

Annual Report – 2019
Henderson Mine and Mill Reclamation Activities
Permit No. M-1977-342

1.0 Henderson Mine

1.1 Disturbance

New disturbance at the Mine in 2019 was limited to incremental caving of the glory hole. No changes were made to any of the mine openings (shafts). A site map of the Henderson Mine indicating affected land boundary and disturbance areas is included in Attachment A.

1.2 Interim Reclamation

Interim reclamation was not carried out at the Henderson Mine in 2019.

1.3 Other Activities

1.3.1 – Weed Control

Habitat Management, Inc., a licensed commercial pesticide applicator, performed weed management activities in early July and again in late July 2019.

Canada thistle, yellow toadflax, mayweed chamomile, and oxeye daisy were treated throughout the main mine facilities area, the URAD area, the Southwest Energy Yard and along County Road 202 between URAD and the Henderson Mine. Herbicide applications were spot-applied to targeted weed species.

The herbicides used for treatment include: Telar XP (Chlorosulfuran), Weedar 64 (2,4-D Amine), Ranger Pro (Glyphosphate), and Viewpoint (Imazapic). Induce was utilized as a surfactant and Hi-Light blue marker dye was added to applications to allow greater visibility of treated areas.

Ranger Pro and Viewpoint were applied to the perimeter of the gas stations, natural gas meter building, compressor building, used oil pump building, bulk oil storage building, and the mine's air vents. The smaller electrical substation was also treated whereas other substations were inspected and found to be in good order.

Similar to past years, the mine property was thoroughly inspected for listed noxious weeds species. Through precision tracking via GPS application monitoring, the weed management contractor applied herbicide to approximately 488 acres (combined Mine and URAD).

1.3.2 – Water Quality Data

Water quality data will be provided in the Annual Water Quality Data Report, due to the DRMS by May 31 annually, per the approved Groundwater Management Plan (TR-16).

2.0 Henderson Mill

2.1 Disturbance

The Mill disturbances for 2019 included only the area inundated by the continuous tailing impoundment rise. A site map of the Henderson Mill indicating affected land boundary and disturbance areas is included in Attachment A.

Annual Report – 2019
Henderson Mine and Mill Reclamation Activities
Permit No. M-1977-342

2.2 Interim Reclamation

Interim reclamation was not carried out at the Henderson Mill in 2019.

2.3 Other Activities

2.3.1 – *Weed Control*

For 2019, Henderson Mill received weed treatments in July and August, when approximately 1,300 acres were treated. The two treatments covered the following areas: around all shops and mill parking lots, roadsides around the tailing pond, the northern non-industrial areas, the haul roads, the upper canal road, on and below the dam, and the portal.

These areas were treated for the following noxious weeds: Bull thistle, Canada thistle, Common mullein, Houndstongue, Mayweed chamomile, Musk thistle, Plumeless thistle, Oxeye daisy and Yellow toadflax.

The herbicides used for treatment include: Escort XP (Metsulfuron), Milestone VM (Aminopyralid), Telar XP (Chlorsulfuron), Transline (Clopyralid), Induce (a nonionic adjuvant) and Blue Hi-Lite indicator dye.

2.3.2 – *Water Quality Data*

Water quality data will be provided in the Annual Water Quality Report, due to the DRMS by May 31 annually, per the approved Groundwater Management Plan (TR-16).

2.3.3 – *Flood Storage Capacity*

Analysis of flood storage capacity in the Mill tailings impoundment was carried out by W.W. Wheeler, per DRMS requirements stipulated for Technical Revision (TR) 14. This analysis is included as Attachment B.

2.3.4 – *3-Dam Seepwater Line Leak-Down Test*

The annual 3-Dam seepwater line leak-down test for 2019, per DRMS requirements stipulated in TR-09, was completed on June 6, 2019. The seepwater lines held static pressures over a 24-hour period, as designed. See test report in Attachment C.

2.3.5- *3-Dam Buttress Project*

Phase I of the 3-Dam Buttress Project submitted as TR-29 in the summer of 2018 was completed in 2019. This Phase consisted of infrastructure improvements, placement of filter material, and placement of buttress material. Close-out documentation for TR-29 is currently being prepared.

2.3.6 – *Seep Water Collection and Return System Improvements*

Work began in the summer of 2018 and included upgrading inlet gate operator electronics and communications, culvert extensions, and installation of a seepage cutoff trench as described in TR-30 submitted in September 2018. In 2019 work was concluded when the road that makes up the Seep Water Detention Berm was raised to its final height. Close-out documentation for TR-30 is currently being prepared.

Annual Report – 2019
Henderson Mine and Mill Reclamation Activities
Permit No. M-1977-342

2.3.7 – Tailing Storage Facility Annual Report

AECOM, the engineer of record for the Henderson Mill Tailing Storage Facility (TSF), has provided a letter that contains observations, updates on projects, and any recommendations to ensure the TSF is operated and maintained properly. The report can be found in Attachment D.

3.0 Anticipated 2020 Activities

3.1 Prospecting

No prospecting activities are currently planned for 2020.

3.2 3-Dam Buttress

Engineering for Phase 2 of the 3-Dam Buttress has commenced and will likely be completed in 2020, following TR request and approval.

3.3 Gravel Pit

Areas near the entrance of the gravel pit will continue to be used to stockpile materials delivered for the 3-Dam Buttress Project.

3.4 Reclamation

No reclamation is planned for calendar year 2020.

3.5 Amendment

Henderson submitted an Amendment (AM-07) to the permit for inclusion of land occupied by URAD water treatment operations as well as the area associated with Henderson's mining subsidence. Henderson is currently working on closing out items identified in the DRMS Adequacy Review and expects approval of AM-07 in 2020.

4.0 Financial Warranty

Henderson Operations currently maintains Financial Warranty in the amount of \$56,142,434. This is held in the form of two corporate surety bonds valued at \$24,730,784 and \$10,133,000, an irrevocable letter of credit in the amount of \$3,130,001 and assets valued at \$18,148,649.

Henderson provided proof of insurance for the Williams Fork Pump Station Water Rights asset on December 19, 2019. Henderson has been working with the Division to update the valuation for Henderson water rights; an updated third-party valuation was provided to the Division on December 19, 2019. Henderson has also been working with the Division to assist in updating the Division's records with respect to various aspects of the water rights, and to remove the Climax and Williams Fork Pump Station water rights from the Henderson financial warranty and replace their value with a letter of credit.

Annual Report – 2019
Henderson Mine and Mill Reclamation Activities
Permit No. M-1977-342

Henderson filed an update of its closure costs on December 5, 2019, which estimates the closure costs as \$171MM. This submittal is currently under review. At such time as it is approved, Henderson will work with the Division to update the amount of financial warranty in place.

Attachment A

Figures



MAP FEATURES	
DISTURBED AREA	PROPERTY BOUNDARY
TOPSOIL STOCKPILES	AFFECTED LAND BOUNDARY
RECLAMATION AREAS	STREAM / DITCH
LAKE / POND	DENVER WATER DEPT.
BUILDING	
ROAD	Contour Interval: 50 feet

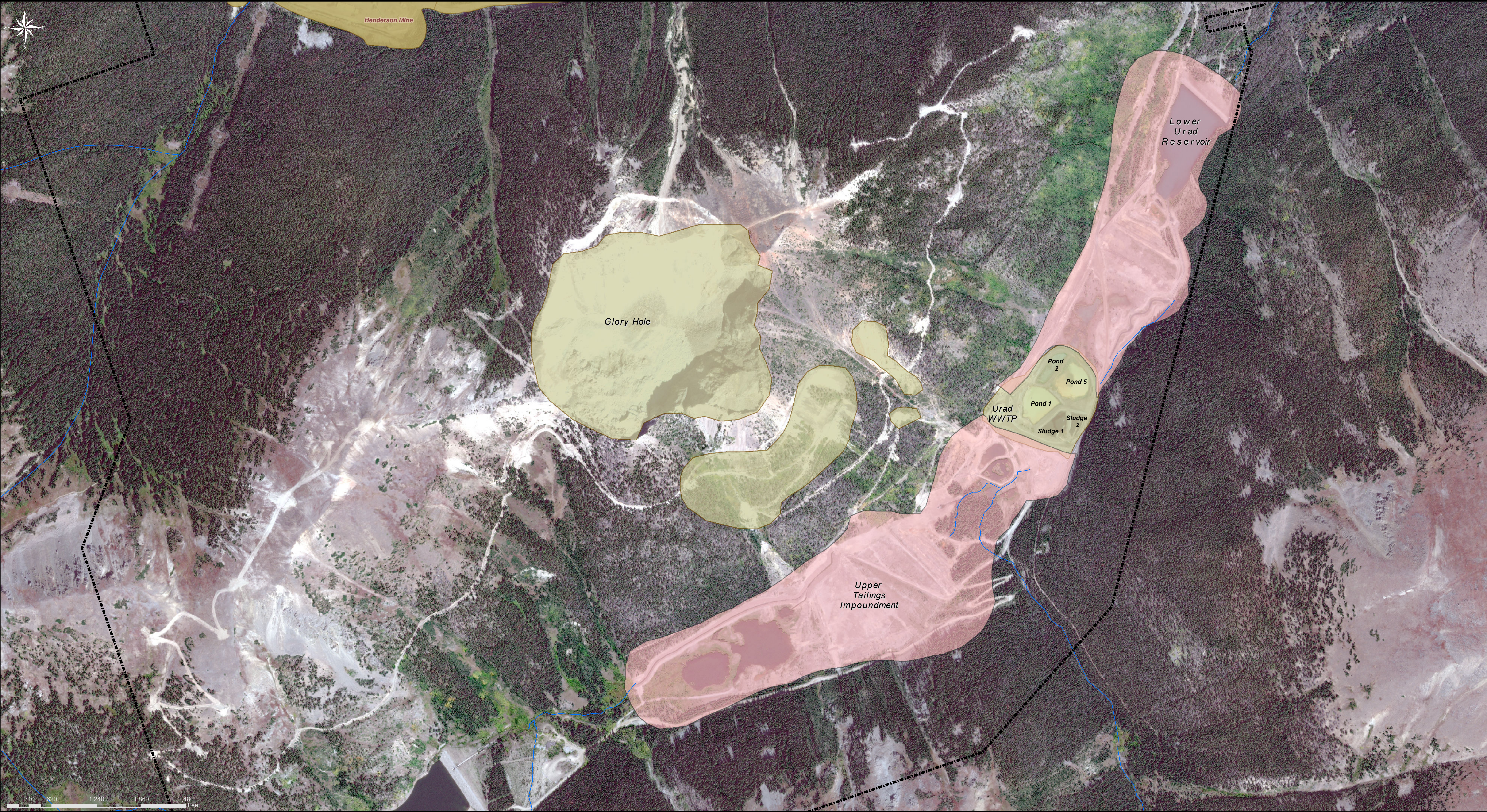
REVISION	DATE
Developed in ArcGIS for 2010 Annual Report	3/4/11
Revised for 2011 Annual Report	2/22/12
Revised for 2012 Annual Report	2/27/13
Revised for 2013 Annual Report	2/26/14
Revised for 2014 Annual Report	2/24/2015
Revised for 2015 Annual Report	3/4/2016
Revised for 2016 Annual Report	3/3/2017
Updated dates and imagery	3/4/2019

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road
Empire, Colorado 80438

HENDERSON MINE
MLRB Permit No. M-77-342
Annual Reclamation Report
March 4, 2019

DESIGNED BY:
DRAWN BY: MT (Aquilonix)
DATE DRAWN: 3/4/11

SCALE: 1:4,800



LOCATION MAP

MAP FEATURES

DISTURBED AREA	PROPERTY BOUNDARY
TOPSOIL STOCKPILES	STREAM / DITCH
RECLAMATION AREAS	
LAKE / POND	
BUILDING	
ROAD	

REVISION	DATE	AUTHOR
Developed in ArcGIS for 2011 Annual Report	2/17/12	MT
Revised for 2012 Annual Report	2/28/13	MT
Revised for 2013 Annual Report	2/26/14	MT
Revised for 2014 Annual Report	2/24/15	MT
Updated dates for 2015 Annual Report	2/28/16	MT
Updated dates for 2016 Annual Report	3/3/17	TH
Updated dates and imagery	3/4/19	AP

DESIGNED BY:

DRAWN BY: MT (Aquilonix)

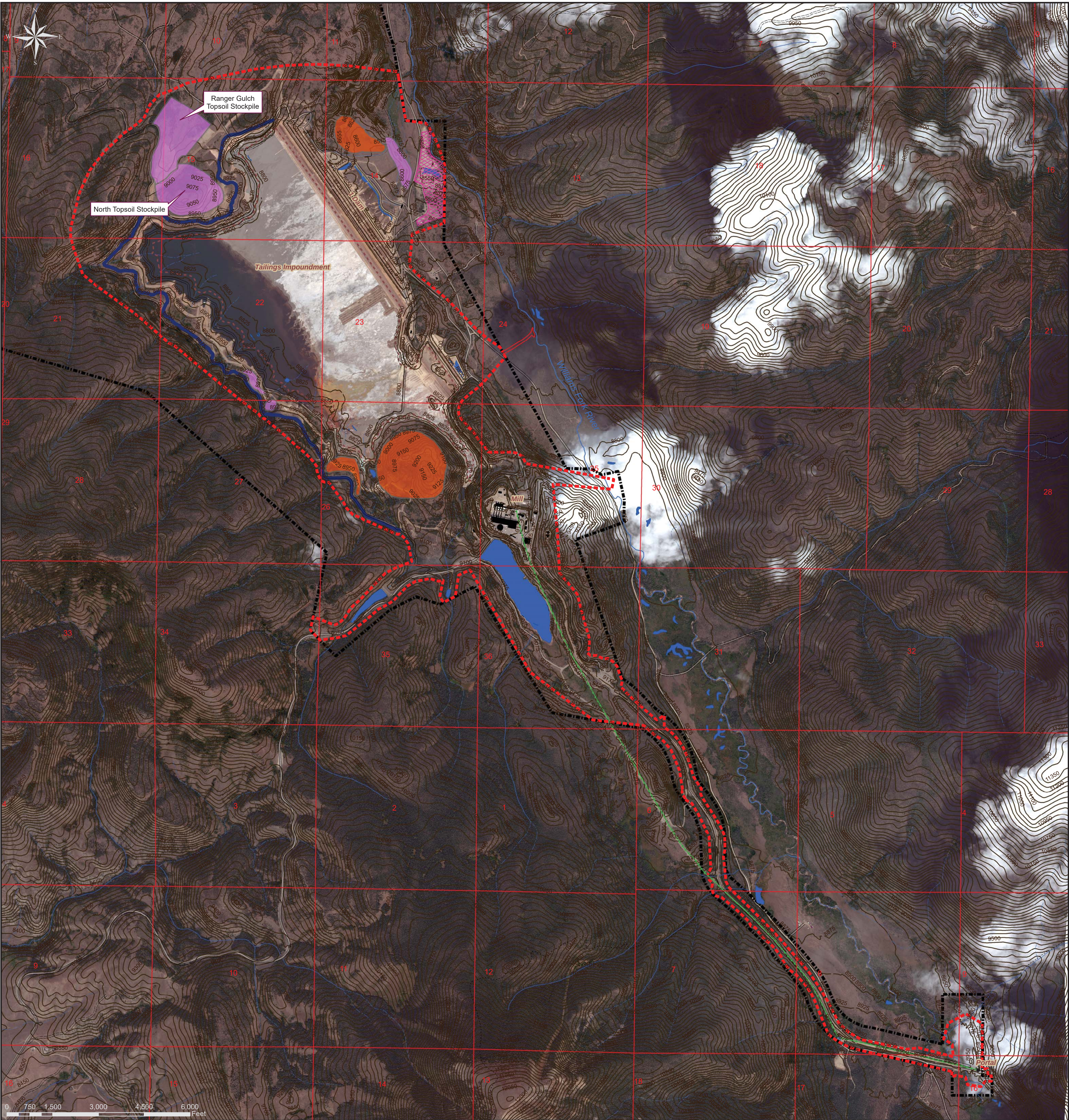
DATE DRAWN: 2/17/2012

SCALE: 1:7,500

Climax Molybdenum
A Freeport-McMoRan Company

HENDERSON OPERATIONS
1746 County Road
Empire, Colorado 80438

HENDERSON MINE - URAD
MLRB Permit No. M-77-342
Annual Reclamation Report
March 4, 2019



LOCATION MAP

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri

MAP FEATURES

PROPERTY BOUNDARY	PLANNED TOPSOIL STOCKPILES	TRAIL
DISTURBANCE AREA	RECLAMATION AREAS	PERENNIAL STREAM
XCEL ENERGY EASEMENT	BUILDING	INTERMITTENT STREAM
TAILINGS IMPOUNDMENT	UNIMPROVED ROAD	ULTIMATE INTERCEPTOR CANAL
LAKE / POND	IMPROVED ROAD	GRAVEL PIT
EXISTING TOPSOIL STOCKPILES	CONVEYOR	AFFECTED LAND BOUNDARY

Contour Interval: 25 feet

REVISION	DATE	AUTHOR
Developed in ArcGIS for 2010 Annual Report	3/4/11	MT
Revised for 2011 Annual Report	2/22/12	MT
Updated for 2012 Annual Report. Added Ranger Gulch Topsoil Stockpile & Gravel Pit	2/28/13	MT
Revised for 2013 Annual Report	2/27/14	MT
Revised for 2014 Annual Report	2/24/2015	MT
Updated dates for 2015 Annual Report	2/29/2016	MT
Updated dates for 2016 Annual Report	3/3/2017	TH
Updated dates and imagery	3/4/2019	AP

DESIGNED BY:	SCALE: 1:20,000
DRAWN BY: MT(Aquionix)	
DATE DRAWN: 3/4/11	

Climax Molybdenum
A Freeport-McMoRan Company
HENDERSON OPERATIONS
1746 County Road
Empire, Colorado 80438

HENDERSON MILL
MLRB Permit No. M-77-342
Annual Reclamation Report
March 4, 2019

Attachment B

Mill Tailing Impoundment Flood Storage Capacity Analysis



February 21, 2020

Mr. Miguel Hamarat
Climax Molybdenum Company, Henderson Mine
1746 County Road 202
Empire, CO 80438

Re: **#1333.0 - Henderson Mill
TSF Flood Storage**

Dear Miguel:

As requested, we have evaluated the availability of flood storage capacity in the Henderson tailing storage facility (TSF) using information from the pond surveys. The fall survey of the beach and pool area was performed in October and November. Figure 1 is the pond contour map that was generated by Wheeler from the fall survey point data. The survey shows that the average dam crest elevation of 1 Dam at the end of the spigot deposition season is about 8882.5 feet, which is a 3.0-foot increase from last year. The minimum elevation surveyed along the dam crest was 8881.4 feet. This information, as well as other characteristics of the TSF, is summarized in the table in the upper right-hand corner of the TSF map drawing. Table 1 and Figure 2 is the elevation-capacity data for the impoundment that was generated from the fall 2019 contour map. Note that this data is representative of the TSF at the time of the pool survey and changes continuously as additional tailing is deposited.

One of the primary uses of the survey data is to evaluate the flood storage capacity conditions in the water system. As summarized on Figure 1, at the approximate time of the fall survey there was a total system surcharge storage capacity of about **10,277 acre-feet** in the system. This capacity includes both the TSF and East Branch Reservoir and is based on 0.5 feet of residual freeboard below the minimum dam crest elevation of 8,881.4' and a October 31st water level of 8,868.7 feet. The flood storage requirement for the system is **3,582 acre-feet**. This requirement is based on hydrologic modeling of the probable maximum precipitation (PMP) event. The available flood storage capacity in the system at

the time of the survey significantly exceeds the storage requirement. However, this excess capacity will decrease throughout the coming year as additional inflows to the system occur and a portion of the storage space is filled with deposited tailing.

A relatively accurate determination of the flood storage capacity in the impoundment can be made at the time of the pond surveys. An operations model has been developed to track water levels and estimate the flood storage availability in the system between surveys. This model is updated by Henderson personnel or Wheeler on a monthly basis. One of the reports generated by this model is the attached TSF Water Level Report (Figure 3). This graph shows the actual water level in the TSF as compared to the flood pool level in the pond, which is defined as the level corresponding to 3,582 acre-feet of available capacity. Note that the actual water level did not exceed the flood pool level at any time in 2019. This shows that the required flood storage space was maintained in the system throughout the 2019 calendar year.

If you have any questions regarding the enclosed information, or if you require additional information, please call.

Sincerely,

W. W. Wheeler and Associates, Inc.

A handwritten signature in black ink, appearing to read "Steven M. Maly".

Steven M. Maly, P.E.

CC: Dillon Benbow, Henderson Mill (via e-mail)
Geoff Niggeler, Henderson Mill (via e-mail)
Aaron Hilshorst, Henderson Mill (via e-mail)
Katie Kruger, Freeport McMoRan (via e-mail)

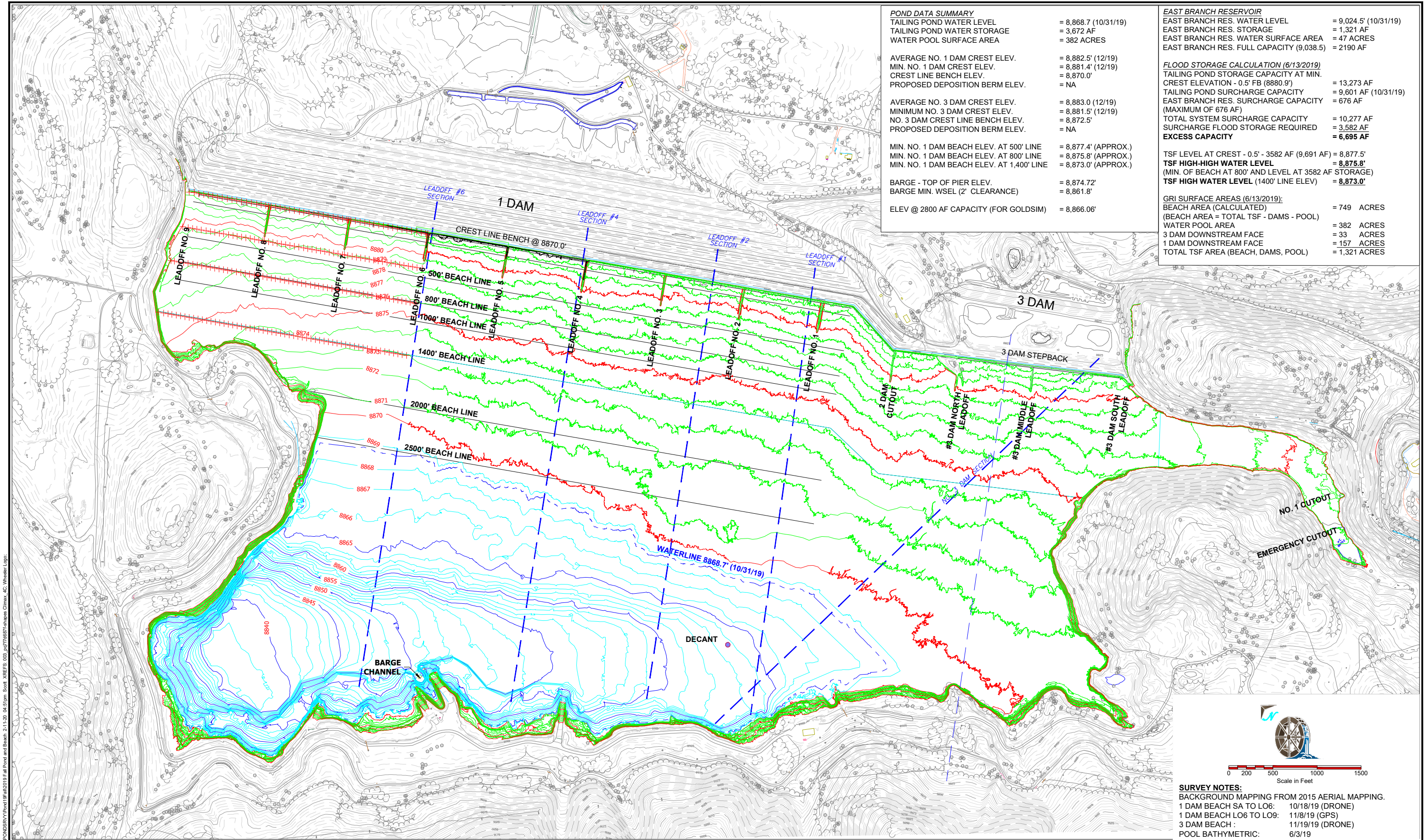
TABLE 1
Henderson TSF
Elevation-Area-Capacity

Survey Data:

Bathymetric Jun. 2019
1 Dam Beach Oct. 2019
3 Dam Beach Nov. 2019

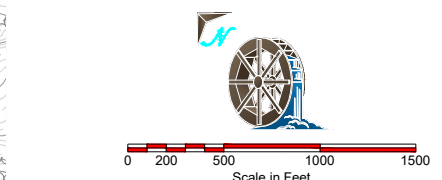
Elevation-Area-Capacity Table			
Water Elevation	Surface Area		Storage Capacity
(feet)	(sq. ft.)	(acres)	(ac-ft)
8,838.0	0	0.00	0.0
8,839.0	317,836	7.30	3.6
8,840.0	777,313	17.84	16.2
8,841.0	1,053,380	24.18	37.2
8,842.0	1,278,859	29.36	64.0
8,843.0	1,476,626	33.90	95.6
8,844.0	1,634,504	37.52	131.3
8,845.0	1,779,749	40.86	170.5
8,846.0	1,924,385	44.18	213.1
8,847.0	2,078,430	47.71	259.0
8,848.0	2,257,161	51.82	308.8
8,849.0	2,474,557	56.81	363.1
8,850.0	2,710,288	62.22	422.6
8,851.0	2,973,414	68.26	487.8
8,852.0	3,250,082	74.61	559.3
8,853.0	3,618,477	83.07	638.1
8,854.0	4,111,510	94.39	726.8
8,855.0	4,602,787	105.67	826.9
8,856.0	5,095,866	116.98	938.2
8,857.0	5,611,272	128.82	1,061.1
8,858.0	6,121,532	140.53	1,195.8
8,859.0	6,758,389	155.15	1,343.6
8,860.0	7,280,508	167.14	1,504.7
8,861.0	7,827,619	179.70	1,678.2
8,862.0	8,449,367	193.97	1,865.0
8,863.0	9,178,540	210.71	2,067.3
8,864.0	9,878,015	226.77	2,286.1
8,865.0	10,683,049	245.25	2,522.1
8,866.0	12,093,363	277.63	2,783.5
8,867.0	13,677,291	313.99	3,079.3
8,868.0	15,270,762	350.57	3,411.6
8,869.0	17,211,188	395.11	3,784.4
8,870.0	19,793,732	454.40	4,209.2
8,871.0	23,544,892	540.52	4,706.7
8,872.0	27,319,095	627.16	5,290.5
8,873.0	30,324,142	696.15	5,952.2
8,874.0	33,158,214	761.21	6,680.8
8,875.0	35,903,719	824.24	7,473.6
8,876.0	38,528,657	884.50	8,327.9
8,877.0	40,944,697	939.96	9,240.1
8,878.0	43,328,041	994.67	10,207.5
8,879.0	45,493,637	1,044.39	11,227.0
8,880.0	47,144,291	1,082.28	12,290.3
8,881.0	47,964,627	1,101.12	13,382.0
8,882.0	49,525,944	1,136.96	14,501.1

* All other values are interpolated from this table.



POND DATA SUMMARY	
TAILING POND WATER LEVEL	= 8,868.7 (10/31/19)
TAILING POND WATER STORAGE	= 3,672 AF
WATER POOL SURFACE AREA	= 382 ACRES
AVERAGE NO. 1 DAM CREST ELEV.	= 8,882.5' (12/19)
MIN. NO. 1 DAM CREST ELEV.	= 8,881.4' (12/19)
CREST LINE BENCH ELEV.	= 8,870.0'
PROPOSED DEPOSITION BERM ELEV.	= NA
AVERAGE NO. 3 DAM CREST ELEV.	= 8,883.0 (12/19)
MINIMUM NO. 3 DAM CREST ELEV.	= 8,881.5' (12/19)
NO. 3 DAM CREST LINE BENCH ELEV.	= 8,872.5'
PROPOSED DEPOSITION BERM ELEV.	= NA
MIN. NO. 1 DAM BEACH ELEV. AT 500' LINE	= 8,877.4' (APPROX.)
MIN. NO. 1 DAM BEACH ELEV. AT 800' LINE	= 8,875.8' (APPROX.)
MIN. NO. 1 DAM BEACH ELEV. AT 1,400' LINE	= 8,873.0' (APPROX.)
BARGE - TOP OF PIER ELEV.	= 8,874.72'
BARGE MIN. WSEL (2' CLEARANCE)	= 8,861.8'
ELEV @ 2800 AF CAPACITY (FOR GOLDSIM)	= 8,866.06'

EAST BRANCH RESERVOIR	
EAST BRANCH RES. WATER LEVEL	= 9,024.5' (10/31/19)
EAST BRANCH RES. STORAGE	= 1,321 AF
EAST BRANCH RES. WATER SURFACE AREA	= 47 ACRES
EAST BRANCH RES. FULL CAPACITY (9,038.5)	= 2190 AF
FLOOD STORAGE CALCULATION (6/13/2019)	
TAILING POND STORAGE CAPACITY AT MIN. CREST ELEVATION - 0.5' FB (8880.9')	= 13,273 AF
TAILING POND SURCHARGE CAPACITY	= 9,601 AF (10/31/19)
EAST BRANCH RES. SURCHARGE CAPACITY (MAXIMUM OF 676 AF)	= 676 AF
TOTAL SYSTEM SURCHARGE CAPACITY	= 10,277 AF
SURCHARGE FLOOD STORAGE REQUIRED	= 3,582 AF
EXCESS CAPACITY	= 6,695 AF
TSF LEVEL AT CREST - 0.5' - 3582 AF (9,691 AF)	= 8,877.5'
TSF HIGH-HIGH WATER LEVEL	= 8,875.8'
(MIN. OF BEACH AT 800' AND LEVEL AT 3582 AF STORAGE)	
TSF HIGH WATER LEVEL (1400' LINE ELEV)	= 8,873.0'
GRI SURFACE AREAS (6/13/2019):	
BEACH AREA (CALCULATED)	= 749 ACRES
(BEACH AREA = TOTAL TSF - DAMS - POOL)	
WATER POOL AREA	= 382 ACRES
3 DAM DOWNSTREAM FACE	= 33 ACRES
1 DAM DOWNSTREAM FACE	= 157 ACRES
TOTAL TSF AREA (BEACH, DAMS, POOL)	= 1,321 ACRES



SURVEY NOTES:
BACKGROUND MAPPING FROM 2015 AERIAL MAPPING.
1 DAM BEACH SA TO LO6: 10/18/19 (DRONE)
1 DAM BEACH LO6 TO LO9: 11/8/19 (GPS)
3 DAM BEACH: 11/19/19 (DRONE)
POOL BATHYMETRIC: 6/3/19

NO.	DATE	MADE BY	CHK. BY	REMARKS

"This drawing together with any and all additions, corrections, changes and alterations thereof is the property of Climax Molybdenum Company and is furnished on the express condition that it shall not be reproduced, copied, lent, or disposed of directly or indirectly, nor used for any other purpose than for which it is specifically furnished without the prior written consent of said Climax Molybdenum Company."

DRAWING NO.	REFERENCE



Climax Molybdenum
A Freeport-McMoRan Company

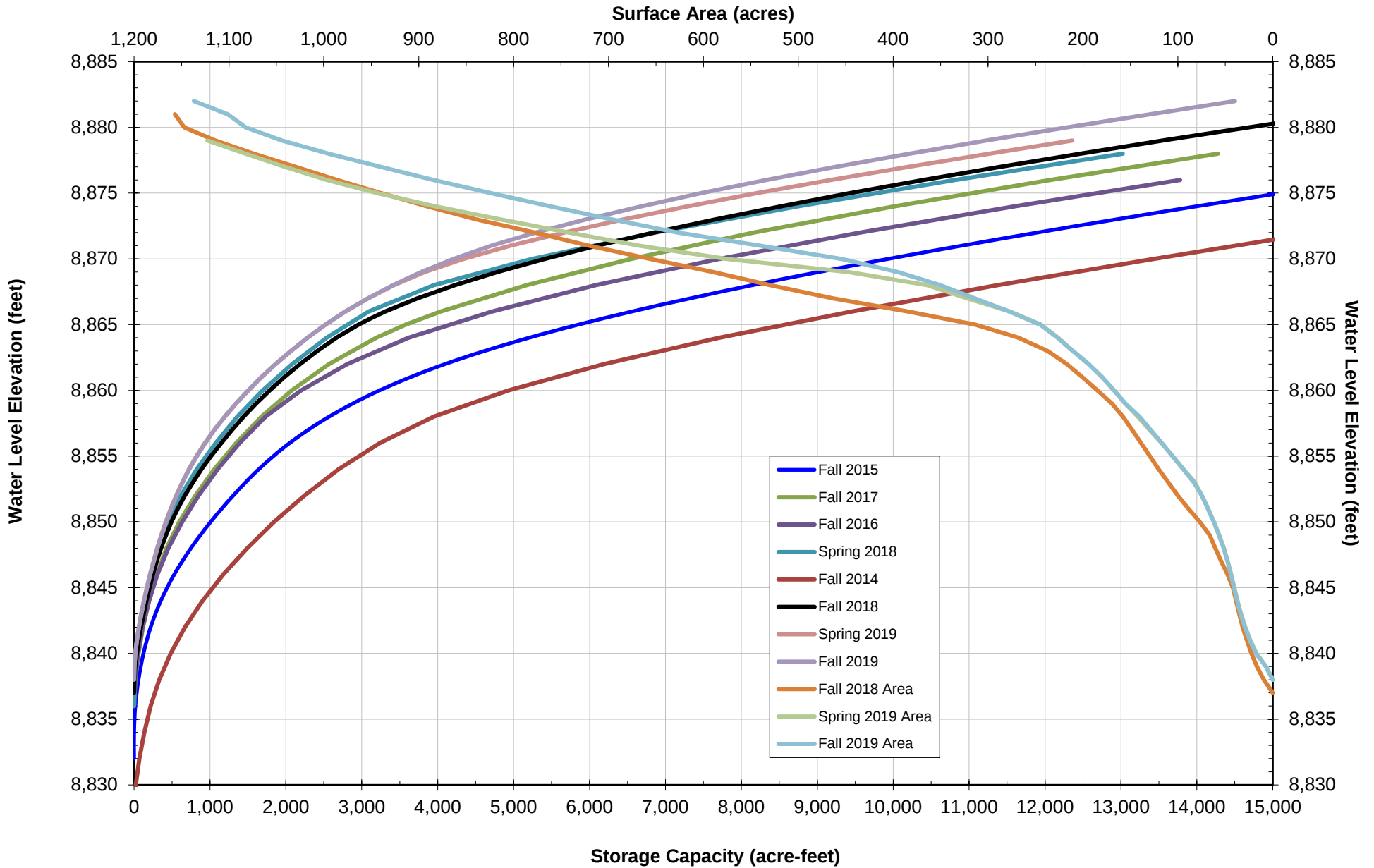


W. W. WHEELER & ASSOCIATES, INC.
Water Resources Engineers

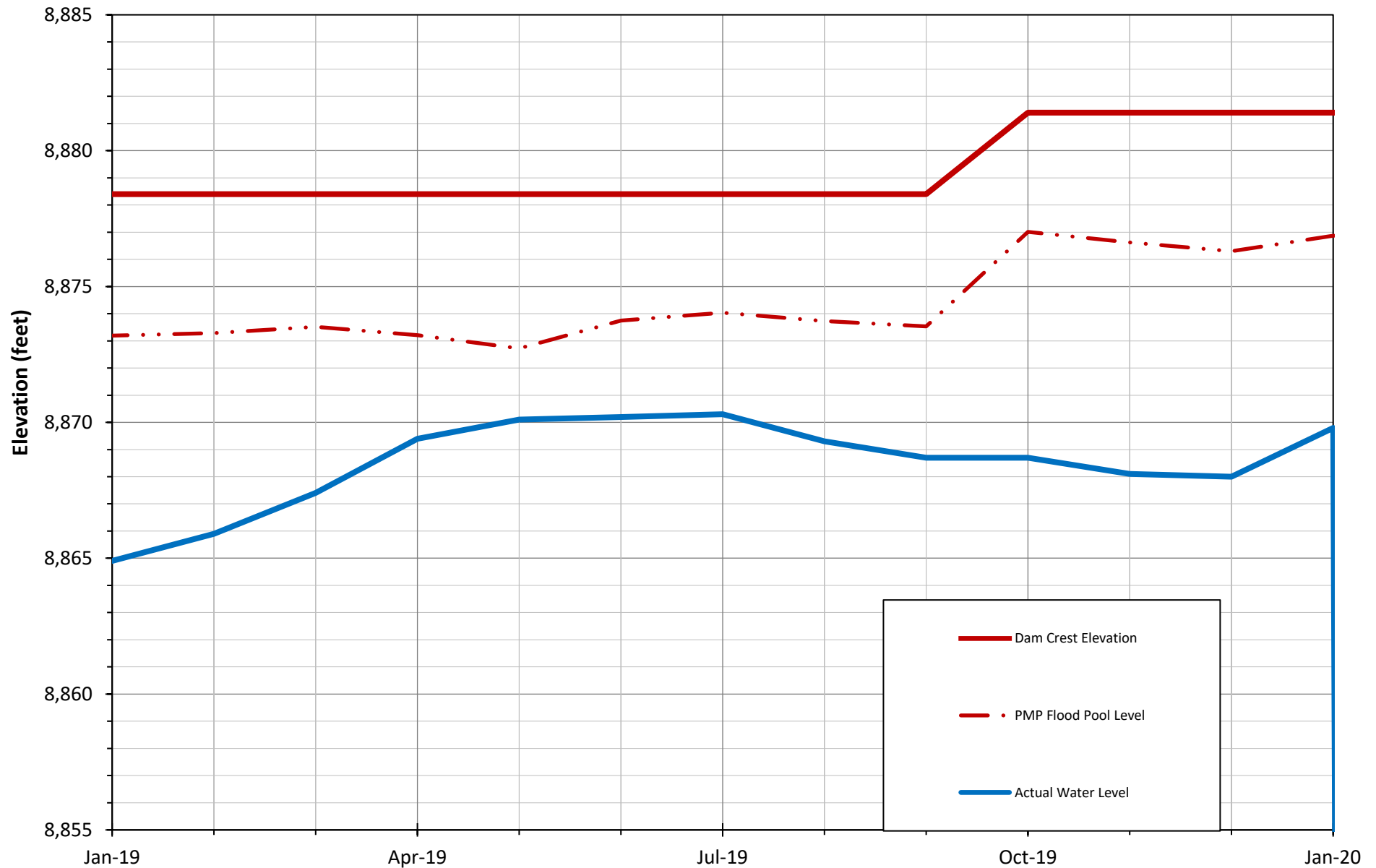
3700 S. INCA STREET
ENGLEWOOD, CO 80110-3405
303-761-4130
FAX 303-761-2802

HENDERSON MILL TAILINGS STORAGE FACILITY		Climax Molybdenum Henderson Mill Parshall, CO		
BEACH AND POND SURVEY		SAA	11/19	SCALE AS NOTED
FALL 2019 SURVEY		CHECKED BY SMM	11/19	DRAWING NO.
DATES: SEE SURVEY NOTES		ACCEPTED BY ...		FIGURE 1

**Figure 2 - Henderson TSF
Elevation Area Capacity**



**Figure 3 Henderson TSF
Water Pool Level Tracking**



Attachment C

3-Dam Seepwater Return Line Leakdown Test Results



FREEPORT-McMORAN ORDER 400009868615

Henderson

Sort Field:	111501DA03	Equipment:	100000008159	Equipment Description:	TAILINGS DAM #3
Cost Center:	2402001111	Functional Location:	HE-2-MI-C8-TC-1866	Functional Location Description:	TAILINGS DAMS
Main Work Center:	4600P	Serial No.:		PM Activity Type:	PCM
Start Date:	06/03/2019	End Date:	06/05/2019	Priority:	3
				Order Type:	MN03
Description: PM LEAK DOWN TEST - #3 DAM SEEP H2O 364D					
Person Responsible:		Person Responsible Description:			

Failure Information

Check

Comments

Maintenance Rework		
Incident or Accident		
Exceeding Design Parameters		
Poor Operational Practice		
Normal Wear and tear		

FOLLOW ALL SAFETY INSTRUCTIONS RELATED TO EACH OPERATION

Operation Description							
Operation	Sub-Op	Work Center	Operation Description	Act. No. People	Act. Hrs.	Act. Dur.	Comp Date
10		4600P	PM LEAK DOWN TEST - #3 DAM SEEP H2O 364	1	4		6-6-19
Long Text							
PM LEAK DOWN TEST - #3 DAM SEEP H2O 364 SUPERCEDES: 12/18/2015 SUPERVISER APPROVAL: Scott Marquardt LAST REVEIW DATE: 10/18/2016 MAINT PLAN: 70000000912 ===== PROVIDE COPIES TO THE CHEIF ENVIRONMENTAL ENGINEER AND THE TnT SUPERVISOR UPON COMPLETEION. ===== 1. ☒ Shut the intake valves and make sure that they do not leak by - checking discharge valves for water flow. 2. ☒ Shut off lower ball valves east side of road I70 gate. 3. ☒ Close discharge valves for drain line and overflow line. 4. ☒ Shut power off to pumps in lift station. 5. ☐ Close both valves at dosing vault.							



6. ☒ Fill drain line and overflow line and check discharge valves for leaks.

7. ☒ Lock all valves and read pressure gauge at the discharge valves.

Drain Line Pressure 74 Date/Time 5-5-19-8:15

Overflow Line Pressure 75 Date/Time 5-5-19-8:16

8. Wait over 24 hours and read Pressure gauges:

Drain Line Pressure 74 Date/Time 6-6-19-8:30

Overflow Line Pressure 75 Date/Time 6-6-19-8:32

9. ☒ If there isn't a drop in pressure in the 24 hour period you can remove the locks. Open the intake valves first, then the discharge valves and return the system back to the pond operators.

10. ☐ If there is a drop in pressure note the pressure drop and repair the system, possible leaking pipes or valves.

11. ☒ All machine guards are in good condition, have no open holes and are properly installed.

12. ☒ Pickup area after PM is done. Ensure housekeeping is in good order.

13. ☐ Write WO for any problems found

Completion Comments

Completed by : Print Name

Signature

Date Completed

Supervisor Reviewer : Print Name

Signature

Date Completed

MATERIALS

Operation	Component	Description:	Qty	UOM	IC	SS	Location

RETURN MATERIALS

Quantity	Stock or Part	Description:	Name

Attachment D

Henderson Mill Annual Tailing Storage Facility Review



AECOM
6200 S Quebec St
Greenwood Village, CO 80111
www.aecom.com

303-694 2770 tel
303 694 3946 fax

January 24, 2020

Mr. Ron Hickman
Climax Molybdenum Company- Henderson Mill
19302 County Road 3
Parshall, CO 80458

Subject: DRMS Annual (Year 2019) Tailings Storage Facility Evaluation, Henderson Tailings Storage Facility, Henderson Mill, Permit No. M-1977-342

Dear Ron:

AECOM, through its legacy company URS Corporation, serves as the Engineer of Record (EOR) for the Climax Molybdenum Company's Henderson Tailings Storage Facility (TSF) comprised of two dams identified as 1 Dam and 3 Dam, located at Henderson Mill in Grand County. AECOM has prepared this summary of our Annual (2019) TSF Evaluation as requested. Although not required at this time by the Division of Reclamation, Mining, and Safety (DRMS) for the Henderson Mill facility, it is our understanding you will include this annual letter to DRMS in compliance with your other annual reporting. Presented below is a summary of key observations made during 2019.

Leadoff or cutout deposition occurred at the Henderson TSF from January to May and in November through December. Spigot deposition at Henderson TSF generally occurred from May 14 to November 20, 2019.

AECOM completed full monthly site inspections of the TSF from June to September 2019. A site visit was not completed in October 2019 due to an early winter limiting ability to complete the inspection. Partial site inspections were completed in April 2019 and November 2019 based on site conditions and what was accessible. The reviews included meeting with operations personnel and reviewing production and operational logistics, operational plans, tailings management challenges, and future plans for operating the dams. Our site visits included reviewing tailings dam instrumentation, specifically reviewing piezometric elevations. We also completed a monthly walking tour of the dam observing the active and inactive tailings beach, dam crest, abutments, downstream slope, and toe area. We also conducted a review of the horizontal and foundation drain outfalls, as accessible and applicable.

In 2019, a major project completed by Henderson mill personnel was construction of the 3 Dam Buttress – Stage 1 Project (submitted to the DRMS as Technical Revision No. 29 and approved on April 4, 2018). The project involved constructing a separate north and south toe buttresses on the original 3 Dam plus a multi-tiered buttress on Stepback 3 Dam. The construction was completed over the 2018 and 2019 seasons. AECOM provided full-time construction oversight of the buttress placement and instrumentation installation activities. The construction record drawings are dated October 25, 2019 and were provided to the DRMS under separate cover.

No significant issues were identified in 2019 during the EOR site visits that required notification to the DRMS by Henderson. Any maintenance issues during the EOR site visits were discussed with the Henderson tailings operations staff and corrective action plans were developed and implemented.

Mr. Ron Hickman
Climax Molybdenum Company
January 24, 2020
Page 2

The Henderson TSFs appear to be functioning as designed and within the established design criteria. This judgment is based on observations made during site visits, as well as information provided and reported by Henderson tailings operations staff such as deposition quantity, water surface elevations, and other parameters.

The remote monitoring system provides continuous monitoring of piezometric elevations. The system incorporates alarms based on piezometric elevation changes identified as either rate of change or threshold elevations. Rate of change alarms are triggered when predetermined elevation changes occur over a prescribed period of time. Action levels and threshold elevations are specific to individual piezometers. Threshold levels are established based on the results of slope stability analyses and provide redundant warnings should piezometric elevations rise above prescribed predetermined elevations. The monitoring system triggers alarms requiring immediate review.

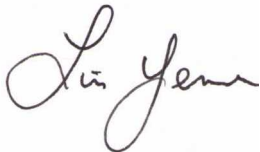
AECOM reviews the piezometric data monthly on both 1 Dam and 3 Dam. Piezometers levels are tracking in accordance with the design.

Continued diligence in monitoring embankment construction, decant pond levels, and instrumentation is essential to long term safety and performance of the structure. Correct operation of the tailings storage facility is essential and it is incumbent upon Henderson to maintain proper training and personnel. AECOM will continue to work with the Henderson team to monitor the performance of the TSF.

AECOM represents that our services are performed within the limits prescribed by the Client in a manner consistent with the level and skill ordinarily exercised by other consultants under similar circumstances. No representation to the Client, expressed or implied, and no other warranty or guarantee is included or intended.

Please do not hesitate to call us with any questions or comments.

Sincerely,



Lisa R. Yenne, PE
Project Manager



Richard R. Davidson, PE
Senior Principal Engineer