	44.8	34.1	19.6	**38.9**
1966	20.2	18.0	27.9	37.1	51.4	54.3	65.6	61.3	56.1	41.4	30.9	19.8	**40.3**
1967	23.0	25.0	25.0	31.8	43.8	53.2	63.7	63.7	55.7	40.9	28.2	12.9	**38.9**
1968	11.5	22.3	33.8	34.5	43.6	53.0	62.6	57.0	49.2	39.8	25.6	14.9	**37.3**
1969	13.4	14.2	20.5	41.7	50.8	53.4	61.1	62.6	53.0	35.1	31.2	20.8	**38.1**
1970	18.3	29.7	23.5	33.4	48.5	59.2	65.0	64.7	47.5	37.2	29.3	17.3	**39.4**
1971	23.1	27.1	26.6	37.9	48.2	54.3	62.2	66.8	46.9	37.3	29.0	15.0	**39.5**
1972	16.8	22.7	36.2	37.2	47.8	57.9	60.4	63.4	49.2	39.3	27.7	11.6	**39.2**
1973	13.8	15.2	29.3	35.5	47.9	55.9	64.0	62.8	50.4	41.9	27.3	24.0	**39.0**
1974	13.8	25.3	27.8	41.1	43.6	60.7	65.2	59.4	51.8	42.9	30.8	17.5	**40.0**
1975	13.4	9.4	17.8	24.9	40.2	49.1	62.5	55.2	48.7	38.5	25.4	22.8	**34.0**
1976	20.6	23.5	24.5	39.1	52.4	54.1	63.3	60.1	52.6	40.6	29.6	23.0	**40.3**
1977	11.5	26.3	26.4	42.8	47.8	60.2	60.8	59.7	50.5	41.6	28.4	21.4	**39.8**
1978	20.7	22.4	33.5	40.2	44.7	56.2	63.1	58.8	51.9	41.7	18.8	6.0	**38.2**
1979	-1.8	19.5	29.3	37.9	47.7	56.4	62.6	60.2	54.9	41.5	20.7	27.1	**38.0**
1980	9.2	22.5	25.8	42.3	48.7	54.8	63.2	58.3	53.5	41.2	29.4	31.2	**40.0**
1981	26.9	25.8	34.9	41.9	48.1	55.9	63.5	66.0	54.8	41.5	30.8	20.5	**42.5**
1982	16.2	13.8	25.1	32.0	45.0	56.0	62.5	63.5	49.7	39.6	21.6	14.3	**36.6**
1983	22.7	25.7	32.2	35.4	45.2	53.4	61.2	66.8	50.4	45.0	31.6	4.0	**39.5**
1984	23.3	25.1	31.9	35.9	47.5	53.9	64.0	64.5	47.9	37.7	26.6	10.1	**39.0**
1985	8.2	11.5	25.7	44.4	49.9	56.8	67.2	57.4	45.1	37.7	12.9	11.9	**35.7**
1986	22.7	23.0	38.2	38.7	47.5	60.0	57.7	62.2	46.6	41.3	24.8	17.9	**40.0**
1987	16.9	26.6	31.9	44.7	50.3	58.0	59.7	56.6	53.5	41.8	30.3	18.1	**40.7**
1988	12.8	26.8	30.6	41.4	48.6	61.5	64.2	60.6	50.4	46.9	28.3	18.8	**40.9**
1989	18.6	7.0	27.9	39.6	45.8	55.7	66.0	58.5	50.7	40.1	32.9	18.9	**38.5**
1990	24.4	23.7	31.4	41.8	45.0	54.2	63.0	62.1	57.3	39.4	32.5	10.2	**40.4**
1991	17.3	32.9	29.9	37.5	45.8	53.8	63.5	65.1	54.1	38.6	23.8	20.6	**40.2**
1992	19.5	28.8	38.7	42.3	51.1	58.4	58.4	60.2	51.4	44.0	26.0	13.5	**41.0**
1993	12.5	12.0	33.5	38.9	52.3	52.9	54.7	56.6	50.9	41.6	23.5	21.5	**37.6**
1994	27.8	18.7	34.3	40.6	50.7	56.6	62.2	63.3	55.6	38.7	22.9	19.6	**40.9**
1995	17.2	27.4	30.3	37.8	46.0	54.5	62.4	60.9	52.6	38.4	33.8	22.1	**40.3**
1996	14.9	21.7	26.4	40.2	44.9	57.7	64.7	61.4	50.4	40.0	28.5	20.7	**39.3**
1997	16.5	21.3	30.7	35.2	49.7	56.7	61.5	62.2	55.1	41.1	28.6	17.1	**39.6**
1998	21.7	24.0	30.7	40.7	49.6	51.6	67.2	65.0	58.2	41.4	33.0	17.3	**41.7**
1999	25.3	25.7	31.9	37.5	46.2	55.2	61.9	64.1	50.4	43.8	38.2	22.3	**41.9**
2000	22.6	29.7	34.6	43.6	49.0	57.6	65.6	63.9	50.6	41.0	15.3	14.3	**40.6**
2001	14.8	14.0	31.2	37.1	49.2	54.8	62.9	64.7	55.7	41.1	32.7	18.7	**39.7**
2002	19.8	20.7	22.4	36.0	45.6	55.4	65.2	57.6	51.9	34.2	27.1	23.0	**38.2**
2003	23.5	16.6	31.8	38.7	46.8	54.9	66.6	65.1	52.1	43.9	21.8	20.5	**40.2**
2004	17.2	21.4	36.9	40.9	45.9	54.3	62.7	59.9	49.5	41.2	29.5	26.0	**40.4**
2005	21.7	26.3	32.0	38.6	46.8	53.0	63.8	60.7	51.1	43.5	27.5	15.8	**40.0**
2006	25.3	18.2	30.6	41.0	49.3	59.2	67.8	60.7	51.9	39.1	29.5	19.1	**41.0**
2007	16.4	25.2	36.4	40.3	48.9	57.9	69.8	61.5	50.7	40.7	29.0	18.6	**41.3**
2008	14.8	24.1	26.8	32.9	46.0	53.3	62.7	60.7	49.8	40.4	33.3	15.5	**38.4**
2009	21.9	26.4	27.6	36.6	47.9	53.3	61.7	60.9	57.2	35.2	28.6	14.4	**39.3**
2010	21.3	21.0	34.0	38.6	42.3	53.6	60.7	59.2	52.5	44.4	24.7	17.3	**39.1**
2011	21.2	17.0	31.2	34.1	44.0	52.5	62.9	62.9	55.3	43.1	24.9	18.8	**39.0**
2012	25.2	23.9	36.1	42.1	45.4	56.2	66.6	63.2	54.4	39.5	28.9	19.5	**41.7**
2013	16.1	21.8	31.4	35.9	48.4	57.1	66.3	63.6	54.7	36.7	30.9	17.7	**40.0**
2014	24.5	14.2	30.3	38.8	47.7	53.0	65.5	61.1	52.5	45.7	24.4	22.3	**40.0**
2015	24.5	29.5	37.2	38.9	48.0	61.3	62.1	61.9	53.8	46.6	21.5	17.7	**41.9**
2016	17.9	28.1	33.7	42.9	46.7	59.2	61.3	59.7	50.8	42.4	35.4	11.9	**40.8**
2017	9.4	24.3	37.6	39.6	48.4	57.4	67.5	63.4	51.3	39.0	27.6	18.4	**40.3**
2018	22.9	16.3	29.2	38.9	52.5	55.9	65.1	61.0	51.6	41.1	27.6	19.0	**40.1**
2019	19.9	10.6	20.5	40.0	47.2	56.0	63.7	62.7	53.2	32.9	28.8	21.2	**38.1**
2020	25.1	21.9	31.3	38.0	48.8	55.0	62.6	63.8	54.8	39.1	29.0	23.9	**41.1**
2021	24.0	16.3	32.7	37.2	44.2	62.0	68.6	60.6	53.0	43.2	35.6	24.3	**41.8**
2022	19.4	22.2	33.6	32.4	44.1	55.7	65.8	66.4	57.1	44.9	17.1	18.6	**39.8**
2023	15.3	16.9	22.5	34.9	52.9	55.2	64.0	63.4	54.3	40.8	32.2	25.3	**39.8**
Minimum	**-5.5**	**4.5**	**17.8**	**24.9**	**40.2**	**48.6**	**54.7**	**55.2**	**41.0**	**32.9**	**12.9**	**4.0**	**34.0**
Average	**18.7**	**22.3**	**29.7**	**38.9**	**47.6**	**55.7**	**63.5**	**61.7**	**52.0**	**41.8**	**29.2**	**20.5**	**40.1**
Maximum	**30.2**	**34.4**	**42.7**	**48.5**	**56.7**	**64.4**	**69.8**	**67.5**	**59.0**	**49.5**	**41.1**	**33.4**	**44.8**

\\KPL\VA-Prj$\1\01\00126\31\A\Data\Task 450 - Water Balance - 2024 Update\1-Data\1 - Climate\[Climate Stringfiles.xlsm]Table A.2

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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APPENDIX B

KP Regional Annual Runoff Coefficient Review Memo

(Pages B-1 to B-6)

MEMORANDUM

To:	Ms. Roanna Stewart	Date:	October 6, 2017
		File No.:	VA101-00126/16-A.01
From:	Nathan Smith	Cont. No.:	VA17-01306
Re:	Montana Resources – Regional Annual Runoff Coefficient Review		

1 - INTRODUCTION

This memorandum provides a review of regional annual runoff coefficients for the Montana Resources Project. The purpose of the review is to assess if the runoff coefficients used in the Montana Resources Yankee Doodle Tailings Impoundment (YDTI) water balance model (Knight Piésold, 2017) are appropriate. The following data sources were used in the review:

- Memorandum "Reference Climatic Data for the Yankee Doodle Tailings Area near Butte, Montana," dated May 2, 2016, by William M. Schafer, Schafer Limited LLC (Schafer)
- US Geological Survey (USGS) hydrometric station historical annual streamflow records
- USGS StreamStats Geographic Information System (GIS) program for the delineation of hydrometric station catchment areas and mean annual precipitation (MAP) estimates, and
- US National Centers for Environmental Information (NCEI) climate station historical precipitation records.

2 – REGIONAL RUNOFF COEFFICIENT REVIEW

USGS hydrometric stations with a minimum of 10 complete years of annual record were selected for the study. Many of the hydrometric stations were noted to have minor upstream diversions or abstractions; however, these are not expected to meaningfully change the results of the analysis and the stations were therefore included in the study. Stations noted to have major diversions were not included in the study. Figure 1 presents the station catchment areas and Table 1 presents a summary of the selected stations with corresponding mean annual discharge (MAD) values generated from the complete years of record available. The table also presents three stations with adjusted drainage areas, as follows:

- Silver Bow Creek below Blacktail Creek (12323250) – The USGS Station Silver Bow Creek above Blacktail Creek (12323170) reports almost no flow (mean annual discharge of 0.03 cfs), due to impacts from upstream mining operations. Therefore, the catchment area for the downstream station Silver Bow Creek below Blacktail Creek was modified by removing the catchment area (21.7 mi^2) from the Silver Bow Creek above Blacktail Creek area.
- Blacktail Creek at Butte (12323240) – The USGS comments for this station note that diversions for irrigation include flow from about 1,400 acres upstream from the station. It is not known how much of the flow is diverted, but it is reasonable to assume that much of the available flow is taken, so the station catchment area was reduced by 1,400 acres. This assumption may result in a slight overestimation of the runoff coefficient.
- Boulder River near Boulder (06033000) - The USGS comments for the station note that diversions for irrigation include flow from about 3,500 acres upstream from the station. It is not known how much of the flow is diverted, but it is reasonable to assume that much of the available flow is taken, so the station catchment area was reduced by 3,500 acres. This assumption may result in a slight overestimation of the runoff coefficient.

To generate annual runoff coefficients estimates for the stations, annual precipitation data concurrent with the annual discharge data are required. Data from the Butte Mooney Airport climate station were selected as the annual precipitation record for the study. This station was selected due to its long-term and largely complete precipitation record and its location central to the drainage areas of interest; it is also the climate station used to generate climatic values for the Montana Resources YDTI water balance model.

The following procedure was used to generate the average annual runoff coefficient estimate for each station:

1. A dataset of concurrent hydrometric station annual discharge and Bert Mooney Airport climate station annual precipitation was compiled.

2. The Bert Mooney Airport annual precipitation data were translated to the hydrometric station watershed using location factors based on the MAP estimates available in the USGS StreamStats program. The StreamStats program uses the Parameter-Elevation Regressions on Independent Slopes Model (PRISM) for MAP estimates.
3. The mean annual discharge value for each hydrometric station was converted to its equivalent runoff depth and then was divided by the corresponding mean annual precipitation value to generate an average annual runoff coefficient for the station.

Table 2 presents the annual runoff coefficients for each hydrometric station generated using the methodology described above. The table shows that there is a very wide range of values, from 13% to 68%. However, the 68% value (Racetrack Creek) appears to be a high outlier as the next highest value is 38%, and the values for the stations closest to the project area are at the bottom end of the range.

3 - ASSESSMENT

The runoff coefficients for the Montana Resources YDTI water balance model were determined by calibrating the modelled pond volumes to the measured pond volumes, and are estimated to be 15% for undisturbed areas and 25% for disturbed areas (Knight Piésold, 2017), which correspond to mean annual unit runoff values of 2.0 inches and 3.3 inches, respectively. The disturbed runoff coefficient is approximately 60% greater than the undisturbed value to account for less infiltration and lower evapotranspiration on disturbed areas. These runoff coefficients are applied in the water balance model after 2.5 inches of sublimation (Schafer, 2016) is removed from the snowpack. Taking this into account, the effective runoff coefficients, for comparison to the regional values, are 13% for undisturbed areas and 21% for disturbed areas.

The undisturbed runoff coefficient is at the low end of the regional values. However, the hydrometric stations closest to the project area, and therefore those likely to have conditions most similar to that of the project area, also have runoff coefficients at the lower end of the range. Silverbow Creek has a coefficient of 19% and Blacktail Creek has a coefficient of 13%, and these may be slightly overestimated due to adjustments for irrigation. Such low runoff coefficients are generally consistent with the project area condition of high evaporation (28.1 inches including 2.5 inches of sublimation) and low precipitation (15.9 inches) (Schafer, 2016).

4 - CONCLUSION

The estimated runoff coefficients were derived by calibrating the project water balance model to match YDTI pond volumes with measured pond volumes. The constraints of this procedure, combined with the condition that its results are consistent with the most applicable regional values, leads to the conclusion that the estimated coefficients are likely reasonably representative of actual conditions and are therefore appropriate for use in a water balance for the project area.

Please contact the undersigned if you have any questions or concerns.

PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, N. W. SMITH # 37707 — Oct 6, 2017

Prepared: Nathan Smith, P.Eng.
Senior Engineer

Reviewed: Jaime Cathcart, P.Eng.
Specialist Hydrotechnical Engineer
Associate

Approval that this document adheres to Knight Piésold Quality Systems: ☒

Attachments:

Table 1 Rev 0	Regional USGS Hydrometric Stations
Table 2 Rev 0	Regional Runoff Coefficient Assessment
Figure 1 Rev 0	Regional USGS Hydrometric Station Catchment Areas

References:

Knight Piésold Ltd, 2017. *Montana Resources – Updated Yankee Doodle Tailings Impoundment Water Balance Model.* Letter. Continuity Number VA17-00828. July 6, 2017.

Schafer Limited LLC (Schafer), 2016. *Reference Climatic Data for the Yankee Doodle Tailings Area near Butte, Montana.* Memorandum. May 2, 2016.

Knight Piésold
CONSULTING

TABLE 1

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

REGIONAL USGS HYDROMETRIC STATIONS

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Station Name	USGS Number	Latitude	Longitude	Drainage Area (mi^2)	Gauge Elevation (fasl)	Record	Complete Years	MAD (cfs)	Comments
Silver Bow Creek above Blacktail Creek	12323170	46°00'08.46	112°30'47.74"	21.7	5471	1984-1993	10	0.03	No USGS comment available; however, it is known that this watershed is impacted due to upstream mining operations.
Silver Bow Creek below Blacktail Creek (adjusted area)	12323250	45°59'48.94"	112°33'46.43"	103	5410	1984-2015	32	23.0	USGS Comment: Flow is slightly regulated by Silver Bow County sewage treatment plant. The adjusted station drainage area is based on removal of the Silver Bow Creek above Blacktail Creek drainage area.
Blacktail Creek at Butte (adjusted area)	12323240	45°59'40.81"	112°32'08.57"	88.7	5430	1989-2015	27	14.0	USGS Comment: Slight regulation occurs by Basin Creek Reservoir. Diversions for irrigation include about 1,400 acres upstream from station. The adjusted station drainage area is based on removal of 1,400 acres.
German Gulch Creek near Ramsay	12323500	46°00'52.56"	112°47'35.69"	40.9	5200	1956-1968	13	20.7	No USGS comment available.
Boulder River near Boulder (adjusted area)	06033000	46°12'39.71"	112°05'29.94"	376	4800	1929-2016	76	119	USGS Comment: Diversions for irrigation of about 3,500 acres occur upstream from station. The adjusted station drainage area is based on removal of 3,500 acres.
Willow Creek near Anaconda	12323710	46°03'52.24"	112°53'36.71"	13.7	5190	2006-2015	10	6.92	USGS Comment: No regulation or diversion occurs upstream from station.
Willow Creek at Opportunity	12323720	46°06'25.79"	112°48'38.20"	28.6	4930	2004-2015	12	10.5	USGS Comment: Flow is not regulated, however minor diversions for irrigation occur upstream from station.
Warm Springs Creek near Anaconda	12323760	46°08'01.20"	112°54'11.35"	156	5150	1998-2015	18	91.4	USGS Comment: Flow is partially regulated by Storm King Lake. Minor diversions occur upstream from station for irrigation and municipal use.
Racetrack Creek below Granite Creek near Anaconda	12324100	46°16'44.20"	112°55'09.03"	41.1	5420	1958-1972	15	60.6	No USGS comment available.

M:\1\01\00126\16\A\Data\Task 403 - Water Balance Calibration Period Update\Inputs\Climate\Runoff Assessment\[Runoff Coefficient Assessment.xlsx]Memo Table 1

NOTES:

1. MAD = MEAN ANNUAL DISCHARGE

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Knight Piésold CONSULTING

TABLE 2

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

REGIONAL RUNOFF COEFFICIENT ASSESSMENT

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Station Name	USGS Number	Drainage Area (mi^2)	MAD (cfs)	MAUR (in)	StreamStats MAP (in)	Annual Runoff Coefficient
Silver Bow Creek below Blacktail Creek (adjusted area)	12323250	103	23.0	3.03	16.7	19%
Blacktail Creek at Butte (adjusted area)	12323240	88.7	14.0	2.14	17.0	13%
German Gulch Creek near Ramsay	12323500	40.9	20.7	6.85	22.4	33%
Boulder River near Boulder (adjusted area)	06033000	376	119	4.32	22.0	21%
Willow Creek near Anaconda	12323710	13.7	6.92	6.86	19.3	38%
Willow Creek at Opportunity	12323720	28.6	10.5	5.00	16.1	33%
Warm Springs Creek near Anaconda	12323760	156	91.4	7.96	26.7	32%
Racetrack Creek below Granite Creek near Anaconda	12324100	41.1	60.6	20.0	32.8	68%

M:\1\01\00126\16\A\Data\Task 403 - Water Balance Calibration Period Update\Inputs\Climate\Runoff Assessment\[Runoff Coefficient Assessment.xlsx]Memo Table 2

NOTES:

1. MAD = MEAN ANNUAL DISCHARGE
2. MAUR = MEAN ANNUAL UNIT RUNOFF
3. MAP = MEAN ANNUAL PRECIPITATION

REV	DATE	DESCRIPTION	PREP'D	RVW'D
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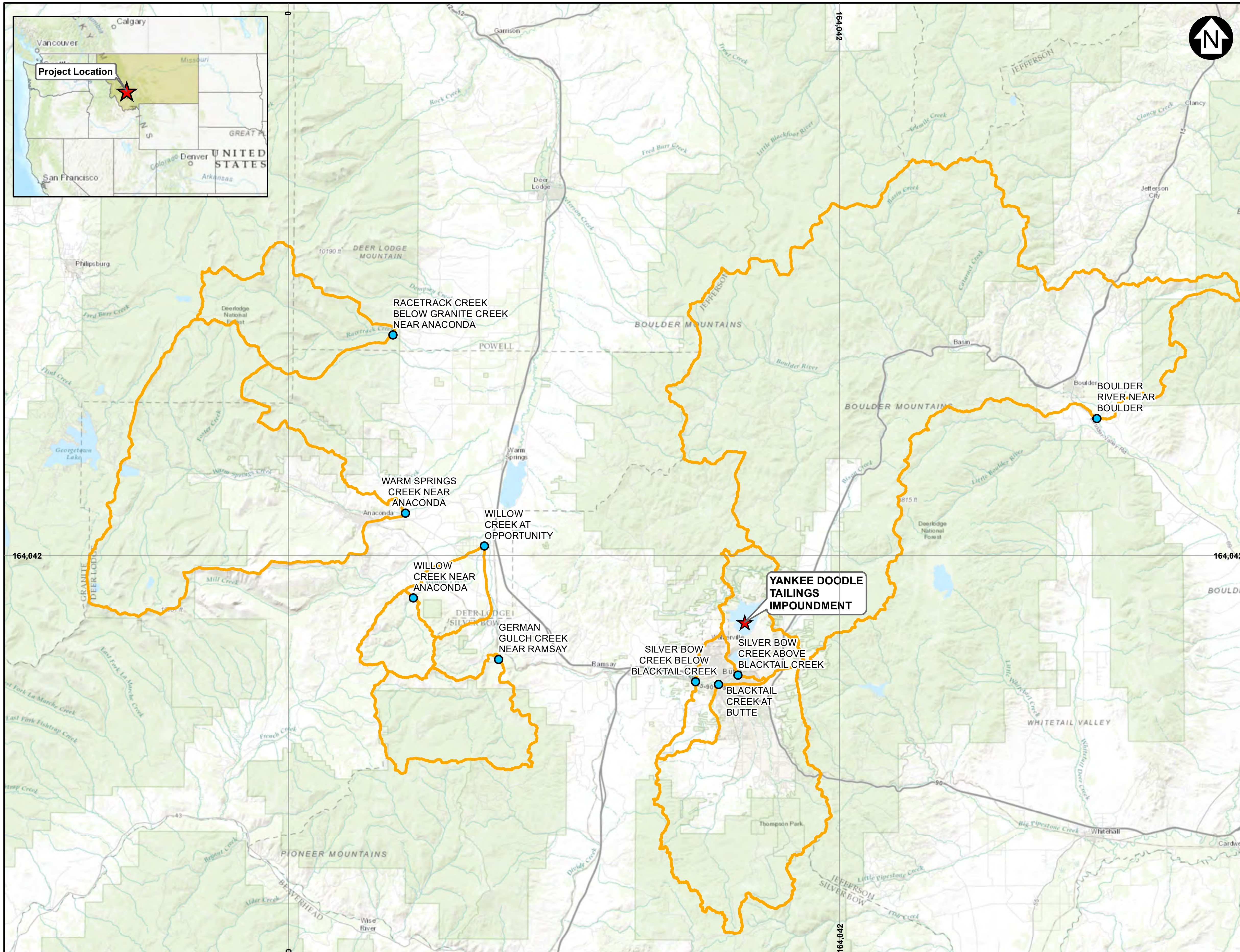

LEGEND:

- PROJECT LOCATION
- USGS SITE
- CATCHMENT BOUNDARY

NOTES:

1. BASE MAP: ESRI ONLINE TOPOGRAPHIC MAP.
2. COORDINATE GRID IS IN METRES. COORDINATE SYSTEM: MONTANA MINE GRID.
3. THIS FIGURE IS PRODUCED AT A NOMINAL SCALE OF 1:350,000 FOR 11x17 (TABLOID) PAPER. ACTUAL SCALE MAY DIFFER ACCORDING TO CHANGES IN PRINTER SETTINGS OR PRINTED PAPER SIZE.

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MONTANA RESOURCES, LLP

YANKEE DOODLE TAILINGS IMPOUNDMENT

REGIONAL USGS HYDROMETRIC STATION CATCHMENT AREAS

Knight Piésold CONSULTING

P/A NO.	REF NO.
VA101-126/16	VA17-01306

FIGURE 1 — REV 0

REV	DATE	DESCRIPTION	DESIGNED	DRAWN	REVIEWED
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APPENDIX C

KP Seepage Estimates for YDTI Water Balance Modelling Letter

(Pages C-1 to C-32)

November 6, 2018

Knight Piésold Ltd.
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E vancouver@knightpiesold.com
www.knightpiesold.com

Mr. Mark Thompson
Vice President - Environmental Affairs
Montana Resources, LLP
600 Shields Avenue
Butte, Montana
USA, 59701

Dear Mark,

Re: Seepage Estimates for Yankee Doodle Tailings Impoundment Water Balance Modelling

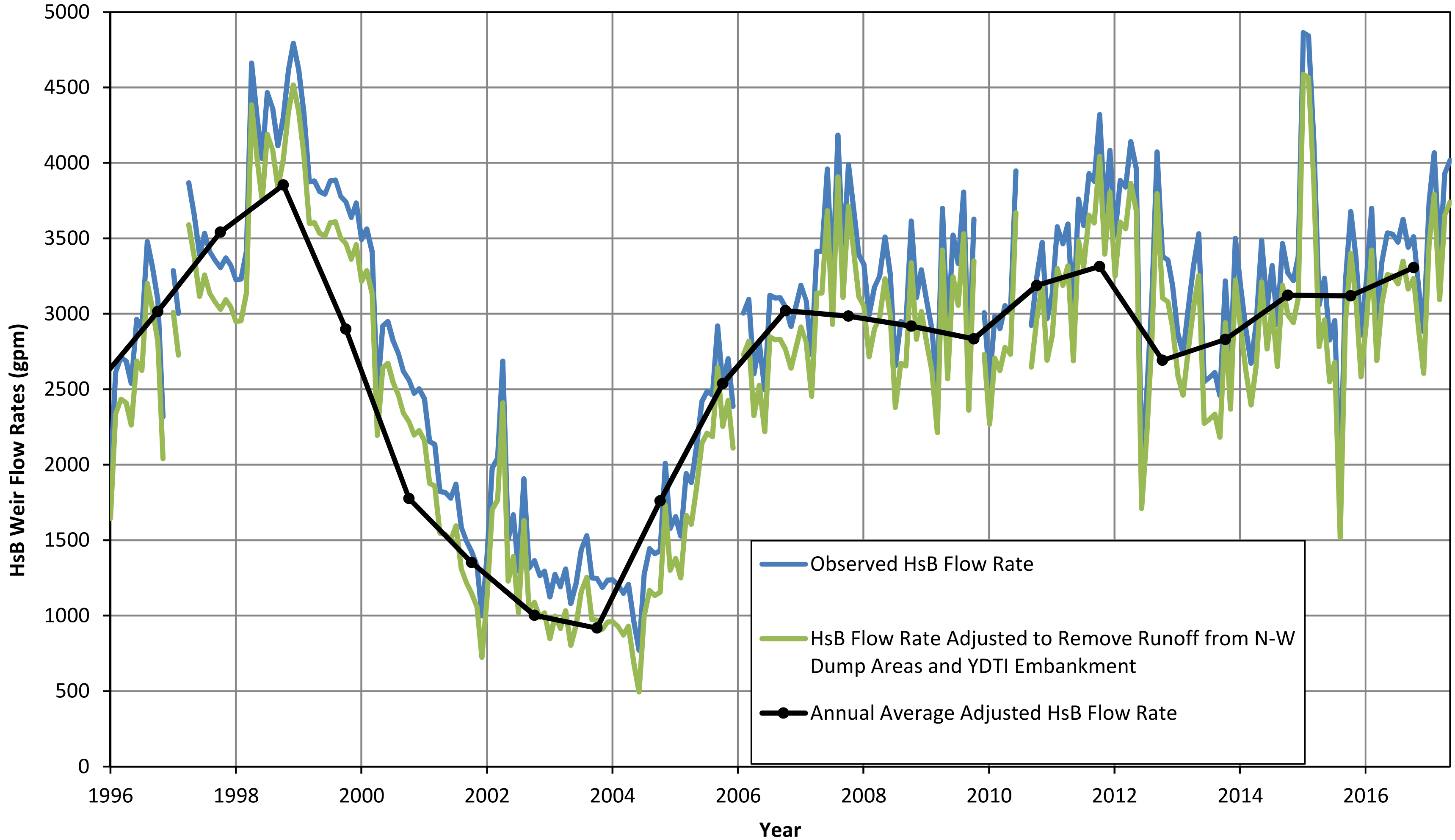
1.0 INTRODUCTION

Montana Resources, LLP (MR) operates an open pit copper-molybdenum mine adjacent to the city of Butte, Montana in Silver Bow County. MR has owned and operated the mine site the 1980's and is currently mining the Continental Pit at a nominal concentrator throughput rate of approximately 49,000 tons per day. Tailings produced from the process are stored in the Yankee Doodle Tailings Impoundment (YDTI). The YDTI was originally constructed in 1963 and the embankments have been continuously constructed to elevation (EL.) 6,400 ft using rockfill from the Berkeley Pit (until 1982) and from the Continental Pit (beginning in 1986).

Knight Piésold Ltd. (KP) was requested by MR to develop a methodology for estimating seepage rates from the YDTI. The goal of this exercise was to define flow terms to be incorporated into water balance and water quality modelling for mine operations and closure. Information collected during geotechnical and hydrogeological site investigations completed by MR and KP at the YTDI was used to develop a conceptual model for tailings deposition and consolidation behavior, and make predictions about the resulting seepage from the YDTI. This document describes the approach taken by KP to develop the seepage flow terms and provides the details required to reproduce the seepage calculations for water balance and water quality studies.

2.0 HORSESHOE BEND FLOWS AND YDTI SEEPAGE

Horseshoe Bend (HsB) is an area located downstream of the YDTI that receives runoff from surrounding disturbed and undisturbed catchment areas and seepage from the YDTI. Flow rates in the HsB area have been measured regularly by the Montana Bureau of Mines and Geology (MBMG) using a weir since 1996. Flow through the HsB Pond is continuously measured using a weir plate and level meter near the south end of the pond. The recorded flow rates at the HsB Weir are shown on Figure 1.



NOTES:

1. HORSESHOE BEND (HsB) FLOW RATES ARE MEASURED BY THE MONTANA BUREAU OF MINES AND GEOLOGY (MBMG) AT A WEIR NEAR THE SOUTH END OF THE HsB POND.
2. THE ADJUSTED FLOW SERIES USES A RUNOFF COEFFICIENT OF 0.5 , AND THE RESULT IS A REDUCTION IN FLOW OF APPROXIMATELY 275 GALLONS PER MINUTE (GPM).

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MONTANA RESOURCES, LLP

YANKEE DOODLE TAILINGS IMPOUNDMENT

HORSESHOE BEND (HsB) WEIR MEASURED AND ADJUSTED FLOW RATES

Knight Piésold CONSULTING

P/A NO. VA101-126/19

REF. NO. VA18-01697

FIGURE 1

REV 0

A simple conceptual diagram illustrating sources of flow reporting to the HsB Wier is shown on Figure 2. Flows at the HsB Weir include water from precipitation on the undisturbed area upgradient of the Northwest Dumps, precipitation on the disturbed areas of the YDTI embankments and Northwest Dumps, as well as seepage from the YDTI. The estimated surface water runoff (based on precipitation inputs and runoff coefficients) from the embankments and Northwest Dumps, which contribute flow to HsB, was subtracted from the total measured HsB Weir flow series in order to estimate the portion of flow attributed to seepage from the YDTI. An average flow rate of approximately 275 gpm was removed from the HsB Weir time-series using a runoff coefficient of 0.5, and the remaining flow is the estimated contribution from YDTI seepage used for calibration of this analysis. This adjusted flow series corresponding to YDTI seepage is shown on Figure 1 as monthly and annual averages, and the annual average series has been carried forward in comparison plots for consideration during development of the seepage estimates.

Mine operating activities are likely to have a short term effect on flows observed at the HsB Weir; however, these instances are not practical to remove from the flow record. Activities related to the leach area generally occur in a closed circuit; however, there are instances where dewatering of the leach dumps (e.g. in 1998 and 1999) caused periods of increased flows at HsB (KP, 2005). Continuous monitoring of overflow from the Precipitation Plant to HsB Pond only began in late 2016. The Muddler Pump overflow periodically reports to the HsB Pond and is not presently instrumented. Conversely, loading of the leach dumps may have caused periods of decreased flows being measured at the HsB Weir. The discharge of Silver Lake water directly to the YDTI beach may have also caused short periods of increased recharge to the tailings surface that cannot be practically accounted for in the present analysis.

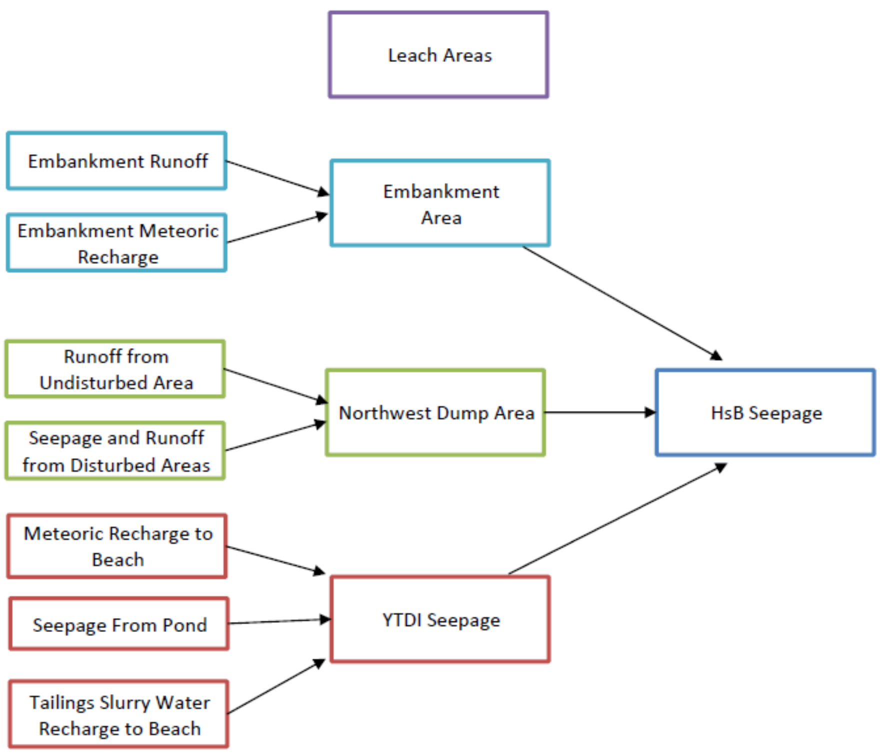


Figure 2 Conceptual Diagram of Components Contributing to HsB Flows

3.0 YDTI SEEPAGE CONCEPTUAL MODEL

Sources contributing to seepage from the YDTI facility are shown in the conceptual diagram on Figure 2. These components have been further sub-divided within the conceptual model to describe the various flow terms contributing to seepage from the facility. The components and sub-components included in the conceptual model for YDTI seepage are listed below, and additional details on these terms are provided in the subsequent sections of the conceptual model discussion. The contributing flow terms are as follows:

1. Tailings slurry water
   a. Initial release or fast draining pathway
   b. Consolidation or slow draining pathway
2. Meteoric recharge to TSF
3. Seepage from the supernatant pond
   a. Seepage through tailings slimes
   b. Seepage through weathered bedrock

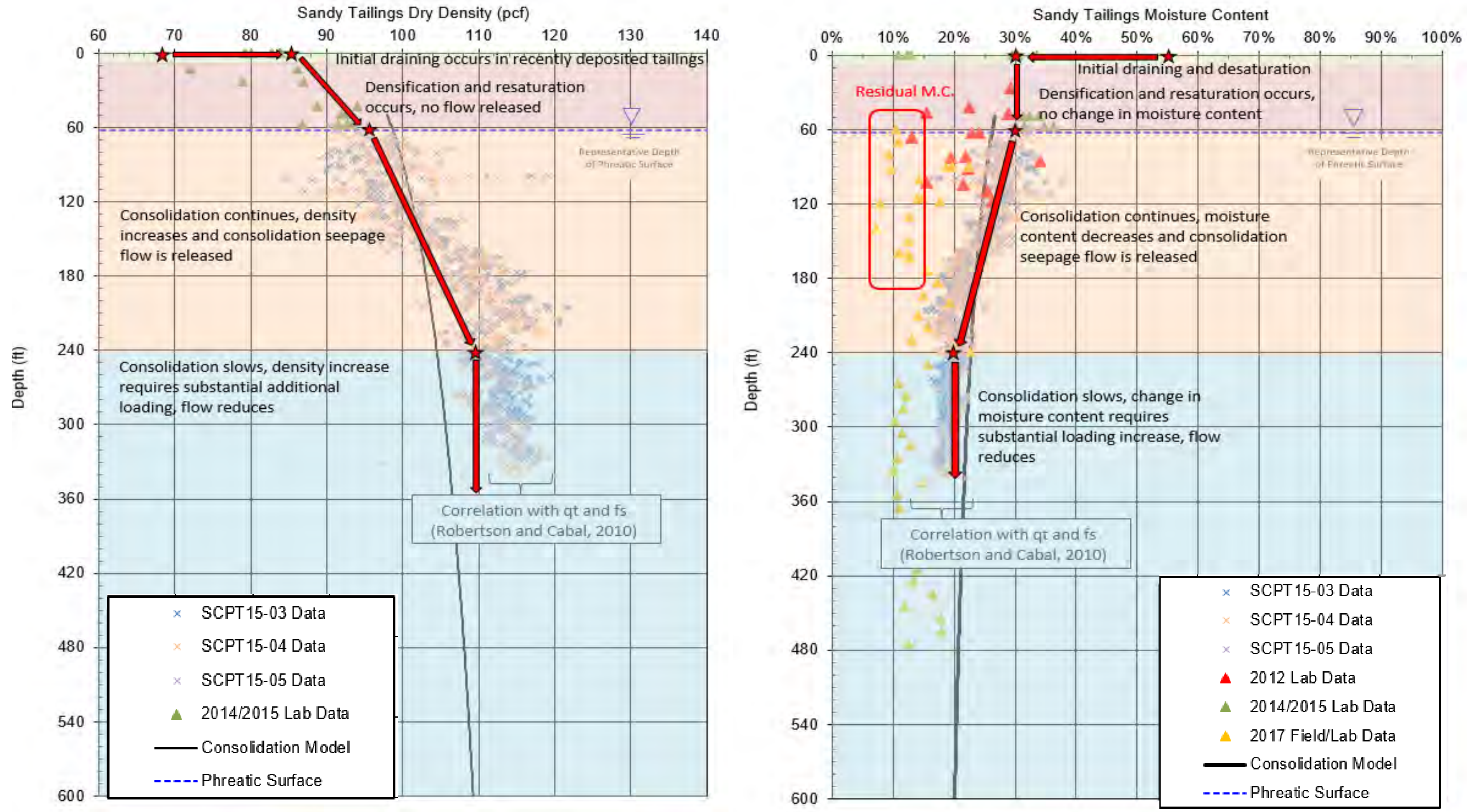
3.1 TAILINGS SLURRY WATER

Tailings slurry is delivered by pipeline to the YDTI and contains a substantial amount of water that is available to continually percolate into the tailings beach and recharge the phreatic surface within the impoundment. The solids content of the tailings slurry is approximately 35%, which equates to the gravimetric moisture content of the slurry of 186%. Tailings slurry water recharging the phreatic surface in the tailings beach and draining through the embankment is expected to be the largest component of YDTI seepage during operations. The amount of water used to convey the tailings as a slurry to the impoundment is approximately 22 million gallons per day (MGPD) based on the solids content of the slurry and mill throughput, and is directly proportional to the amount of tailings produced.

The subaerial tailings beaches are formed by the continuous discharge of tailings slurry from the crest of the embankments. Tailings were historically discharged into the YDTI at a single location at the southern point of the impoundment. This discharge strategy was successful at developing extensive drained tailings beaches separating the supernatant pond from the East-West and North-South Embankments when the mine restarted in 1986 until 2017 when changes to the tailings distribution system were made, including seven additional discharge points. Tailings are now continuously discharged in a rotational manner into the YDTI from a maximum of two of these locations at any time.

A series of site investigations completed by MR and KP between 2012 to 2017 (KP, 2013; KP, 2014; KP, 2016a; KP, 2016b; KP, 2017a; KP, 2018a) have provided information on the dry density and moisture content of tailings within the YDTI. The available data is shown in the background of Figure 3. The site investigation data includes the following:

- Dry density and moisture content data from surface thin wall (brass) tube sampling and deeper shelby tube samples
- Disturbed samples collected from the continuous core recovered during sonic drilling and from standard penetration tests (SPTs)
- Correlations with tip resistance and sleeve friction record during cone penetration testing (CPT), and
- Laboratory based consolidation testing.



NOTES:

1. DENSITY CORRELATION BY ROBERSTON AND CABAL (2010) BASED ON MEASURED TIP RESISTANCE AND SLEEVE FRICTION.
2. DRY DENSITY AND MOISTURE CONTENT ARE INTERPRETED FROM TOTAL DENSITY ASSUMING 100% SATURATION AND SPECIFIC GRAVITY OF 2.78.
3. MOISTURE CONTENTS ARE GRAVIMETRIC.

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YANKEE DOODLE TAILINGS IMPOUNDMENT

TAILINGS DRY DENSITY AND MOISTURE CONTENT WITH DEPTH

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P/A NO. VA101-126/19	REF. NO. VA18-01697	
FIGURE 3		REV 0

This site investigation information has been used to develop the conceptual model for tailings drainage and consolidation for the YDTI. The tailings consolidation conceptual model represents the evolving tailings dry density and moisture content with depth in the YDTI and is shown on Figure 3 along with the available field data considered during development of the model. The sequential steps of the conceptual model are as follows:

- Initial settling (at high moisture content)
- Initial draining and desaturation (decreasing moisture content at low confining pressure)
- Densification and resaturation (increasing dry density and saturation level without a change in moisture content), and
- On-going consolidation (increasing dry density with decreasing moisture content).

Tailings are discharged onto the subaerial beach surface of the YDTI and slurry typically pools temporarily near the discharge point while also forming a braided stream flowing to the supernatant pond at the north end of the facility. Water percolates into the tailings beach at the discharge points and along the braided stream. Tailings accrete over time, and recently deposited tailings are typically paste-like, very soft, and contain a relatively high moisture content. The initial settling process is illustrated in the photos of Figure 4. It was estimated that a representative dry density of the tailings during this phase of settling is approximately 68 pounds per cubic foot (pcf) with a moisture content of approximately 55%. This estimate was based on visual observations of the tailings and consideration of the adjusted annual flow series. The moisture content of the tailings at this phase of settling could be verified by collecting several grab samples at discharge locations with conditions similar to the photo below on the bottom right.

Figure 4 Illustration of Initial Settling of Tailings at the YDTI

Excess water that does not percolate into the tailings beach or settle with the tailings, decants and flows to the supernatant pond for reuse in mill processing. The interstitial water contained with the settled tailings solids undergoes a process of draining and desaturation, consolidation, and eventually reaches a relatively steady-state moisture content that requires a substantial increase in loading to consolidate the tailings and reduce the moisture content further.

A portion of the interstitial water is expected to drain fairly quickly from the recently deposited tailings and will percolate through the partially saturated tailings near surface of the impoundment to recharge the phreatic surface. These drained tailings have a dry density of approximately 84 pcf and a moisture content of approximately 30%. The tailings become firm and partially saturated during the initial draining phase as illustrated by the photos on Figure 5. Field data indicates that air drying of the surface can further reduce the moisture content to below 15% at times; however, that process and the effect it has on the overall facility water balance was not analyzed as part of this exercise. The amount of water which is released during the initial draining phase is referred to subsequently as the initial release or the fast draining pathway and can be calculated as the change in water volume per unit of tailings that is required to reduce the moisture content from 55% to 30%.

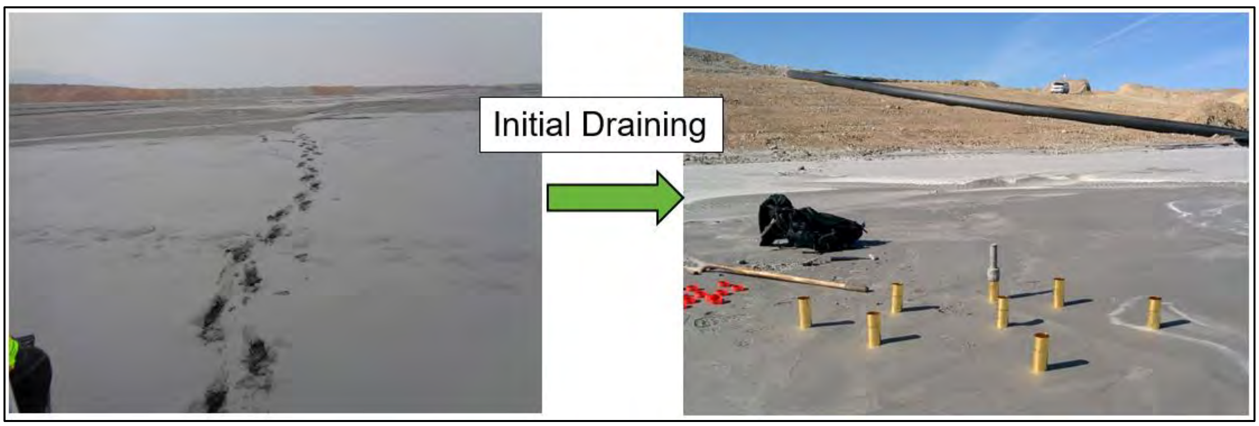


Figure 5 Illustration of Initial Draining of Tailings at the YDTI

Historically, the rate of rise of the tailings surface has been approximately 6 to 7 ft per year. The deposition and initial settling is a continuous process within the impoundment, and the partially saturated tailings material beneath undergoes continued densification as tailings deposition continues. Percolating water from tailings draining above is transmitted through the underlying material during the process of densification; however, there is no net change in moisture content per unit of tailings. The phreatic surface in the YDTI can be assumed to remain at a relatively constant average depth below surface (about 60 ft) as tailings deposition continues. Therefore, the tailings become saturated again after approximately ten years with an estimated dry density of 96 pcf and an approximate moisture content of 30%.

Thereafter, on-going consolidation of the tailings occurs up to a dry density of approximately 109 pcf and a moisture content of 21% due to the increasing confining pressure, which results in consolidation seepage being released. This consolidation seepage is referred to subsequently as the slow draining pathway, and an estimate of the amount of water that is released can be calculated as the change in water volume per unit of tailings that is required to reduce the moisture content from 30% to 21%. Photographs illustrating the tailings densification and re-saturation phase and consolidation phase are shown on Figure 6.

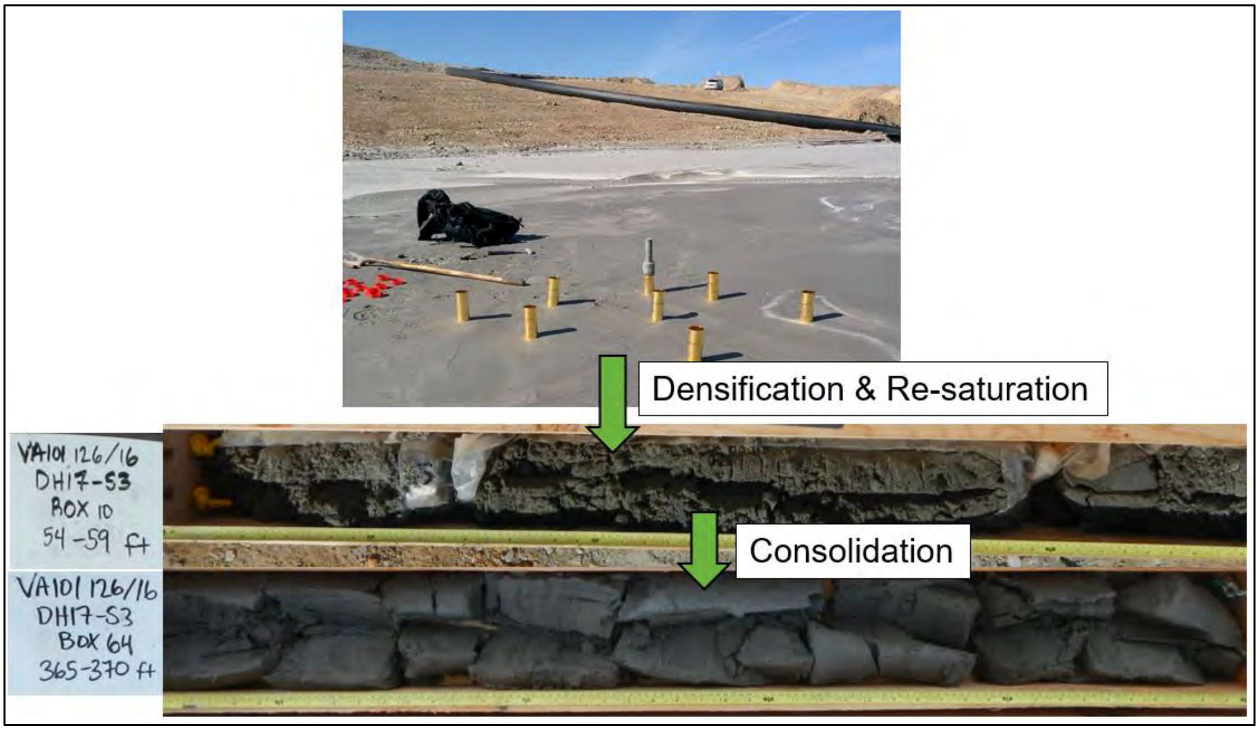


Figure 6 Illustration of Tailings Densification and On-going Consolidation

Seepage related to tailings consolidation is inferred to be derived primarily from tailings between 60 ft and 240 ft below surface. The data indicate that tailings dry density and gravimetric moisture contents do not change substantially below this depth and are assumed for the purposes of this seepage analysis to have reached a steady-state maximum dry density and a minimum moisture content under saturated conditions. A summary of the conceptual model is provided in Table 1 and approximate flow values for a typical day of tailings deposition are shown on Figure 7.

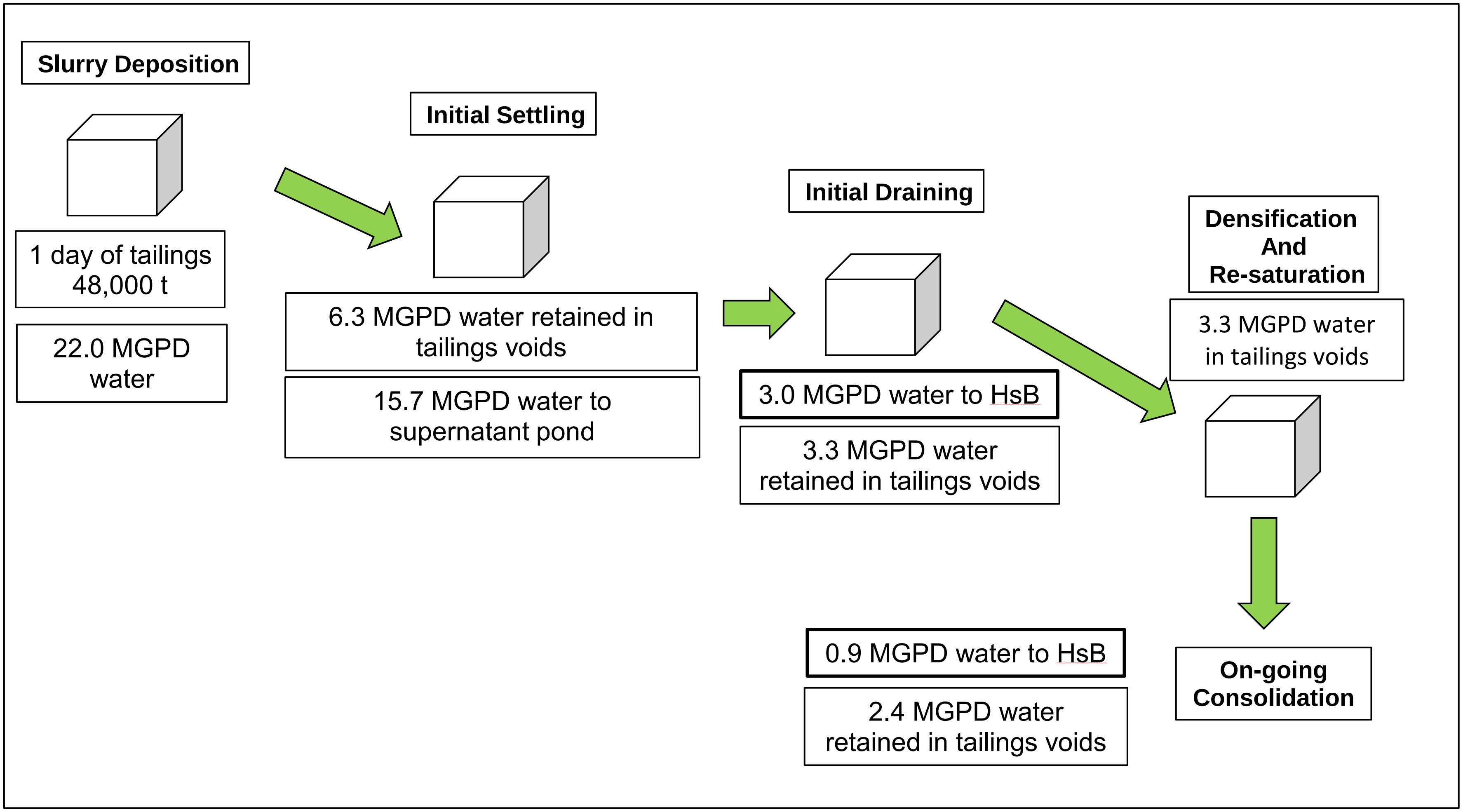
Table 1 Summary of the Tailings Properties used in the Conceptual Model

Step	Tailings Properties		
	Dry Density	Gravimetric Moisture Content	Degree of Saturation
	(pcf)	(%)	(-)
Slurry	28	186	-
Initial Settling	68	55	1
Initial Draining	84	30	0.75
Densification and Re-saturation	96	30	1
Consolidation and Stored Moisture (Saturated)	109	21	1

The estimated historic contribution of flow between 1986 and 2017 from the initial release of tailings slurry water percolating through the tailings beach to YDTI seepage ranged from none (during the mine suspension period) to 2,200 gpm. The estimated average flow rate for this flow term over the past decade, excluding the mine suspension period, was approximately 2,000 gpm. This flow term is expected to be remain fairly constant during future operations (2018 to 2031) and may actually decrease due to the recent changes in the tailings distribution system. Tailings which are discharged onto the tailings beach towards the back of the impoundment may contribute less water to seepage flow and more water to the supernatant pond. Seepage from the portion of the tailings beach along the West Embankment is also likely to contribute to seepage to the West Embankment Drain during future operations instead of draining towards HsB.

The historic and future contribution of water released by tailings consolidation to YDTI seepage was estimated to be constant with a flow rate of approximately 620 gpm. It is inferred that consolidation seepage flow rates have reached a relative steady-state due to the large size of the impoundment, relatively constant rate of rise of 6 to 7 ft per year, and the length of the period of continuous operations. Consolidation seepage is expected to taper off following closure and will eventually cease to contribute additional flow without a change in loading conditions.

In the long-term following closure, some of the water retained in the tailings voids would be expected to drain down. This process would involve gradually decreasing moisture content and saturation level of the tailings with no appreciable change in dry density. Field data from sonic drilling in the tailings mass adjacent to the embankment suggests that if the consolidated tailings (with approximately 21% moisture content) became partially saturated then they would retain a residual moisture content of approximately 10%.



NOTES:
1. MGPD IS MILLION US GALLONS PER DAY.
2. 1 MGPD IS EQUIVALENT TO 694 GALLONS PER MINUTE (GPM).
3. FLOW RATES ARE DEPENDENT ON TAILINGS PRODUCTION.

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YANKEE DOODLE TAILINGS IMPOUNDMENT

CONCEPTUAL DIAGRAM OF TAILINGS SEEPAGE FLOW TERMS

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FIGURE 7 REV 0

3.2 METEORIC RECHARGE

Precipitation on the YDTI tailings beach provides an additional source of water that can percolate into the tailings beaches (meteoric recharge) and contribute to seepage flows. Meteoric recharge is affected by the amount of precipitation each year, the size of the tailings beach, and estimated infiltration rates.

Climate data has historically been collected at the Bert Mooney Airport near Butte, MT, which is located approximately 6.5 miles from the YDTI. The climate model used to produce synthetic climate data representative of conditions at the YDTI using measurements from the Bert Mooney Airport is described in an analysis completed by William M. Schafer (Schafer, W.M., 2016). The long-term mean annual precipitation at the YDTI is estimated to be 15.9 inches (KP, 2017b).

Annual synthetic precipitation estimates for the YDTI (derived as described by Schafer, 2016) were used during the historic period of the analysis (1996 to 2017). All forward looking estimates use the long-term mean annual precipitation estimate of 15.9 inches for the YDTI. Annual infiltration to the tailings beach has been estimated using the total available beach area of the facility and an estimated infiltration rate of 30% of the annual precipitation (4.8 inches per year), which is similar to the estimate of 35% provided by Schafer (2017). The infiltration rate may decrease to 10% of precipitation following closure capping of the tailings beach as suggested by Schafer (2017).

Satellite imagery of the YDTI facility dating from 1995 to 2014 was obtained from Google Earth in order to estimate the beach area available for meteoric recharge during the historic period considered in the analysis. The beach area was linearly interpolated between available years where imagery data was not available. The surface area of the tailing beach for forward looking modelling scenarios (2018 to 2031, and 2082) was measured in the program Muck3D using the tailings deposition model described in the YDTI Design Basis Report (KP, 2017b). Historic and estimated future tailings beach areas are presented in Appendix B.

The estimated historic contribution from meteoric recharge to YDTI seepage ranged from 90 to 230 gpm with an average of approximately 140 gpm for the period from 1996 to 2017. Meteoric recharge during future operations (2018 to 2031) may increase as the available beach area increases, and a range between 210 and 330 gpm was estimated with an average rate of approximately 250 gpm.

Previous water balance modelling (KP, 2018b) indicates that it will take 30 years or more to reach an equilibrium pond volume and area following closure depending on the size of the pond at closure and the prevailing climate conditions. The supernatant pond is expected to recede annually, which will increase the beach area. The beach will be progressively reclaimed using a closure capping sequence defined by others. The flow contribution from meteoric recharge on the final beach area at the equilibrium pond volume could be up to approximately 420 gpm assuming no reduction from the present estimate of 30% infiltration. The flow contribution could be as low as 140 gpm assuming the 10% infiltration rate following closure capping as suggested by Schafer (2017).

A more complex methodology to estimate the rate of infiltration is not considered necessary at this time since the estimated meteoric recharge is only approximately 5% to 10% of the total estimated YDTI seepage flow.

3.3 SEEPAGE FROM THE SUPERNATANT POND

The YDTI pond is situated over tailings slimes. It is possible that the pond also overlies natural ground near the northern edge of the pond. The natural ground in this area can be expected to comprise materials consistent with those encountered on the West Ridge. The foundation materials are likely comprised of shallow topsoil, discontinuous sandy alluvium, and completely weathered bedrock overlying highly to moderately weathered bedrock. Geologic cross sections available in the YDTI Site Characterization Report (KP, 2017a) indicate that the majority of the pond is expected to be underlain by tailings slimes with the remainder underlain by natural ground. Both the slimes and weathered bedrock exist as potential pathways for seepage from the YDTI supernatant pond. The methodology used to quantify the seepage rate within each of these two materials is discussed below.

3.3.1 SEEPAGE THROUGH TAILINGS SLIMES

The 2017 Site Characterization Report (KP, 2017a) provides detailed information on the hydrogeologic conditions which exist within the YDTI tailings material. Hydraulic head data from pore pressure dissipation (PPD) testing indicates that pore pressures are slightly above hydrostatic in near surface tailings and become less than hydrostatic with depth in tailings material in the vicinity of the pond. This analysis adopted the estimated horizontal gradient from the PPD testing as representative of the gradient of seepage flowing from the pond through slimes. It is reasonable to believe that seepage flow paths will steepen in the vertical direction once tailings deposition ceases during closure and draindown occurs.

Seepage from the supernatant pond occurring through tailings slimes was estimated using Darcy's Law. The terms used in the calculation are summarized here:

- The hydraulic conductivity of the tailings slimes were estimated to range from $3x10^{-9}$ to $9x10^{-9}$ m/s (KP, 2016b; KP, 2017a). A hydraulic conductivity of $6x10^{-9}$ m/s was selected for the slimes for this analysis.
- A horizontal hydraulic gradient of $9x10^{-3}$ within the slimes was determined from PPD testing (KP, 2016b; KP, 2017a), this value was used for seepage estimates during the historic phase (1996 to 2017) and future operations phase (2018 to 2031). Following closure of the YTDI, the hydraulic gradient in the slimes is expected to increase as tailings deposition ceases. A hydraulic gradient of 0.3 was used for the long-term post-closure estimate for Year 2082.
- Cross-sectional area from which pond seepage occurs was assumed to be equal to the area of the pond underlain by tailings slimes (about 80% of the total pond area).
  - The historic surface area of the pond was determined using Google Maps imagery as described previously (values included in Appendix B).
  - The predicted pond areas for future operating conditions and following closure was based on the tailings deposition model as described previously (values included in Appendix B).

Seepage through the slimes reporting to Horseshoe Bend was estimated to be approximately 1 to 2 GPM during the historic period, continued operations, and closure/post-closure phases. Seepage through the slimes was estimated to contribute less than 1% of the total YDTI seepage and is effectively negligible.

3.3.2 SEEPAGE THROUGH WEATHERED BEDROCK

The weathered bedrock horizon grades from highly weathered to moderately weathered with depth. Highly weathered bedrock generally comprises Butte Quartz Monzonite (BQM) where more than half of the original rock material is decomposed. It is weak, discolored, and requires a moderate force to crumble. Highly weathered bedrock was observed to be non-existent in some test pits and drillholes and up to 50 ft thick elsewhere on the West Ridge. Moderately weathered bedrock is less decomposed than the highly weathered unit and the original rock texture or fabric is preserved. Drillholes encountered a moderately weathered bedrock thickness that generally varied from 10 to 100 ft thick, and exceeded 100 ft thick in several drillholes (KP, 2017a).

Infiltrometer testing of surficial materials in the West Ridge area indicated the hydraulic conductivity near surface in alluvium and completely weathered bedrock is approximately $1x10^{-5}$ to $2x10^{-4}$ m/s. Hydraulic conductivity test results in the West Ridge bedrock system ranged from less than $1x10^{-8}$ m/s to $6x10^{-6}$ m/s, with a geometric mean of $2x10^{-7}$ m/s (KP, 2016c; KP, 2017a).

Although there is some uncertainty in the flow paths within the weathered bedrock horizon in the areas of the supernatant pond and HsB, the approach of this study was to assume that groundwater flow though an upper weathered horizon contributes flow to the HsB Weir. Seepage from the supernatant pond occurring through the underlying weathered bedrock horizon was estimated using Darcy's Law. The basis of estimating the flow contribution from the upper weathered bedrock is summarized below:

- A hydraulic conductivity of $1x10^{-5}$ m/s was adopted based on infiltrometer testing in the West Ridge area (KP, 2016c).
- The hydraulic gradient was estimated to be equal to the slope of the natural ground surface topography.
- The cross-sectional area in which groundwater flow may occur within the weathered bedrock was estimated to have a width of approximately 4,000 ft and a thickness of 25 ft.

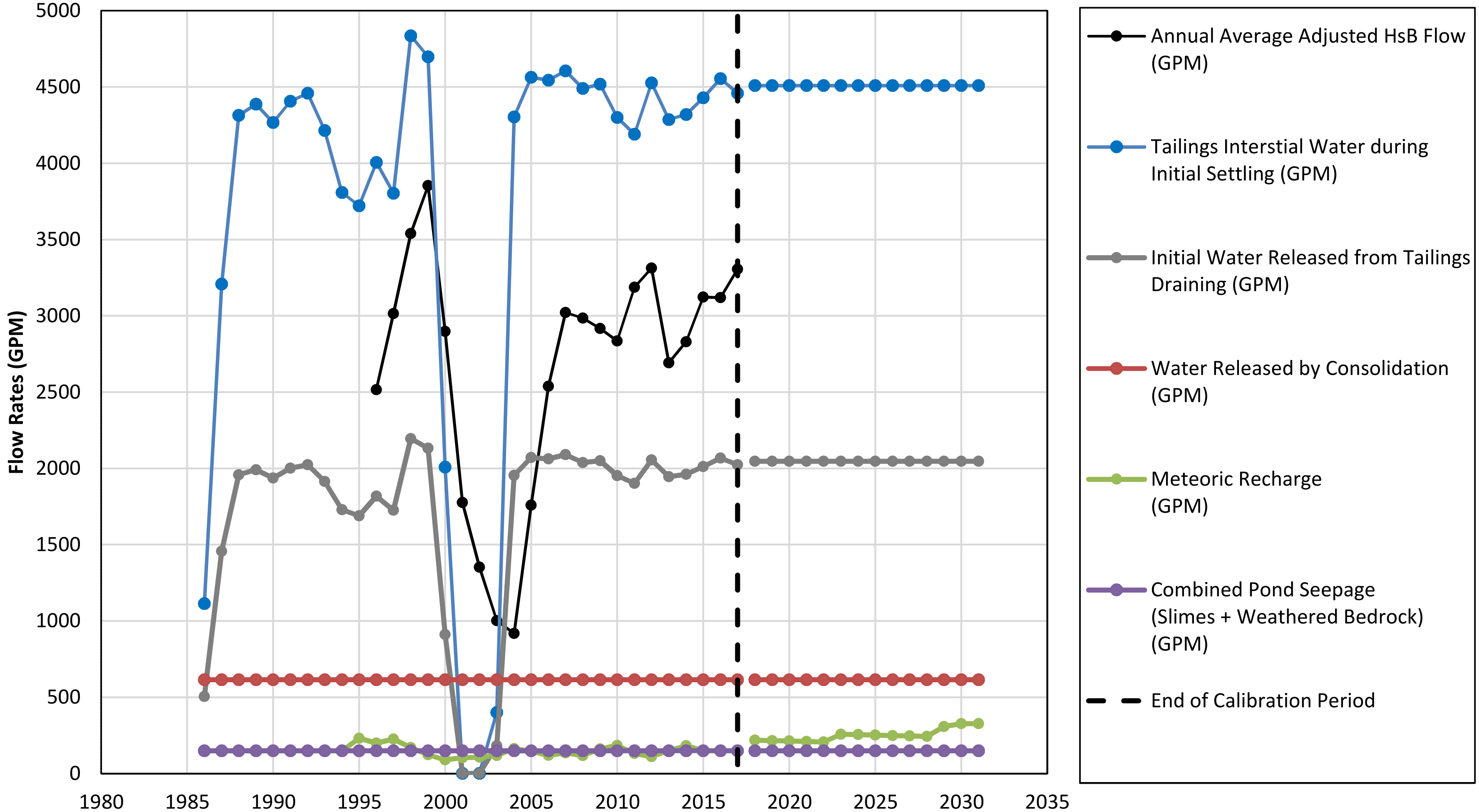
It is reasonable to expect that flow through the weathered bedrock will remain relatively constant in all forward looking scenarios. It has been assumed that the supernatant pond will remain in contact with the natural ground to a sufficient extent that flow will occur through the upper weathered bedrock horizon at the transmissive capacity of this material. It is also possible that this horizon is recharged by groundwater from up-gradient of the supernatant pond. Seepage through the upper weathered bedrock reporting to HsB was estimated to be approximately 150 gpm during the calibration period, continued operations, and closure/post-closure phases. Seepage occurring through the weathered bedrock horizon is expected to contribute approximately 5% of the total YDTI seepage during continued operations, increasing to a proportion of about 25% to 50% after closure once tailings slurry related water flow components have decreased substantially or ceased and depending on the infiltration rate assumed for meteoric recharge on the reclaimed tailings beach.

4.0 TIME-SERIES PLOTS

Flow terms were calibrated to reproduce the outflows measured at the HsB Weir over a 19 year time-series (1996 to 2017). The calibrated terms were then used to predict YDTI seepage during a continued operations phase (2018 to 2031). A base flow seepage rate expected to approximate steady-state seepage during closure/post-closure (2082) was also determined.

Estimated average flows for each term during the model calibration, continued operations, and closure/post-closure phases are presented as time series plots on Figure 8. The relative contribution of each flow term during the continued operations phase are presented on Figure 9. Additional figures showing the relative contribution of each flow term to the total estimated YDTI seepage flow for each period and data tables detailing the predicted range of flow terms are provided in Appendix A. A key insight gained from evaluating the behaviors of individual components in time-series is that the estimated YDTI seepage rates (from 1997 to 2017) are controlled by the rate of tailings deposition. Evidence for this tailings deposition control of the YDTI seepage rate is provided by observing that the flow record behaves as a subdued reflection of the calculated interstitial water stored in the tailings mass during initial settling.

A time-series plot showing the total estimated seepage rate from the YDTI facility is shown on Figure 10. The estimated flow rates determined during the historic phase of the analysis provide a reasonable fit to the record from the calibration period. Periods in which peak flows were unable to be matched by the seepage model have been attributed to mine operations activities, which are not practical to capture in this analysis or for the prediction of future operating conditions. It is evident in the behavior of the time-series plot around the mine suspension period beginning in July 2000 that there is a period of delay of approximately one year for drainage of the majority of interstitial water following suspension of operations. Tailings interstitial water would have drained from the tailings mass fairly quickly beginning in July 2000 and then slowed over the next couple years until the re-start of operations in November 2003. It is also evident that there was a period of delay of approximately two years following the re-start of operations before YDTI seepage rates equilibrated at relative steady-state conditions once again. This is attributed to a period of tailings void re-saturation and is consistent with observations at the time as described previously (KP, 2005).



NOTES:

1. THE OBSERVED HORSESHOE BEND (HsB) FLOW HAS BEEN ADJUSTED TO REMOVE WATERS CONTRIBUTED FROM DOWNSTREAM OF THE YDTI.
2. THE DASHED LINE INDICATES THE END OF THE MODEL CALIBRATION PERIOD (2017).

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YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE RATES
INDIVIDUAL COMPONENTS TIME SERIES

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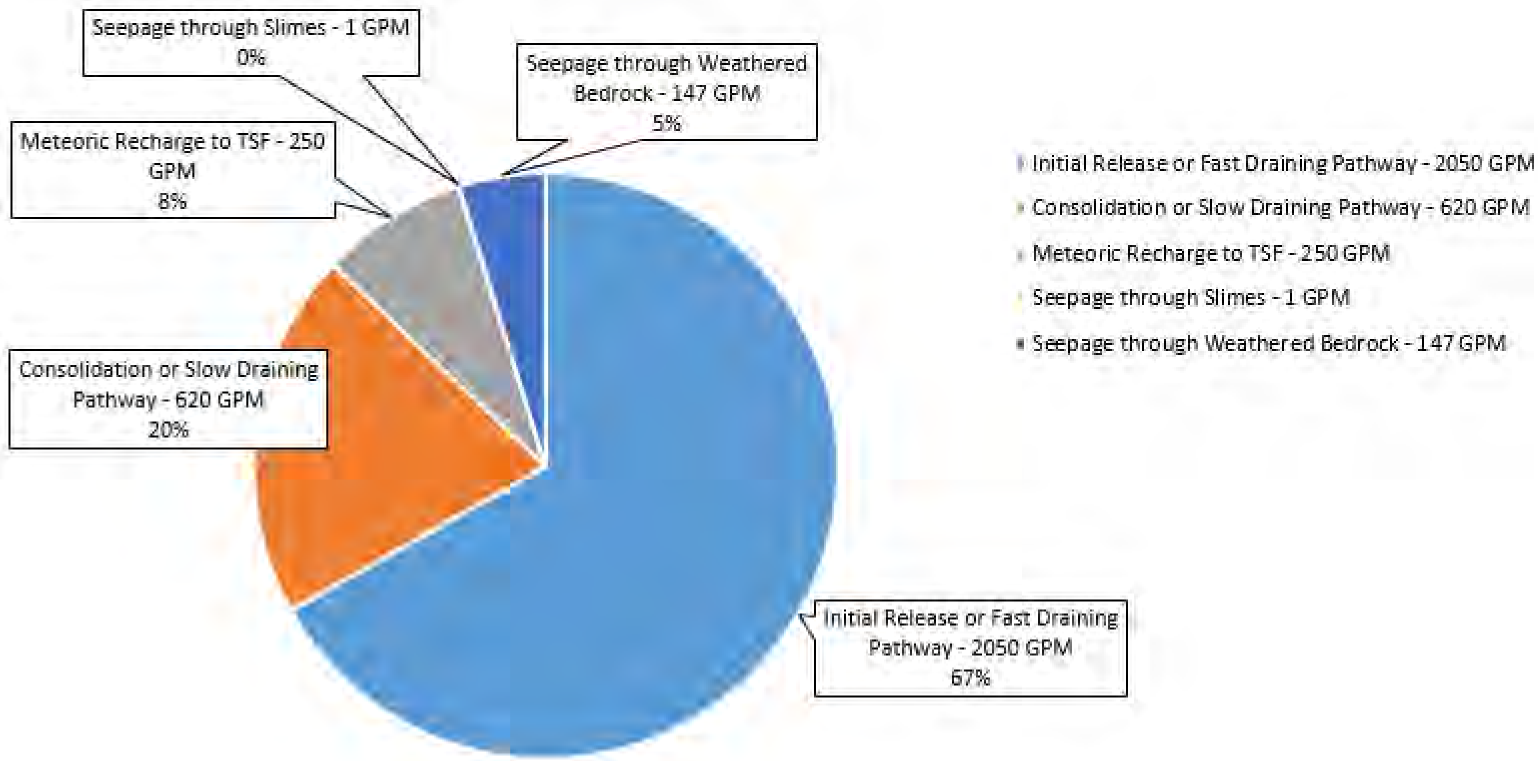
FIGURE 8

REV 0



NOTES:
1. FLOW RATES HAVE BEEN ROUNDED TO THE NEAREST TEN.

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YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE COMPONENTS
YEARS 2018 TO 2031

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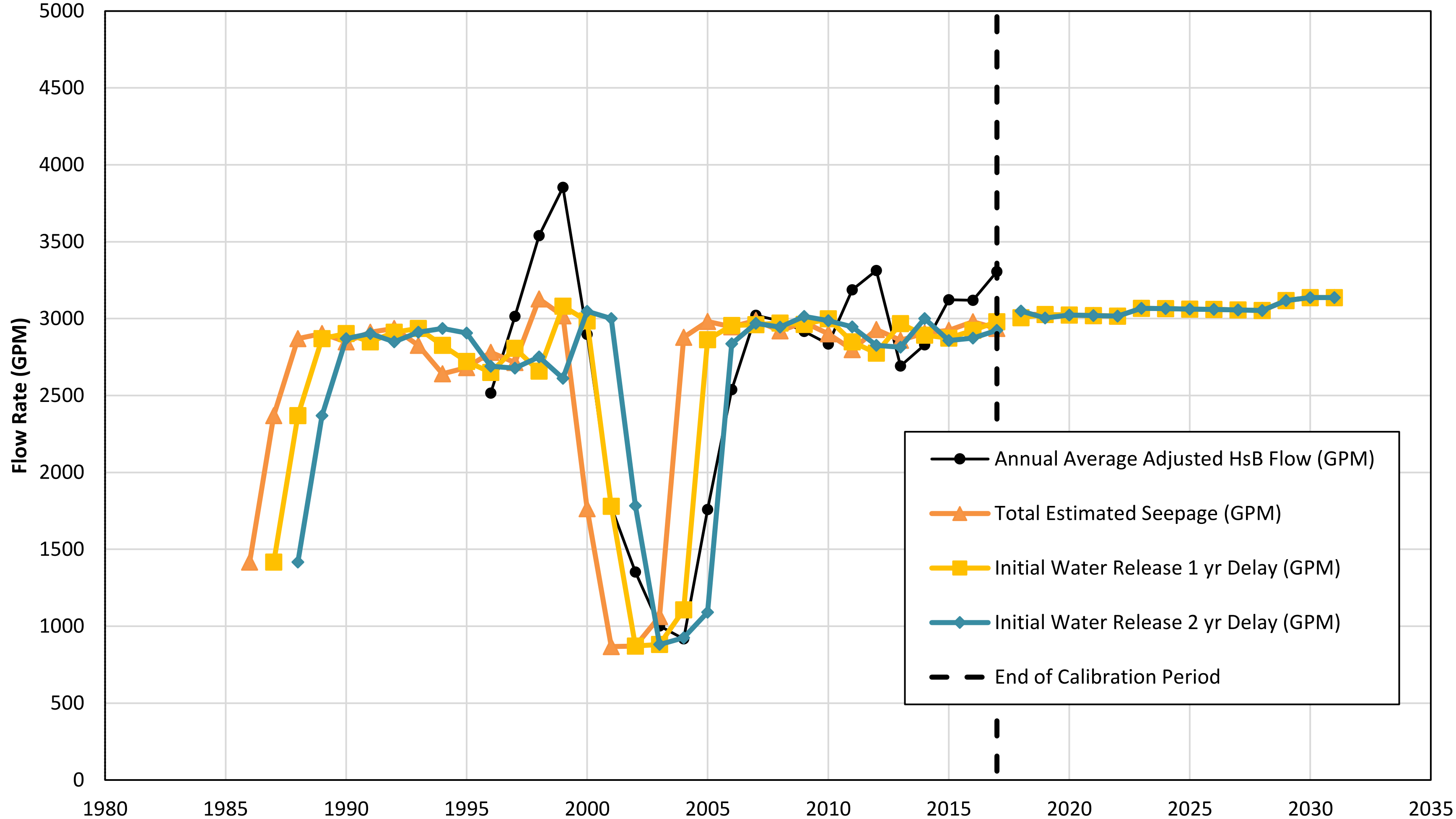
FIGURE 9 REV 0



NOTES:
1. THE OBSERVED HORSESHOE BEND (HsB) FLOW HAS BEEN ADJUSTED TO REMOVE WATERS CONTRIBUTED FROM DOWNSTREAM OF THE YDTI.
2. THE DASHED LINE INDICATES THE END OF THE MODEL CALIBRATION PERIOD (2017).

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YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE RATES
TOTAL SEEPAGE TIME SERIES

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REF. NO. VA18-01697

FIGURE 10

REV 0

5.0 DRAIN DOWN CURVE

Preliminary flow modeling completed by Arcadis utilized a numerical approach to approximate flows from the YDTI following the termination of tailings deposition (Arcadis, 2018). The approach proposed by Arcadis involved developing a rate constant which describes diminishing flows towards an approximated base flow seepage rate following closure. The flow reduction observed during the mine suspension period from July 2000 to November 2003 was used to develop the rate constant.

Equation 1 highlights the terms used by Arcadis to develop the draindown curve, where Q_{HsB} is the flow reporting to Horseshoe Bend. The term Q_0 x e^{-kt} describes the diminishing of flows from draining of the facility, where Q_0 is a back calculated flow term, k is a rate constant (0.85 /yr), and t is time. The Q_1 term is a base flow term which was yielded by fitting the draindown curve to the flows during the shut-down period. The Q_2 term represents other flows reporting to Horseshoe Bend which are not from the YDTI facility (ex. embankment runoff).

Equation 1

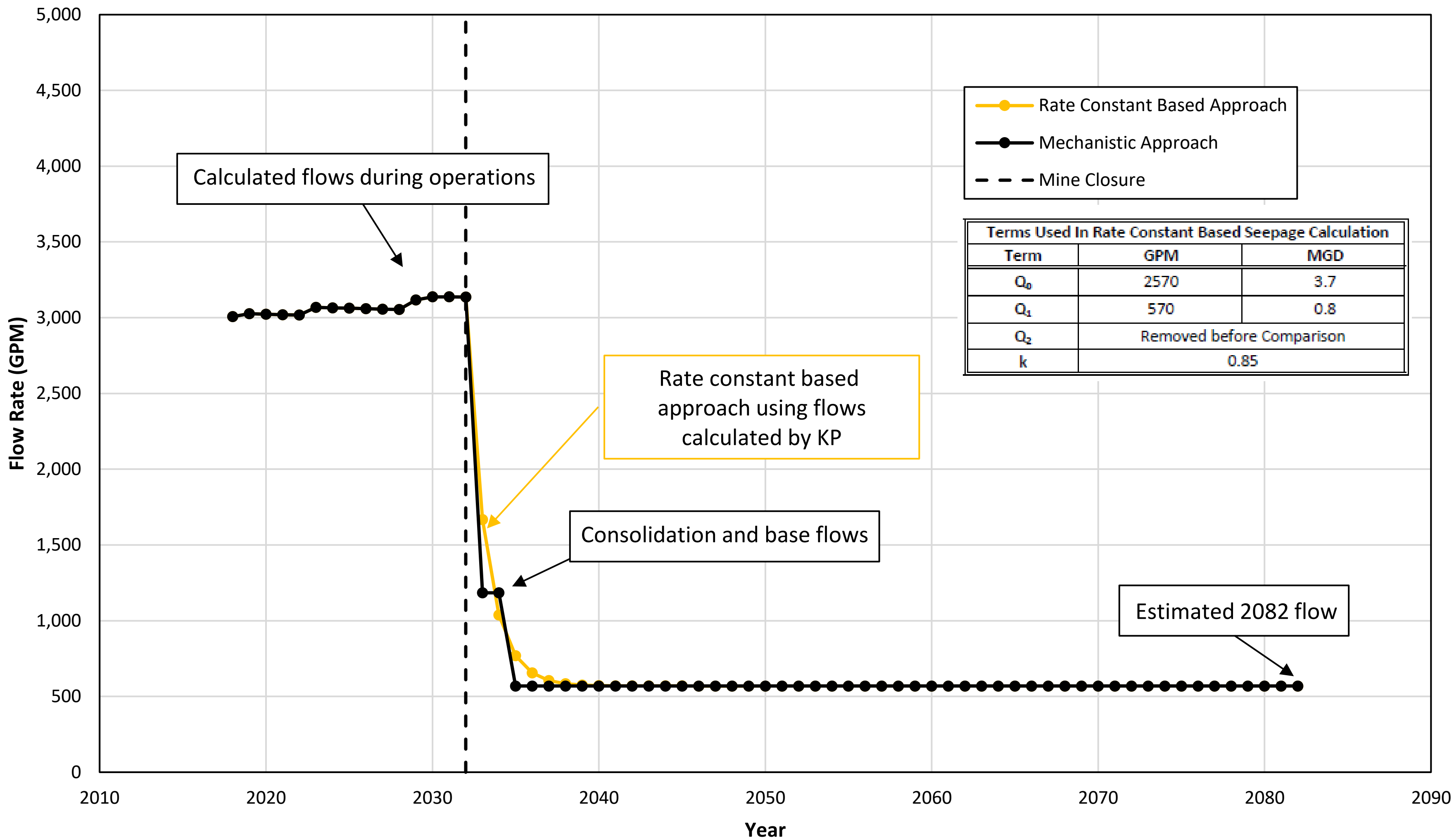
$$Q_{HsB} = Q_0 \, x \, e^{-kt} + Q_1 + Q_2$$

KP believes the methodology developed by Arcadis to estimate flows at the time of closure achieves a reasonable first order approximation. Transient numerical seepage modelling would be required in order to fully encapsulate the processes affecting flows occurring as the facility progresses from operations towards post-closure.

This section describes a possible mechanistic approach to describe the reduction of seepage from the YDTI facility following the termination of mining operations. The methodology used by KP was to produce a draindown curve by substituting in the calculated flows from this study into **Equation 1**; to achieve this the terms were developed in the following way: The Q_0 term is composed of seepage from the initial release and consolidation flow pathways. The rate constant term (k = 0.85 /yr) remained unchanged. The Q_1 term is composed of the meteoric precipitation and pond seepage flows. The Q_2 term was not included in this exercise since these flows have been removed to produce the adjusted HsB flows. The summation of these terms represents a rate constant based approach to flow prediction. Once this was completed, a mechanistic approach was taken to reproduce these results, this was completed by using the flow terms as described in this report and by making the following assumptions:

- Flow immediately prior to mine closure is the product of the initial release pathway, consolidation pathway, meteoric recharge, and supernatant pond seepage from slimes and weathered bedrock.
- The initial release pathway stops contributing to flow after one year of mine closure (2032).
- The consolidation pathway stops contributing to drainage after three years of closure (2034).
- Significant changes to the base flow components do not occur into the future (2035 onwards).

A comparison of the rate constant and mechanistic approach based curves predicting flows following mine closure are shown on Figure 11. The two approaches produce similar results, and demonstrate two possible ways of representing diminishing flows following mine closure in water balance modelling.



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YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE RATES COMPARISON OF RATE CONSTANT AND MECHANISTIC DRAINDOWN APPROACHES

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REF. NO. VA18-01697

FIGURE 11

REV 0

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6.0 SUMMARY

The objective of this seepage analysis was to develop a mechanistic based methodology for estimating seepage rates from the YDTI, which can be used in future water balance and water quality modelling. This was accomplished through the development of five flow terms contributing to seepage, including: an initial release of tailings interstitial water, consolidation seepage from tailings, meteoric recharge, supernatant pond seepage occurring through tailings slimes, and supernatant pond seepage occurring through a weathered bedrock horizon.

The conceptual model used to estimate future seepage rates is a simplified and practicable representation of actual conditions. The seepage estimates are based on site investigation information that has been collected since 2012, which provide site specific information on the evolving tailings dry density and moisture content with depth in the YDTI. There are two opportunities for improvement worth evaluating in the next several years.

- The first opportunity is that activities related to the leach area generally occur in a closed circuit. Continuous monitoring of overflow from the Precipitation Plant to HsB Pond only began in late 2016. The Muddler Pump overflow periodically reports to the HsB Pond and is not presently instrumented. Future evaluations could consider removal of these overflows from the HsB Weir flow rates, which may lead to a reduction in the estimated seepage from the YDTI.
- The second opportunity is that it was estimated in this analysis that a representative dry density of the tailings during the initial settling phase was approximately 68 pounds per cubic foot (pcf) with a moisture content of approximately 55%. This estimate was based on visual observations of the tailings and consideration of the adjusted annual flow series. The moisture content of the tailings at this phase of settling could be verified by collecting several grab samples of freshly deposited tailings solids from the beaches at discharge locations.

The analysis demonstrates the reason that YDTI seepage rates have not changed appreciably since flows began being monitored at HsB Weir. The YDTI seepage rates are primarily proportional to the rate of tailings deposition, which has been relatively constant other than the mine suspension period from July 2000 to November 2003. The effect of the mine suspension period on the measured flows at HsB Weir is evident in the historic flow records. YDTI seepage rates to HsB are not expected to change substantially in the future. The increasing tailings beach area to support geotechnical objectives for the impoundment may lead to minor increases in seepage. These potential increases may be offset by the recent changes to the tailings distribution system, and YDTI seepage rates to HsB Weir may actually decrease during future operations. Tailings which are discharged onto the tailings beach towards the back of the impoundment may contribute less water to seepage flow and more water to the supernatant pond. Seepage from the portion of the tailings beach along the West Embankment is also likely to contribute to seepage to the West Embankment Drain during future operations instead of draining towards HsB.

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7.0 REFERENCES

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Knight Piésold CONSULTING

We trust this meets your needs at this time. Please contact the undersigned with any questions.

Yours truly,
Knight Piésold Ltd

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Ken Brouwer
President

Approval that this document adheres to Knight Piésold Quality Systems: KJB

Attachments:

Appendix A	Summary of Estimated Seepage Rates
Appendix B	Historic and Future Estimated YDTI Geometries

Copy To: Jeremy Fleege

/jdz

APPENDIX A

Summary of Estimated Seepage Rates

(Pages A-1 to A-6)

Knight Piésold CONSULTING

TABLE A.1

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

SEEPAGE ESTIMATES FOR WATER BALANCE MODELLING
SEEPAGE RATES DURING MODEL CALIBRATION (1996 TO 2017)

Print: Nov/06/18 08:35:23

Component	Description	Estimated Flow Rate to HsB			Percentage of HsB Flow	Comments
		Range		Representative Value		
		From	To			
		(GPM)	(GPM)	(GPM)	(%)	
Tailings Slurry Water	Initial Release (Fast Draining Pathway)	0	2200	1690	65%	A calculated component of tailings interstitial water.
	Consolidation (Slow Draining Pathway)	620	620	620	24%	Constant based on tailings consolidation calculations.
	Sub-Total	***620***	***2820***	***2310***	**89%**	
Meteoric Recharge to TSF	-	90	230	140	5%	Estimated 30% of measured site precipitation.
	Sub-Total	***90***	***230***	***140***	**5%**	
Seepage from YDTI Pond	Seepage through Slimes	1	2	2	0%	Based on existing gradient determined from CPT's. Area assumed to be 80% of total pond area.
	Seepage through Weathered Bedrock	147	147	147	6%	
	Sub-Total	***150***	***150***	***150***	**6%**	Sub-total is rounded to nearest 10.
				Total:		
Total:				**2600**	**98%**	
Observed from HsB:				**2660**		Flow adjusted for components downstream of YDTI.
Difference:				**60**		

M:\1\01\00126\19\A\Correspondence\VA18-01697 - YDTI Seepage Estimates for Water Balance Modelling\2- Appendices\Appendix A\[Appendix A - data tables.xlsx]Table A.1 - '96 TO '17

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER VA18-01697	JDZ	DDF

Knight Piésold CONSULTING

TABLE A.2

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

SEEPAGE ESTIMATES FOR WATER BALANCE MODELLING
SEEPAGE RATES DURING CONTINUED OPERATIONS (2018 TO 2031)

Print Nov/06/18 8:35:23

Component	Description	Estimated Flow Rate to HsB			Percentage of HsB Flow	Comments
		Range		Representative Value		
		From	To			
		(GPM)	(GPM)	(GPM)	(%)	
Tailings Slurry Water	Initial Release (Fast Draining Pathway)	2050	2050	2050	67%	A calculated component of tailings interstitial water.
	Consolidation (Slow Draining Pathway)	620	620	620	20%	Constant based on tailings consolidation calculations.
	Sub-Total	***2670***	***2670***	***2670***	**87%**	
Meteoric Recharge to TSF	-	210	330	250	8%	Estimated 30% of average site precipitation.
	Sub-Total	***210***	***330***	***250***	**8%**	
Seepage from YDTI Pond	Seepage through Slimes	1	2	1	0%	Based on exsisting gradient from CPT's. Area assumed to be 80% of total pond area.
	Seepage through Weathered Bedrock	147	147	147	5%	
	Sub-Total	***150***	***150***	***150***	**5%**	Sub-total is rounded to nearest 10.
			Total:	**3070**	**100%**	

M:\1\01\00126\19\A\Correspondence\VA18-01697 - YDTI Seepage Estimates for Water Balance Modelling\2- Appendices\Appendix A\[Appendix A - data tables.xlsx]Table A.2 - '18 TO '31

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER VA18-01697	JDZ	DDF

Knight Piésold CONSULTING

TABLE A.3

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

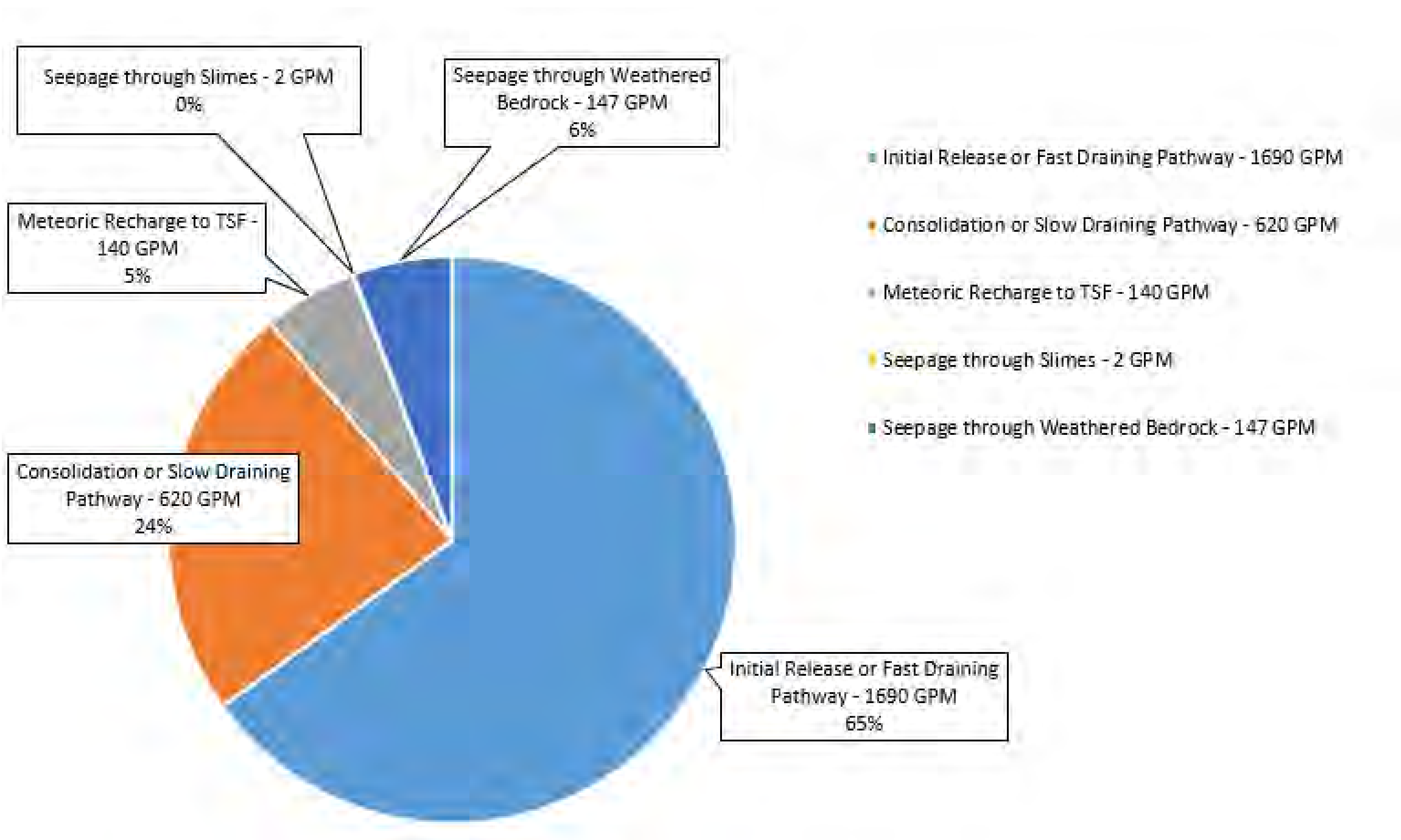
SEEPAGE ESTIMATES FOR WATER BALANCE MODELLING
SEEPAGE RATES DURING CLOSURE/POST-CLOSURE (2082)

Print Nov/06/18 8:35:23

Component	Description	Estimated Flow Rate to HsB (GPM)	Percentage of HsB Flow (%)	Comments
Tailings Slurry Water	Initial Release (Fast Draining Pathway)	0	0%	Tailings deposition no longer occurs.
	Consolidation (Slow Draining Pathway)	0	0%	Tapers off to no longer be significant.
	Sub-Total	***0***	**0%**	
Meteoric Recharge to TSF	-	420	74%	Estimated 30% of average site precipitation.
	Sub-Total	***420***	**74%**	
Seepage from YDTI Pond	Seepage through Slimes	2	0%	Assumes vertical drainage from pond with gradient of 0.3.
	Seepage through Weathered Bedrock	147	26%	
	Sub-Total	***150***	**26%**	Sub-total is rounded to nearest 10.
	Total:	**570**	**100%**	

M:\1\01\00126\19\A\Correspondence\VA18-01697 - YDTI Seepage Estimates for Water Balance Modelling\2- Appendices\Appendix A\[Appendix A - data tables.xlsx]Table A.3 - '82

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER VA18-01697	JDZ	DDF



NOTES:
1. FLOW RATES HAVE BEEN ROUNDED TO THE NEAREST TEN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER	JDZ	DDF

MONTANA RESOURCES, LLP

YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE COMPONENTS
YEARS 1996 TO 2017

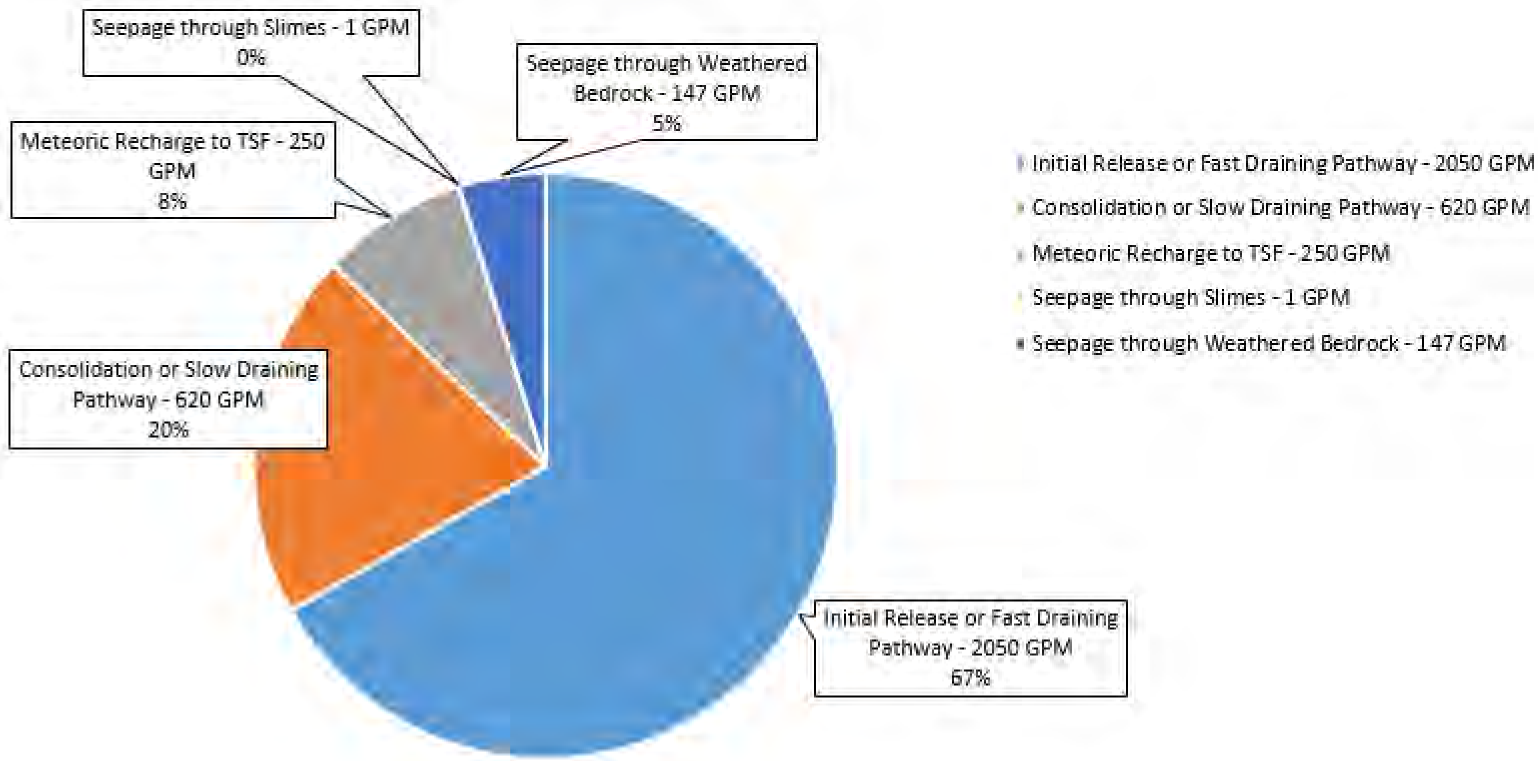
Knight Piésold CONSULTING

P/A NO. VA101-126/19

REF. NO. VA18-01697

FIGURE A.1

REV 0



NOTES:

1. FLOW RATES HAVE BEEN ROUNDED TO THE NEAREST TEN.

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER	JDZ	DDF

MONTANA RESOURCES, LLP

YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE COMPONENTS
YEARS 2018 TO 2031

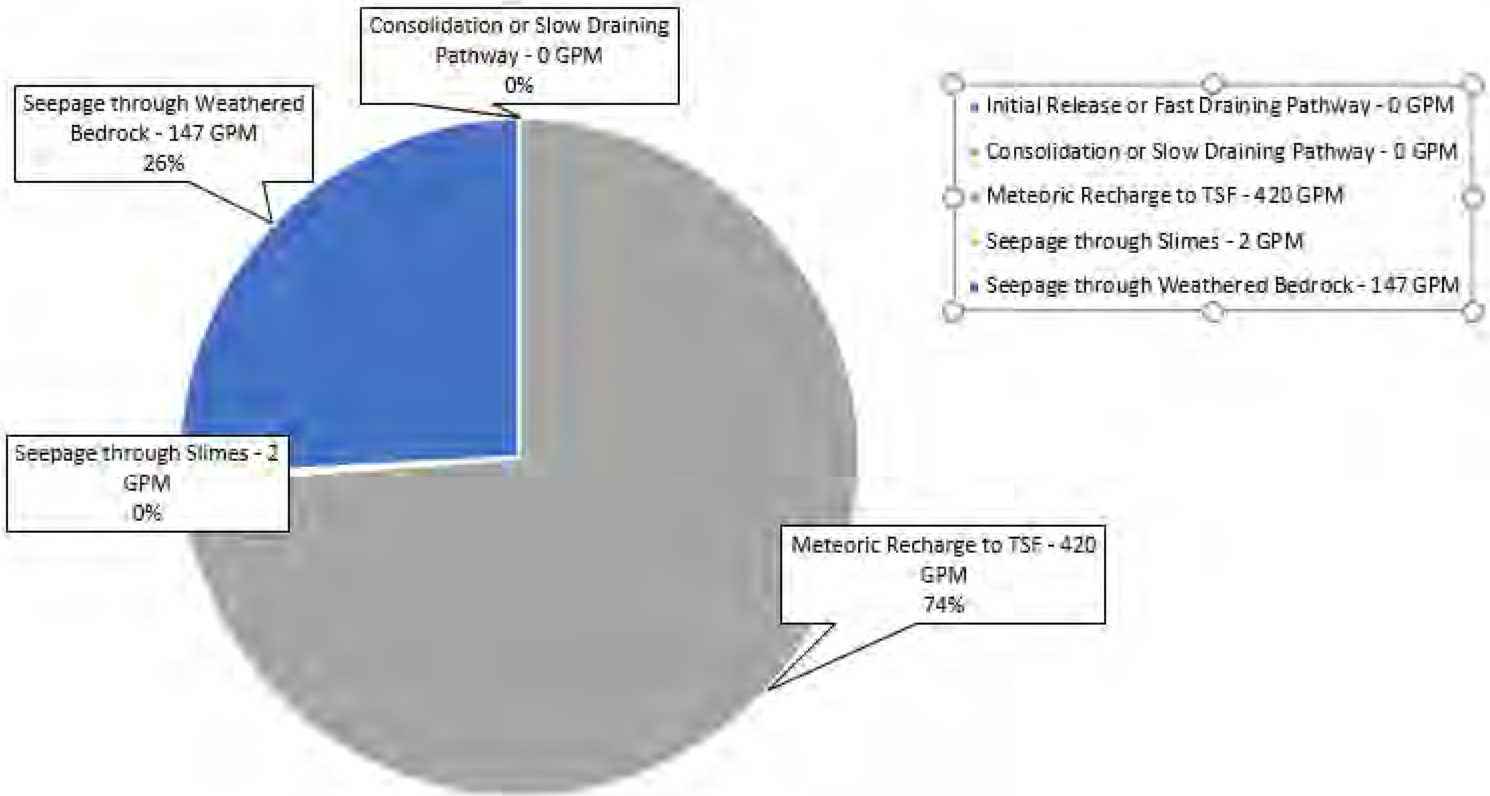
Knight Piésold CONSULTING

P/A NO. VA101-126/19

REF. NO. VA18-01697

FIGURE A.2

REV 0



NOTES:

1. FLOW RATES HAVE BEEN ROUNDED TO THE NEAREST TEN.

MONTANA RESOURCES, LLP

YANKEE DOODLE TAILINGS IMPOUNDMENT

ESTIMATED SEEPAGE COMPONENTS
YEAR 2082

Knight Piésold CONSULTING

P/A NO.	REF. NO.
VA101-126/19	VA18-01697

FIGURE A.3 REV 0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	05NOV'18	ISSUED WITH LETTER	JDZ	DDF

APPENDIX B

Historic and Future Estimated YDTI Geometries

(Pages B-1 to B-2)

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TABLE B.1

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

SEEPAGE ESTIMATES FOR WATER BALANCE MODELLING
HISTORIC YDTI GEOMETRY

Print Nov/06/18 8:48:37

Imagery Date	Google Earth - Measured Pond and Beach Areas					YDTI Condition	Imagery Comments
	Beach Area	Pond Area	Total Area	Pond Elevation	Beach Length		
	(Mft^2)	(Mft^2)	(Mft^2)	feet	feet		
1-Aug-95	33.6	15.8	49.4	-	6,704	Operational	-
17-Jul-02	27.1	26.5	53.7	6,269	5,589	Capped	Poor Quality Image
7-Nov-02	27.5	26.8	54.3	6,270	5,461	Capped	-
1-Jan-04	41.0	13.3	54.3	6,276	7,498	Operational	Poor Quality Image near Embankment
1-Jul-05	30.9	24.8	55.7	6,289	6,372	Operational	-
21-Jun-06	26.9	29.2	56.1	6,298	6,381	Operational	-
23-Jun-09	36.1	24.1	60.2	6,316	6,507	Operational	-
12-Aug-11	31.3	31.6	62.9	6,332	5,854	Operational	-
19-Aug-13	36.9	27.0	63.9	6,344	5,851	Operational	-
5-Sep-14	34.5	29.4	63.9	6,352	6,365	Operational	-

M:\1\01\00126\19\A\Correspondence\VA18-01697 - YDTI Seepage Estimates for Water Balance Modelling\2- Appendices\Appendix B\[Table B.1 Historic YDTI Geometry.xlsx]Table B.1 - Historic YDTI geom

NOTES:

1. MEASUREMENTS WERE COMPLETED USING GOOGLE EARTH IMAGERY.

0	05NOV'18	ISSUED WITH LETTER VA18-01697	JDZ	DDF
REV	DATE	DESCRIPTION	PREP'D	RVW'D

Knight Piésold CONSULTING

TABLE B.2

MONTANA RESOURCES, LLP
YANKEE DOODLE TAILINGS IMPOUNDMENT

SEEPAGE ESTIMATES FOR WATER BALANCE MODELLING
PREDICTED YDTI GEOMETRY

Print Nov/06/18 08:48:37

	Beach Area	Pond Area (Overlying Tailings)	Pond Area (Overlying Natural Ground)	Total Pond Area	Pond Elevation	Beach Length
Year	(Mft^2)	(Mft^2)	(Mft^2)	(Mft^2)	(ft)	(ft)
2018	38.6	19.0	6.3	25.3	6,345	5,842
2023	45.4	18.6	4.0	22.6	6,375	4,251
2028	54.2	16.8	3.8	20.2	6,402	4,797
2031	57.7	16.9	3.3	20.2	6,429	4,942
2082	74.1	1.0	0.2	1.2	6,372	10,481

M:\1\01\00126\19\A\Correspondence\VA18-01697 - YDTI Seepage Estimates for Water Balance Modelling\2- Appendices\Appendix B\[Table B.2 Predicted YDTI Geometry.xlsx]Table B.2 - Predicted YDTI geo

NOTES:

1. MEASUREMENTS WERE COMPLETED USING MUCK 3D MODELLING SOFTWARE.
2. TAILINGS DEPOSITION MODEL DESCRIBED IN DESIGN BASIS REPORT (KP, 2017b).

0	05NOV'18	ISSUED WITH LETTER VA18-01697	KS	DDF
REV	DATE	DESCRIPTION	PREP'D	RVW'D

APPENDIX D

Calibrated Water Balance Model Results Tables

Appendix D1
50th Percentile Water Balance Results – Historical Period

Appendix D2
50th Percentile Water Balance Results – Future Operations

Appendix D3
50th Percentile Water Balance Results – Closure (Scenario #1)

Appendix D4
50th Percentile Water Balance Results – Closure (Scenario #2)

APPENDIX D1

50th Percentile Water Balance Results – Historical Period

(Table D1.1)

TABLE D1.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
HISTORICAL OPERATIONS

Print Dec/12/24 9:48:20

Facility	Description	Annual Volume (MGPD)																		
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Continental Pit	**Continental Pit - Inflows (MGPD)**																			
	Inflow from Runoff and Groundwater	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Continental Pit - Outflows (MGPD)																			
	Pumped to Mill	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.1	0.5
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.5	0.4	0.0
	Continental Pit - Total Inflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Continental Pit - Total Outflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																			
	Water in Ore	0.1	0.3	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.2	0.0	0.0	0.0	0.3
	Continental Pit Dewatering	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.1	0.5
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	8.8	9.6	13.1	14.3	16.5	16.8	15.6	13.8	13.3	16.1	14.7	21.0	20.4	8.7	0.0	0.0	0.8	10.6
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.4	0.3	0.2	0.4	0.2	0.3	0.3	0.5	0.3	0.5	0.4	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.3
	Silver Lake Makeup Water	4.8	6.0	10.6	7.3	5.7	4.1	4.1	4.0	4.0	3.8	2.5	2.7	1.6	1.5	0.7	0.0	0.0	0.8	7.6
	MR Concentrator - Outflows (MGPD)																			
	Water in Tailings Slurry	5.4	15.6	21.0	21.3	20.8	21.4	21.7	20.5	18.5	18.1	19.5	18.5	23.5	22.9	9.7	0.0	0.0	2.0	20.9
	Water for Dust Control	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.3
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
	MR Concentrator - Total Inflows (MGPD)	5.7	15.9	21.3	21.6	21.1	21.7	22.0	20.8	18.8	18.4	19.8	18.8	23.8	23.2	9.9	0.1	0.1	2.1	21.2
	MR Concentrator - Total Outflows (MGPD)	5.7	15.9	21.3	21.6	21.1	21.7	22.0	20.8	18.8	18.4	19.8	18.8	23.8	23.2	9.9	0.1	0.1	2.1	21.2
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Facility	Description	Annual Volume (MGPD)																		
		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Continental Pit	**Continental Pit - Inflows (MGPD)**																			
	Inflow from Runoff and Groundwater	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Continental Pit - Outflows (MGPD)																			
	Pumped to Mill	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit - Total Inflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Continental Pit - Total Outflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																			
	Water in Ore	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
	Continental Pit Dewatering	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	HsB Water Treatment Plant Effluent	3.3	4.5	4.7	4.8	5.0	5.0	5.1	4.9	4.2	4.6	4.6	4.8	4.8	4.2	4.2	4.3	4.5	4.1	4.1
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.5	0.5
	YDTI Reclaim to Process	9.4	9.9	12.4	12.9	13.0	12.4	12.9	13.0	11.6	10.9	11.0	13.7	14.6	14.9	14.3	13.8	13.5	12.8	13.2
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
	Runoff to MR Concentrator	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.4
	Silver Lake Makeup Water	8.6	6.8	4.3	3.3	3.1	2.7	1.5	3.3	4.2	4.8	4.8	2.4	1.2	0.5	0.7	0.6	0.8	0.7	0.8
	MR Concentrator - Outflows (MGPD)																			
	Water in Tailings Slurry	22.2	22.1	22.4	21.8	22.0	20.9	20.4	22.0	20.9	21.2	21.6	22.2	21.7	20.7	20.5	20.2	20.0	19.0	19.7
	Water for Dust Control	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Total Inflows (MGPD)	22.5	22.4	22.7	22.1	22.3	21.2	20.7	22.3	21.2	21.5	21.9	22.5	22.0	21.0	20.7	20.5	20.5	19.4	20.1
	MR Concentrator - Total Outflows (MGPD)	22.5	22.4	22.7	22.1	22.3	21.2	20.7	22.3	21.2	21.5	21.9	22.5	22.0	21.0	20.7	20.5	20.5	19.4	20.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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TABLE D1.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
HISTORICAL OPERATIONS

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Facility	Description	Annual Volume (MGPD)																																					
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																																						
	Direct Precipitation on Pond/Beach	0.6	0.6	0.3	0.7	0.4	0.5	0.5	0.8	0.5	0.9	0.8	1.1	0.7	0.6	0.4	0.5	0.6	0.6	0.7	0.5	0.8	0.8	0.5	0.9	1.1	0.9	0.7	0.9	1.0	0.8	1.0	0.9	1.1	1.0	0.7	0.4	0.6	1.1
	Runoff Contributing Directly to Tailings Impoundment	1.1	1.1	0.7	1.2	0.8	1.0	1.0	1.3	0.8	1.7	1.5	1.9	1.3	1.0	0.7	0.7	0.8	0.7	0.8	0.9	0.9	1.1	0.7	1.0	1.1	0.9	0.6	0.9	1.0	0.9	0.9	0.9	1.1	1.1	0.6	0.5	0.6	1.2
	Water in Tailings Slurry to Supernatant Pond	3.1	9.9	13.5	13.7	13.3	13.8	13.9	13.1	11.8	11.5	12.4	11.8	15.0	14.6	6.2	0.0	0.0	1.3	13.5	14.1	14.2	14.4	14.1	14.2	13.4	13.2	14.2	13.4	13.6	14.0	14.3	15.9	15.3	16.2	16.7	16.4	15.2	15.8
	Inflow from West Embankment Drain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.5	1.1	1.2
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.7	5.5	5.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.7	0.8	0.3	0.2	0.0	0.1	0.1	0.0	0.0	0.1
	YDTI Supernatant Pond - Outflows (MGPD)																																						
	Pond Evaporation	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.9	1.2	1.2	0.6	1.1	1.2	1.1	1.1	1.4	1.6	1.5	1.3	1.5	1.6	1.7	1.6	1.6	1.4	1.2	1.1	0.9	0.9
	Pond Seepage through Slimes and Weathered Bedrock	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	8.8	9.6	13.1	14.3	16.5	16.8	15.6	13.8	13.3	16.1	14.7	21.0	20.4	8.7	0.0	0.0	0.8	10.6	9.4	9.9	12.4	12.9	13.0	12.4	12.9	13.0	11.6	10.9	11.0	13.7	14.6	14.9	14.3	13.8	13.5	12.8	13.2
	Reclaim Water to Polishing Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.4	9.0	6.7	5.6
	YDTI Supernatant Pond - Total Inflows (MGPD)	8.2	11.5	14.5	15.6	14.6	15.3	15.3	15.3	13.1	14.1	17.7	19.5	22.5	22.1	9.9	1.2	1.4	2.6	15.0	15.5	15.9	16.4	15.3	16.0	15.6	15.1	15.4	16.8	17.3	16.5	16.4	18.0	17.4	18.5	18.6	17.8	17.5	19.4
	YDTI Supernatant Pond - Total Outflows (MGPD)	1.6	10.5	11.3	14.7	15.9	18.0	18.4	17.1	15.4	14.8	17.6	16.3	22.6	22.0	10.3	1.6	1.8	2.9	12.7	10.9	12.0	14.6	15.0	15.1	14.8	15.4	15.4	13.9	13.4	13.5	16.4	17.2	17.5	16.9	21.4	24.6	21.4	20.7
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	6.7	1.1	3.2	0.9	-1.3	-2.8	-3.1	-1.9	-2.3	-0.8	0.0	3.2	-0.1	0.1	-0.4	-0.4	-0.4	-0.2	2.2	4.6	3.9	1.8	0.3	0.9	0.9	-0.4	0.0	2.9	3.9	3.0	0.1	0.8	-0.1	1.6	-2.8	-6.8	-3.9	-1.3
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																																						
	Water in Tailings Slurry from Concentrator	5.4	15.6	21.0	21.3	20.8	21.4	21.7	20.5	18.5	18.1	19.5	18.5	23.5	22.9	9.7	0.0	0.0	2.0	20.9	22.2	22.1	22.4	21.8	22.0	20.9	20.4	22.0	20.9	21.2	21.6	22.2	21.7	20.7	20.5	20.2	20.0	19.0	19.7
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	3.9	3.7	3.7	3.8
	Meteoric Recharge	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.3	0.2	0.4	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.4
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																																						
	Water in Tailings Slurry to Supernatant Pond	3.1	9.9	13.5	13.7	13.3	13.8	13.9	13.1	11.8	11.5	12.4	11.8	15.0	14.6	6.2	0.0	0.0	1.3	13.5	14.1	14.2	14.4	14.1	14.2	13.4	13.2	14.2	13.4	13.6	14.0	14.3	15.9	15.3	16.2	16.7	16.4	15.2	15.8
	YDTI Seepage to Horseshoe Bend	3.6	3.7	3.9	3.6	3.8	3.7	3.7	3.4	3.7	3.3	3.3	3.7	4.8	5.3	4.0	2.4	1.8	1.4	1.1	2.6	3.8	4.1	4.4	4.4	4.2	4.5	4.5	3.6	3.9	3.9	4.2	4.2	3.5	3.4	3.7	4.1	3.5	3.2
	YDTI Seepage to WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.4	1.0	1.1
	Tailings Beach Evaporation	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.3	0.0	0.0	0.0	0.5	0.8	0.6	0.6	0.5	0.5	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.8	1.2	1.2
	YDTI Tailings Voids - Total Inflows (MGPD)	5.6	15.8	21.1	21.6	20.9	21.7	21.9	20.8	18.7	18.5	19.8	19.0	23.8	23.1	9.9	0.2	0.2	2.1	21.1	22.5	22.3	22.6	21.9	22.2	21.2	20.6	22.2	21.8	22.1	22.1	22.5	22.0	21.0	21.9	24.3	23.9	22.9	24.0
	YDTI Tailings Voids - Total Outflows (MGPD)	7.2	14.1	17.9	17.8	17.7	18.0	18.2	17.1	16.1	15.4	16.3	16.1	20.5	20.5	10.5	2.4	1.8	2.7	15.1	17.4	18.5	19.1	18.9	19.1	18.2	18.2	19.2	17.5	18.0	18.3	19.0	20.6	19.2	20.2	21.5	21.6	20.9	21.3
	YDTI Tailings Voids - Change in Water Lost (MGPD)	-1.6	1.7	3.2	3.8	3.3	3.6	3.7	3.7	2.7	3.1	3.5	2.9	3.3	2.6	-0.6	-2.2	-1.6	-0.6	6.0	5.0	3.8	3.6	3.0	3.1	3.0	2.4	3.0	4.3	4.1	3.7	3.5	1.4	1.7	1.6	2.8	2.3	2.0	2.7
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	-0.6	0.0	1.2	2.6	3.8	5.1	6.5	7.8	8.8	9.9	11.2	12.3	13.5	14.4	14.2	13.4	12.9	12.6	14.8	16.7	18.1	19.4	20.5	21.6	22.7	23.6	24.6	26.2	27.7	29.0	30.3	30.8	31.4	32.0	33.1	33.9	34.6	35.6
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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TABLE D1.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
HISTORICAL OPERATIONS

Print Dec/12/24 9:48:20

Facility	Description	Annual Volume (MGPD)																																			
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																																						
	Total YDTI Seepage	3.7	3.7	4.0	3.6	3.9	3.8	3.8	3.5	3.8	3.4	3.4	3.8	4.9	5.4	4.2	2.5	1.9	1.5	1.2	2.7	3.9	4.2	4.5	4.5	4.4	4.7	4.6	3.7	4.1	4.1	4.3	4.4	3.7	3.6	3.9	4.3	3.7	3.4
	Runoff to Horseshoe Bend	0.6	0.6	0.3	0.7	0.4	0.5	0.5	0.8	0.5	0.9	0.6	0.9	0.6	0.6	0.4	0.4	0.5	0.3	0.5	0.5	0.6	0.6	0.4	0.6	0.7	0.5	0.4	0.5	0.6	0.5	0.5	0.5	0.6	0.6	0.4	0.3	0.4	0.8
	Inflows from WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Outflows (MGPD)																																						
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	4.7	5.5	5.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	3.2	4.5	4.8	4.9	5.1	5.0	5.2	5.0	4.3	4.6	4.6	4.9	4.9	4.3	4.2	4.4	4.5	4.1	4.1
	Discharged to Berkeley Pit	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	1.0	0.0	0.0	0.0	2.0	3.0	2.3	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Total Inflows (MGPD)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	4.7	5.5	5.9	4.6	3.0	2.3	1.8	1.7	3.2	4.5	4.8	4.9	5.1	5.0	5.2	5.0	4.3	4.6	4.6	4.9	4.9	4.3	4.2	4.4	4.5	4.1	4.1
	HsB - Total Outflows (MGPD)	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.0	4.7	5.5	5.9	4.6	3.0	2.3	1.8	1.7	3.2	4.5	4.8	4.9	5.1	5.0	5.2	5.0	4.3	4.6	4.6	4.9	4.9	4.3	4.2	4.4	4.5	4.1	4.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																																						
	Water from Horseshoe Bend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.7	3.2	4.5	4.8	4.9	5.1	5.0	5.2	5.0	4.3	4.6	4.6	4.9	4.9	4.3	4.2	4.4	4.5	4.1	4.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Water Treatment Plant - Outflows (MGPD)																																						
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9	3.3	4.5	4.7	4.8	5.0	5.0	5.1	4.9	4.2	4.6	4.6	4.8	4.8	4.2	4.2	4.3	4.5	4.1	4.1
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.0	3.6	4.8	5.1	5.2	5.4	5.4	5.6	5.3	4.6	5.0	4.9	5.2	5.2	4.6	4.5	4.7	4.9	4.4	4.5
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.0	3.6	4.8	5.1	5.2	5.4	5.4	5.6	5.3	4.6	5.0	4.9	5.2	5.2	4.6	4.5	4.7	4.9	4.4	4.5
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																																						
	Reclaim Water from YDTI Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.4	9.0	6.7	5.6
	Polishing Plant - Outflows (MGPD)																																						
	Treated Water to Environment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	6.5	4.5	3.6
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.5	0.5	0.5
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	2.0	1.7	1.5
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	5.4	9.0	6.7	5.6
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.4	9.0	6.6	5.6
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC
REV	DATE	DESCRIPTION	PREP'D	RVW'D

APPENDIX D2

50th Percentile Water Balance Results – Future Operations

(Table D2.1)

TABLE D2.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS

FUTURE OPERATIONS

Facility	Description	Annual Volume (MGPD)																																
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056
Continental Pit	**Continental Pit - Inflows (MGPD)**																																	
	Inflow from Runoff and Groundwater	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																																	
	Pumped to Mill	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit - Total Inflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																																	
	Water in Ore	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Continental Pit Dewatering	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
	HsB Water Treatment Plant Effluent	4.0	4.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
	Polishing Plant Filter Backwash	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	YDTI Reclaim to Process	15.7	15.7	15.5	15.5	15.5	15.5	15.5	15.5	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
	Berkeley Pit Groundwater Wells	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Runoff to MR Concentrator	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Silver Lake Makeup Water	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	MR Concentrator - Outflows (MGPD)																																	
	Water in Tailings Slurry	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
	Water for Dust Control	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Total Inflows (MGPD)	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
	MR Concentrator - Total Outflows (MGPD)	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D2.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS

FUTURE OPERATIONS

Facility	Description	Annual Volume (MGPD)																																
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																																	
	Direct Precipitation on Pond/Beach	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Runoff Contributing Directly to Tailings Impoundment	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	16.3	16.2	16.2	16.1	16.1	16.1	16.0	15.9	16.0	15.9	15.9	15.8	15.8	15.8	15.8	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.6	15.7	15.6	15.6	15.6	15.6	15.6	15.5	15.5	15.5
	Inflow from West Embankment Drain	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																																	
	Pond Evaporation	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Pond Seepage through Slimes and Weathered Bedrock	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	15.7	15.7	15.5	15.5	15.5	15.5	15.5	15.5	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
	Reclaim Water to Polishing Plant	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.7
	YDTI Supernatant Pond - Total Inflows (MGPD)	19.1	19.0	19.0	18.9	18.9	18.9	18.8	18.8	18.8	18.7	18.7	18.7	18.6	18.6	18.6	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.4	18.5	18.5	18.4	18.4	18.4	18.4	18.4	18.4	18.4
	YDTI Supernatant Pond - Total Outflows (MGPD)	20.6	19.3	19.1	19.0	19.0	19.0	18.9	18.9	18.7	18.7	18.6	18.6	18.6	18.8	18.6	18.6	18.6	18.6	18.6	18.6	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.5	18.4	18.5	18.4
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	-1.5	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	0.1	0.1	0.1	0.0	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																																	
	Water in Tailings Slurry from Concentrator	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9
	Water in Tailings Slurry from Berkeley Pit	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Meteoric Recharge	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																																	
	Water in Tailings Slurry to Supernatant Pond	16.3	16.2	16.2	16.1	16.1	16.1	16.0	15.9	16.0	15.9	15.9	15.8	15.8	15.8	15.8	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.6	15.7	15.6	15.6	15.6	15.6	15.6	15.5	15.5	15.5
	YDTI Seepage to Horsheshoe Bend	3.4	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.7	3.7	3.7	3.7	3.7
	YDTI Seepage to WED	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Tailings Beach Evaporation	1.4	1.5	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1
	YDTI Tailings Voids - Total Inflows (MGPD)	25.3	25.3	25.3	25.3	25.3	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.5	25.4	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
	YDTI Tailings Voids - Total Outflows (MGPD)	22.2	22.2	22.3	22.4	22.4	22.4	22.4	22.4	22.4	22.4	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.6	22.6
	YDTI Tailings Voids - Change in Water Lost (MGPD)	3.1	3.1	3.0	3.0	2.9	2.9	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	36.7	37.9	39.0	40.1	41.1	42.2	43.3	44.4	45.4	46.5	47.6	48.7	49.7	50.8	51.9	52.9	54.0	55.1	56.2	57.2	58.3	59.4	60.4	61.5	62.6	63.7	64.7	65.8	66.9	68.0	69.0	70.1	71.2
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D2.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS

FUTURE OPERATIONS

Facility	Description	Annual Volume (MGPD)																																
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																																	
	Total YDTI Seepage	3.5	3.5	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
	Runoff to Horseshoe Bend	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Inflows from WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Outflows (MGPD)																																	
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	4.0	4.0	4.2	4.2	4.2	4.3	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.4	4.3
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Total Inflows (MGPD)	4.0	4.1	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3
	HsB - Total Outflows (MGPD)	4.0	4.0	4.2	4.2	4.2	4.3	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.4	4.3
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																																	
	Water from Horseshoe Bend	4.0	4.0	4.2	4.2	4.2	4.3	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4	4.3	4.4	4.3
	Silver Lake Makeup Water	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Water Treatment Plant - Outflows (MGPD)																																	
	Treated Water to MR Concentrator	4.0	4.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
	Water Treatment Plant - Total Inflows (MGPD)	4.3	4.4	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.6	4.7	4.7	4.7	4.7	4.7	4.7
	Water Treatment Plant - Total Outflows (MGPD)	4.3	4.4	4.5	4.5	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																																	
	Reclaim Water from YDTI Supernatant Pond	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.7
	Polishing Plant - Outflows (MGPD)																																	
	Treated Water to Environment	2.5	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.1	1.1	1.1	1.1	1.1	1.3	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	Filter Backwash Return to MR Concentrator	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Water Treatment Plant - Total Inflows (MGPD)	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.7
	Water Treatment Plant - Total Outflows (MGPD)	3.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.8	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC
REV	DATE	DESCRIPTION	PREP'D	RVW'D

APPENDIX D3

50th Percentile Water Balance Results – Closure (Scenario #1)

(Tables D3.1 to Table D3.2)

Knight Piésold CONSULTING

TABLE D3.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
ACTIVE CLOSURE (2057 - 2076) - SCENARIO #1

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Continental Pit	**Continental Pit - Inflows (MGPD)**																				
	Inflow from Runoff and Groundwater	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																				
	Pumped to Mill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped to YDTI	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit - Total Inflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																				
	Water in Ore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Outflows (MGPD)																				
	Water in Tailings Slurry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Total Inflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Outflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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TABLE D3.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
ACTIVE CLOSURE (2057 - 2076) - SCENARIO #1

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																				
	Direct Precipitation on Pond/Beach	1.0	1.0	0.9	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Runoff Contributing Directly to Tailings Impoundment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from West Embankment Drain	1.2	0.8	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	3.8	2.9	1.9	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Inflow from Berkeley Pit Pumping System	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Inflow from Berkeley Pit Dewatering Wells	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Continental Pit Dewatering	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Polishing Plant Filter Backwash	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Pumped Inflows from MR Concentrator Area	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																				
	Pond Evaporation	1.2	1.3	1.2	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Pond Seepage through Slimes and Weathered Bedrock	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reclaim Water to Polishing Plant	6.9	7.5	7.5	7.5	7.5	7.5	7.5	6.3	5.7	5.7	5.2	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	YDTI Supernatant Pond - Total Inflows (MGPD)	11.1	9.9	8.5	7.4	7.1	7.1	7.0	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
	YDTI Supernatant Pond - Total Outflows (MGPD)	9.1	9.9	9.8	9.4	9.3	9.2	9.1	7.8	7.2	7.2	6.7	7.2	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	2.0	0.0	-1.3	-2.0	-2.2	-2.1	-2.1	-0.9	-0.4	-0.3	0.1	-0.4	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D3.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
ACTIVE CLOSURE (2057 - 2076) - SCENARIO #1

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																				
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																				
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horsheshoe Bend	3.2	2.2	1.2	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	1.1	0.8	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	4.3	3.0	1.6	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	-3.9	-2.6	-1.2	-0.3	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	69.8	68.8	68.4	68.3	68.2	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																				
	Total YDTI Seepage	3.5	2.5	1.4	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Runoff to Horseshoe Bend	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Inflows from WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Outflows (MGPD)																				
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	4.0	3.0	1.9	1.2	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB - Total Inflows (MGPD)	4.0	3.0	1.9	1.2	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	HsB - Total Outflows (MGPD)	4.0	3.0	1.9	1.2	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE D3.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
ACTIVE CLOSURE (2057 - 2076) - SCENARIO #1

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																				
	Water from Horseshoe Bend	4.0	3.0	1.9	1.2	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Silver Lake Makeup Water	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Water Treatment Plant - Outflows (MGPD)																				
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water to YDTI	3.8	2.9	1.9	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Treated Water for Dust Control	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Water Treatment Plant - Total Inflows (MGPD)	4.3	3.3	2.2	1.5	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	Water Treatment Plant - Total Outflows (MGPD)	4.3	3.3	2.2	1.5	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																				
	Reclaim Water from YDTI Supernatant Pond	6.9	7.5	7.5	7.5	7.5	7.5	7.5	6.3	5.7	5.7	5.2	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	Polishing Plant - Outflows (MGPD)																				
	Treated Water to Environment	5.8	6.3	6.3	6.3	6.3	6.3	6.3	5.3	4.7	4.7	4.3	4.7	4.2	4.3	4.3	4.2	4.2	4.2	4.3	4.2
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to YDTI	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Reject Flows to Berkeley Pit	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Water Treatment Plant - Total Inflows (MGPD)	6.9	7.5	7.5	7.5	7.5	7.5	7.5	6.3	5.7	5.7	5.2	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	Water Treatment Plant - Total Outflows (MGPD)	6.9	7.5	7.5	7.5	7.5	7.5	7.5	6.3	5.7	5.7	5.2	5.7	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC
REV	DATE	DESCRIPTION	PREP'D	RVW'D

![Knight Piésold Consulting]

TABLE D3.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2077 - 2123) - SCENARIO #1

Facility	Description	Annual Volume (MGPD)																																														
		2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123
Continental Pit	**Continental Pit - Inflows (MGPD)**																																															
	Inflow from Runoff and Groundwater	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																																															
	Pumped to Mill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Inflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																																															
	Water in Ore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Outflows (MGPD)																																															
	Water in Tailings Slurry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Inflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Outflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																																															
	Direct Precipitation on Pond/Beach	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Runoff Contributing Directly to Tailings Impoundment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from West Embankment Drain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																																															
	Pond Evaporation	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Pond Seepage through Slimes and Weathered Bedrock	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reclaim Water to Polishing Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Total Inflows (MGPD)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	YDTI Supernatant Pond - Total Outflows (MGPD)	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	-0.1	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D3.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2077 - 2123) - SCENARIO #1

Annual Volume (MGPD)

Facility	Description	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																								
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																								
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horseshoe Bend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																								
	Total YDTI Seepage	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Runoff to Horseshoe Bend	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Inflows from WED	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	HsB - Outflows (MGPD)																								
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Inflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.8	0.8
	HsB - Total Outflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																								
	Water from Horseshoe Bend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Outflows (MGPD)																								
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																								
	Reclaim Water from YDTI Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant - Outflows (MGPD)																								
	Treated Water to Environment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Facility	Description	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																							
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																							
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horseshoe Bend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																							
	Total YDTI Seepage	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Runoff to Horseshoe Bend	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5
	Inflows from WED	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	HsB - Outflows (MGPD)																							
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Inflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Outflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																							
	Water from Horseshoe Bend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Outflows (MGPD)																							
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																							
	Reclaim Water from YDTI Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant - Outflows (MGPD)																							
	Treated Water to Environment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

REV	DATE	DESCRIPTION	PREP'D	RVW'D
0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC

APPENDIX D4

50th Percentile Water Balance Results – Closure (Scenario #2)

(Tables D4.1 to Table D4.2)

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TABLE D4.1

MONTANA RESOURCES, LLC
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50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2057 - 2076) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Continental Pit	**Continental Pit - Inflows (MGPD)**																				
	Inflow from Runoff and Groundwater	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																				
	Pumped to Mill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Inflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																				
	Water in Ore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Outflows (MGPD)																				
	Water in Tailings Slurry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Inflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Outflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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TABLE D4.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2057 - 2076) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																				
	Direct Precipitation on Pond/Beach	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
	Runoff Contributing Directly to Tailings Impoundment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from West Embankment Drain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																				
	Pond Evaporation	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
	Pond Seepage through Slimes and Weathered Bedrock	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reclaim Water to Polishing Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Total Inflows (MGPD)	1.7	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
	YDTI Supernatant Pond - Total Outflows (MGPD)	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.3	-0.4	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																				
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																				
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horsheshoe Bend	3.3	2.3	1.2	0.5	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	1.1	0.8	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	4.4	3.0	1.6	0.7	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	-3.9	-2.5	-1.2	-0.3	-0.2	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	69.8	68.8	68.4	68.3	68.2	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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TABLE D4.1

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2057 - 2076) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																			
		2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																				
	Total YDTI Seepage	3.5	2.5	1.4	0.7	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Runoff to Horseshoe Bend	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
	Inflows from WED	1.2	0.8	0.5	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	HsB - Outflows (MGPD)																				
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	5.2	3.8	2.4	1.4	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Inflows (MGPD)	5.2	3.8	2.4	1.4	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Outflows (MGPD)	5.2	3.8	2.4	1.4	1.2	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																				
	Water from Horseshoe Bend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Outflows (MGPD)																				
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																				
	Reclaim Water from YDTI Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant - Outflows (MGPD)																				
	Treated Water to Environment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC
REV	DATE	DESCRIPTION	PREP'D	RVW'D

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TABLE D4.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2077 - 2123) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																							
		2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
Continental Pit	**Continental Pit - Inflows (MGPD)**																								
	Inflow from Runoff and Groundwater	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																								
	Pumped to Mill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Inflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																								
	Water in Ore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Outflows (MGPD)																								
	Water in Tailings Slurry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Inflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Outflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Facility	Description	Annual Volume (MGPD)																						
		2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123
Continental Pit	**Continental Pit - Inflows (MGPD)**																							
	Inflow from Runoff and Groundwater	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Outflows (MGPD)																							
	Pumped to Mill	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Inflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Continental Pit - Total Outflows (MGPD)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MR Concentrator	**MR Concentrator - Inflows (MGPD)**																							
	Water in Ore	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	HsB Water Treatment Plant Effluent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Reclaim to Process	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Berkeley Pit Groundwater Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Runoff to MR Concentrator	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	MR Concentrator - Outflows (MGPD)																							
	Water in Tailings Slurry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Concentrate/Mill Losses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Collected Runoff to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Inflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	MR Concentrator - Total Outflows (MGPD)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D4.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2077 - 2123) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																							
		2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																								
	Direct Precipitation on Pond/Beach	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
	Runoff Contributing Directly to Tailings Impoundment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from West Embankment Drain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																								
	Pond Evaporation	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
	Pond Seepage through Slimes and Weathered Bedrock	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reclaim Water to Polishing Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Total Inflows (MGPD)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.3
	YDTI Supernatant Pond - Total Outflows (MGPD)	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	-0.3	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																								
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																								
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horsheshoe Bend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Facility	Description	Annual Volume (MGPD)																						
		2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123
Yankee Doodle Tailings Impoundment (YDTI) - Supernatant Pond	**YDTI Supernatant Pond - Inflows (MGPD)**																							
	Direct Precipitation on Pond/Beach	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.5
	Runoff Contributing Directly to Tailings Impoundment	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from West Embankment Drain	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from HsB WTP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Pumping System	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Inflow from Berkeley Pit Dewatering Wells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Continental Pit Dewatering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant Filter Backwash	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pumped Inflows from MR Concentrator Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Outflows (MGPD)																							
	Pond Evaporation	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Pond Seepage through Slimes and Weathered Bedrock	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Groundwater Losses to Berkeley Pit	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
	Reclaim Water to Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reclaim Water to Polishing Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Supernatant Pond - Total Inflows (MGPD)	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	YDTI Supernatant Pond - Total Outflows (MGPD)	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
	YDTI Supernatant Pond - Change in Pond Volume (MGPD)	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yankee Doodle Tailings Impoundment - Tailings Voids	**YDTI Tailings Voids - Inflows (MGPD)**																							
	Water in Tailings Slurry from Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water in Tailings Slurry from Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Meteoric Recharge	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Silver Lake Water Infiltration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Outflows (MGPD)																							
	Water in Tailings Slurry to Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Seepage to Horsheshoe Bend	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	YDTI Seepage to WED	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Tailings Beach Evaporation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Total Inflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Total Outflows (MGPD)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	YDTI Tailings Voids - Change in Water Lost (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	YDTI Tailings Voids - Cumulative Water Lost to Voids (MGal x 1000)	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1	68.1
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Knight Piésold CONSULTING

TABLE D4.2

MONTANA RESOURCES, LLC
MONTANA RESOURCES

50th PERCENTILE ANNUAL WATER BALANCE RESULTS
PASSIVE CLOSURE (2077 - 2123) - SCENARIO #2

Facility	Description	Annual Volume (MGPD)																																														
		2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123
Horseshoe Bend (HsB)	**HsB - Inflows (MGPD)**																																															
	Total YDTI Seepage	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	Runoff to Horseshoe Bend	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.5
	Inflows from WED	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	HsB - Outflows (MGPD)																																															
	Pumped to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Flow to HsB Water Treatment Plant	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Discharged to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Outflow from Model	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Inflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	HsB - Total Outflows (MGPD)	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Treatment Plant	**Water Treatment Plant - Inflows (MGPD)**																																															
	Water from Horseshoe Bend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Silver Lake Makeup Water	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Outflows (MGPD)																																															
	Treated Water to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Treated Water for Dust Control	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Sludge to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Polishing Plant	**Polishing Plant - Inflows (MGPD)**																																															
	Reclaim Water from YDTI Supernatant Pond	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Polishing Plant - Outflows (MGPD)																																															
	Treated Water to Environment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to MR Concentrator	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Filter Backwash Return to YDTI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reject Flows to Berkeley Pit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Inflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Water Treatment Plant - Total Outflows (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Balance (MGPD)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

0	13DEC'24	ISSUED WITH REPORT VA101-126/24-10	SKC	JGC
REV	DATE	DESCRIPTION	PREP'D	RVW'D