

March 8, 2022

Sent Via ePermitting Portal

Mr. Peter Hays
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203

RE: 2021 Annual Report, Henderson Mine and Mill, Permit No M-1977-342

Dear Mr. Hays:

Climax Molybdenum Company (Climax) is submitting its 2021 Colorado Division of Reclamation, Mining and Safety (DRMS) Annual Report and DRMS Annual Report Form for the Henderson Mine and Mill (Permit No. M-1977-342), along with payment for the required annual fee of \$1,150.00.

If you have any questions or need additional information, please do not hesitate to contact me at (720) 942-3631.

Sincerely,



Geoff Niggeler
Chief Environmental Engineer
Climax Molybdenum Company
Henderson Operations

Submitted to Portal:

- Payment of \$1,150.00
- DRMS Annual Report Form (electronic form)
- Henderson Mine and Mill Annual Reclamation Report (pdf attachment)

1. Henderson Mine

1.1. Disturbance

New disturbance at the Mine in 2021 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 2021.

1.3. Other Activities

1.3.1. Weed Control

Habitat Management, Inc., a licensed commercial pesticide applicator, performed weed management in 2021. Similar to past years, the mine property was thoroughly inspected for listed noxious weeds species. Henderson Mine received two weed treatments throughout the 2021 growing season, in July and August. Approximately 490 acres were inspected and spot treated where necessary. The two treatments covered the following areas: Access roads and roadsides between the Mine and URAD, and perimeters of surface shops and surface buildings at both Mine and URAD.

These areas were treated for the following noxious weeds: Canada thistle, mayweed chamomile, musk thistle, oxeye daisy, yellow toadflax, and common mullein were treated throughout the main mine facilities. Herbicide applications were spot-applied to targeted weed species.

The herbicides used for treatment include: Milestone, Telar XP (Chlorosulfuran), Weedar 64 (2,4-D Amine), Ranger Pro (Glyphosphate), and Method. Ranger Pro and Method were applied to the perimeter of the surface shop buildings, breaker boxes, transformer building, gas station, substations, exhaust fans, and office building. Induce and MSO were utilized as a surfactant and Hi-Light blue marker dye was added to applications to allow greater visibility of treated areas.

1.3.2. Water Quality Data

2021 water quality data will be provided in the Annual Water Quality Data Report, due to the DRMS by May 31, per the approved Groundwater Management Plan (TR-16).

2. Henderson Mill

2.1. Disturbance

The Mill disturbances for 2021 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.

2.2. Interim Reclamation

Interim reclamation was not carried out at the Henderson Mill in 2021.

2.3. Other Activities

2.3.1. *Weed Control*

Habitat Management, Inc., a licensed commercial pesticide applicator, performed weed management in 2021. Similar to past years, the mill property was thoroughly inspected for listed noxious weeds species. Henderson Mill received three weed treatments throughout the 2021 growing season, in July, August and September. Approximately 1,900 acres were inspected and spot treated where necessary. The three treatments covered the following areas: Surrounding the tailings impoundment access roads, roadsides and outlying buildings; the gravel pit, north topsoil stockpile area; Mill buildings and office building perimeters; and non-industrial areas north of the tailings impoundment along Lost Creek.

These areas were treated for the following noxious weeds: Bull thistle, Canada thistle, Common mullein, Houndstongue, Mayweed chamomile, Musk thistle, Oxeye daisy and Yellow toadflax. Herbicide applications were spot-applied to targeted weed species.

The herbicides used for treatment include: Weedar 64 (2,4-D Amine), Transline (Clopyralid), Vastlan, Ranger Pro (Glyphosphate). Ranger Pro was applied to the perimeter of the fuel island, mill area buildings, and office buildings only. Induce and MSO were utilized as a surfactant and Hi-Light blue marker dye was added to applications to allow greater visibility of treated areas.

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, 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 2021, per DRMS requirements stipulated in TR-09, was completed on October 2, 2021. The seepwater lines held static pressures over a 24-hour period, as designed. See test report in Attachment C.

2.3.5. 3-Dam Tailings Delivery Line Raise

As part of the continuous tailings impoundment raise, the tailings delivery line (TDL) is required to be mechanically raised upstream periodically to maintain operational hydraulics within the delivery system. Starting in late August 2021, after spigot deposition completed on 3-dam for the season, the crest berm, abutment contact points, and ultimately the location of the TDL was moved upstream and uphill. Reconfiguration activities were completed in late October.

2.3.6. Tailings Impoundment Reclamation Test Plots

As part of the ongoing efforts to develop a viable closure plan for the tailings impoundment, Henderson started construction of reclamation soil test plots on the tailings sands in 2021. The project started in 2021 with construction of a protective berm around an area on the north side of the tailings beach to protect the future test plots from becoming inundated with future tailings deposition. Construction of the berm started in early August and was completed in mid-September. Construction of the actual soil test plots will commence in the summer of 2022.

2.3.7. Reclaim Barge Move

In October of 2021, the barge used to pump decanted process water from the tailings impoundment to the East Branch Reservoir, was moved approximately 80 feet up-channel. Moving the barge up channel, similar to raising the TDL, is a required and periodic part of operating a tailings impoundment that continues to rise as tailings sands are deposited.

2.3.8. 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 is included in Attachment D.

3. Anticipated 2022 Activities

3.1. Prospecting

No prospecting activities are currently planned under this permit for 2022.

3.2. 1-Dam Tailings Delivery Line Raise

As a continuation of the 3-Dam TDL raise in 2021, the 1-Dam TDL will need to be raised upstream and uphill in 2022. Construction is anticipated to start in June of 2022.

3.3. 3-Dam Buttress

Engineering for Phase 3 of the 3-Dam Buttress has commenced and will likely be completed in 2022, followed by a TR request. Construction is anticipated to commence in 2023 and 2024.

3.4. 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, roadway improvements, or emergency erosion control aggregates.

3.5. Reclamation

No reclamation is planned for calendar year 2022.

3.6. Tailings Impoundment Reclamation Test Plots

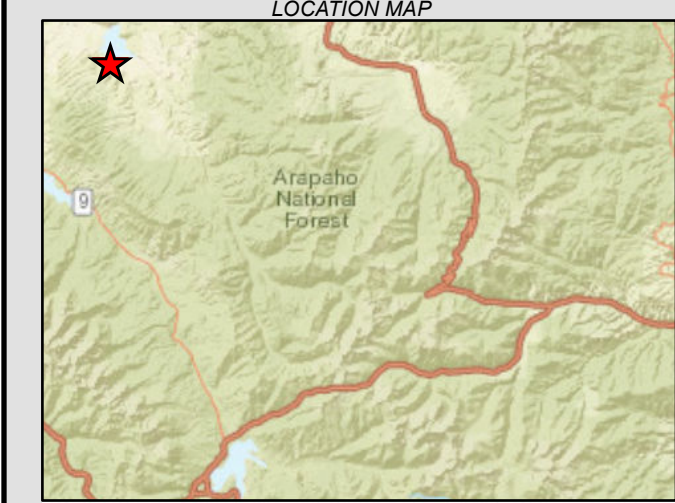
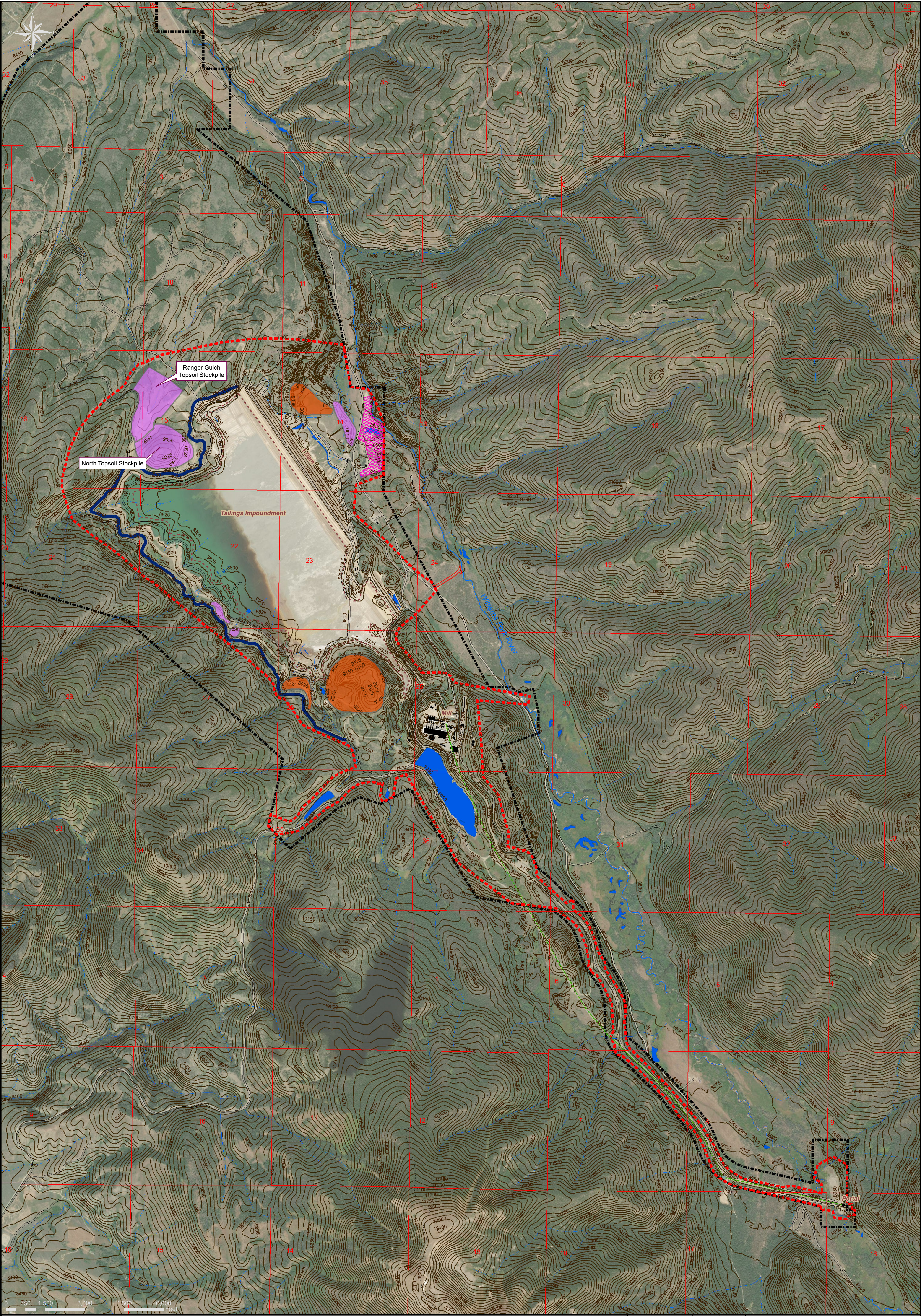
As part of the ongoing efforts to develop a viable closure plan for the tailings impoundment, Henderson will continue construction of reclamation test plots on the tailings beach in 2022. Test plots on the embankment are scheduled to be constructed in 2022 or 2023. Soil performance monitoring will be ongoing for an anticipated 5-10 years into the future.

4. Financial Warranty

The approved closure cost estimate for Henderson Operations is \$171,125,253. On October 1, 2020, Henderson proposed to have the financial warranty for these costs be comprised in the form of a combination of corporate surety bonds, a letter of credit, water rights and real property assets. Pursuant to Division approval, Henderson currently maintains a financial warranty of \$140,606,924 in the form of corporate surety bonds, a letter of credit and water rights assets. Henderson's proposal to add the remaining \$30,518,329 in the form of land and water rights assets is currently under consideration by the Division. Henderson is working with the Division on the process to support its review of this proposal and obtain approval from the MLRB. Updated valuations for water rights currently held in the financial warranty were included in the October 2020 package and show that the assets have increased in value.

Attachment A

Site Maps



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
Revised for 2011 Annual Report	2/22/12	MT
Updated for 2012 Annual Report. Added Ranger Gulch Topsoil Stockpile & Green Pit	2/26/13	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	2/28/2016	MT
Updated dates for 2016 Annual Report	3/3/2017	TH
Updated dates and imagery	3/4/2019	AP
Updated dates for 2020 Annual Report	3/3/2021	MT
Updated dates for 2021 Annual Report	3/1/2022	MT

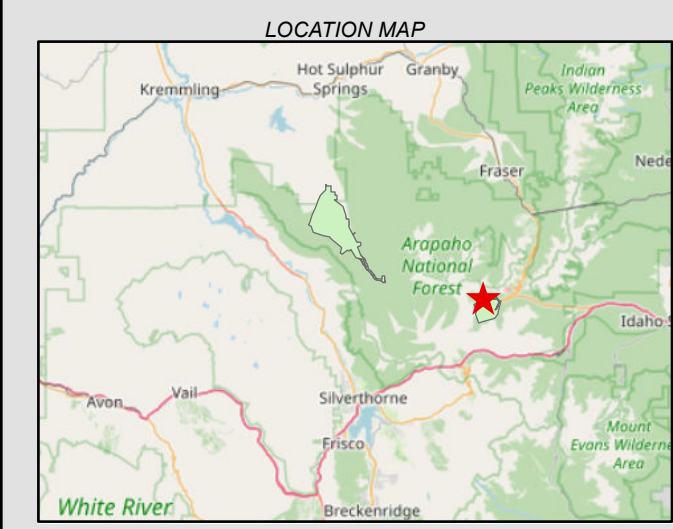
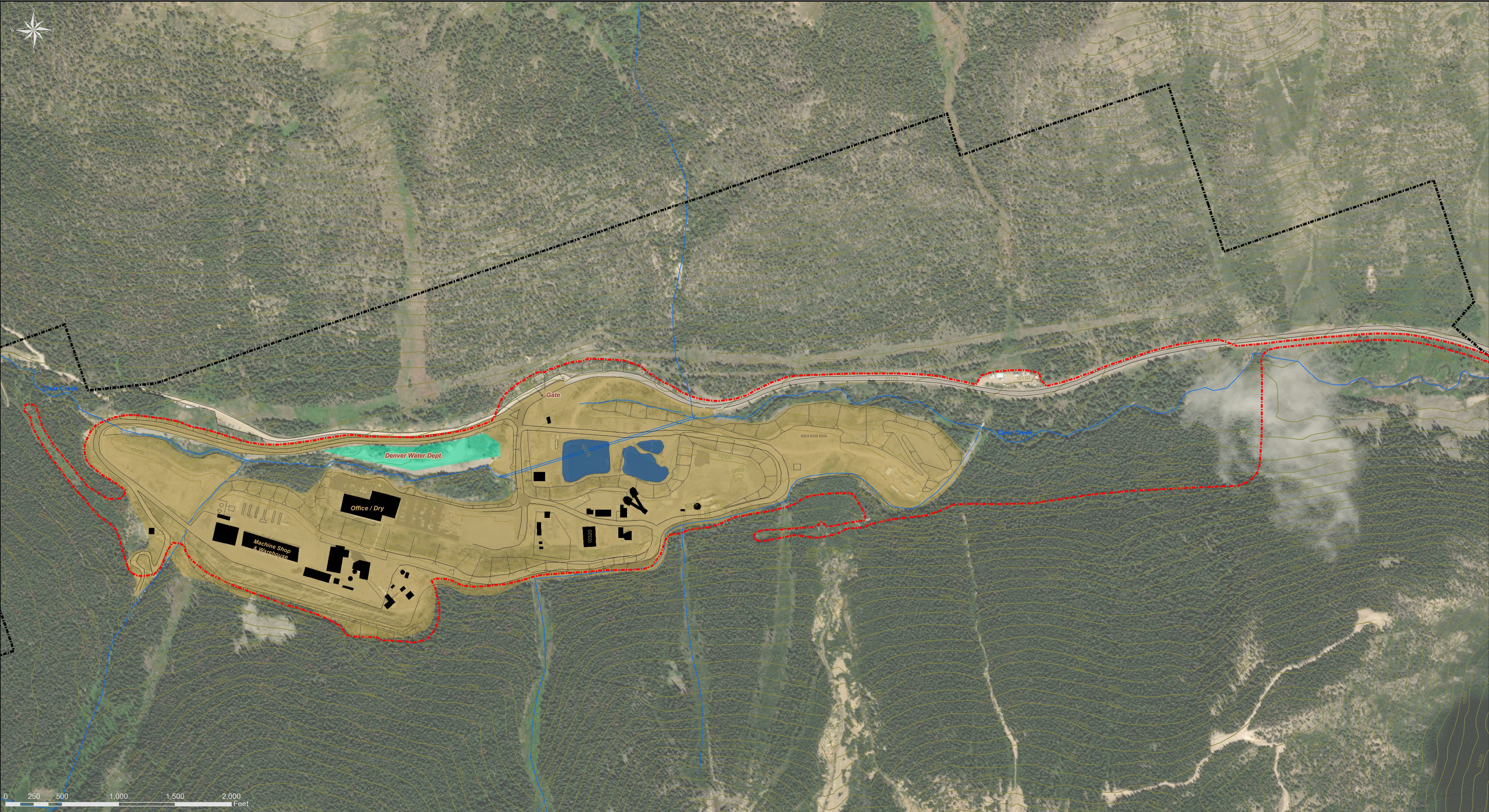
5545 W. 56th Ave.
Arvada, CO 80002
303-289-7320
www.aquionix.com

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 1, 2022

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

SCALE: 1:20,000



MAP FEATURES

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

REVISION	DATE
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	2/24/15
Revised for 2015 Annual Report	3/4/16
Revised for 2016 Annual Report	3/3/2017
Updated dates and imagery	3/4/2019
Revised for 2020 Annual Report	3/4/2021
Revised for 2021 Annual Report	3/1/2022

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 1, 2022

DESIGNED BY:
Aquionix
EHS Services
5545 W. 56th Ave.
Pueblo, CO 81003
303-289-7520
www.aquionix.com

SCALE: 1/4,800
DRAWN BY: MT/KV (Aquionix)
DATE DRAWN: 8/7/2017

S:\arcGIS and AutoCAD files\CMC - Henderson\GIS\mxd\mine\DRMS Reports



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
Updated dates for 2020 Annual Report	3/3/2021	MT
Updated dates for 2021 Annual Report	3/1/2022	MT

Aquionix
EHS Services

5545 W. 56th Ave.
Arvada, CO 80002
303.386-7520
www.aquionix.com

DESIGNED BY:

DRAWN BY: MT (Aquionix)

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 1, 2022

Attachment B

Mill Tailing Impoundment Flood Storage Capacity Analysis



February 10, 2022

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 8886.2 feet, which is a 1.7-foot increase from last year. The minimum elevation surveyed along the dam crest was 8885.0 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 2021 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 **10,574 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 8,885.0' and a October 31st water level of 8,870.0 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

Mr. Hamarat
February 10, 2022
Page 2

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 spring and fall 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 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 2021. This shows that the required flood storage space was maintained in the system throughout the 2021 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: Geoff Niggeler, Henderson Mill (via e-mail)
Ron Hickman, Henderson Mill (via e-mail)
Aaron Hilshorst, Freeport McMoRan (via e-mail)
Sam Saunders, Freeport McMoRan (via e-mail)

TABLE 1
Henderson TSF
Elevation-Area-Capacity

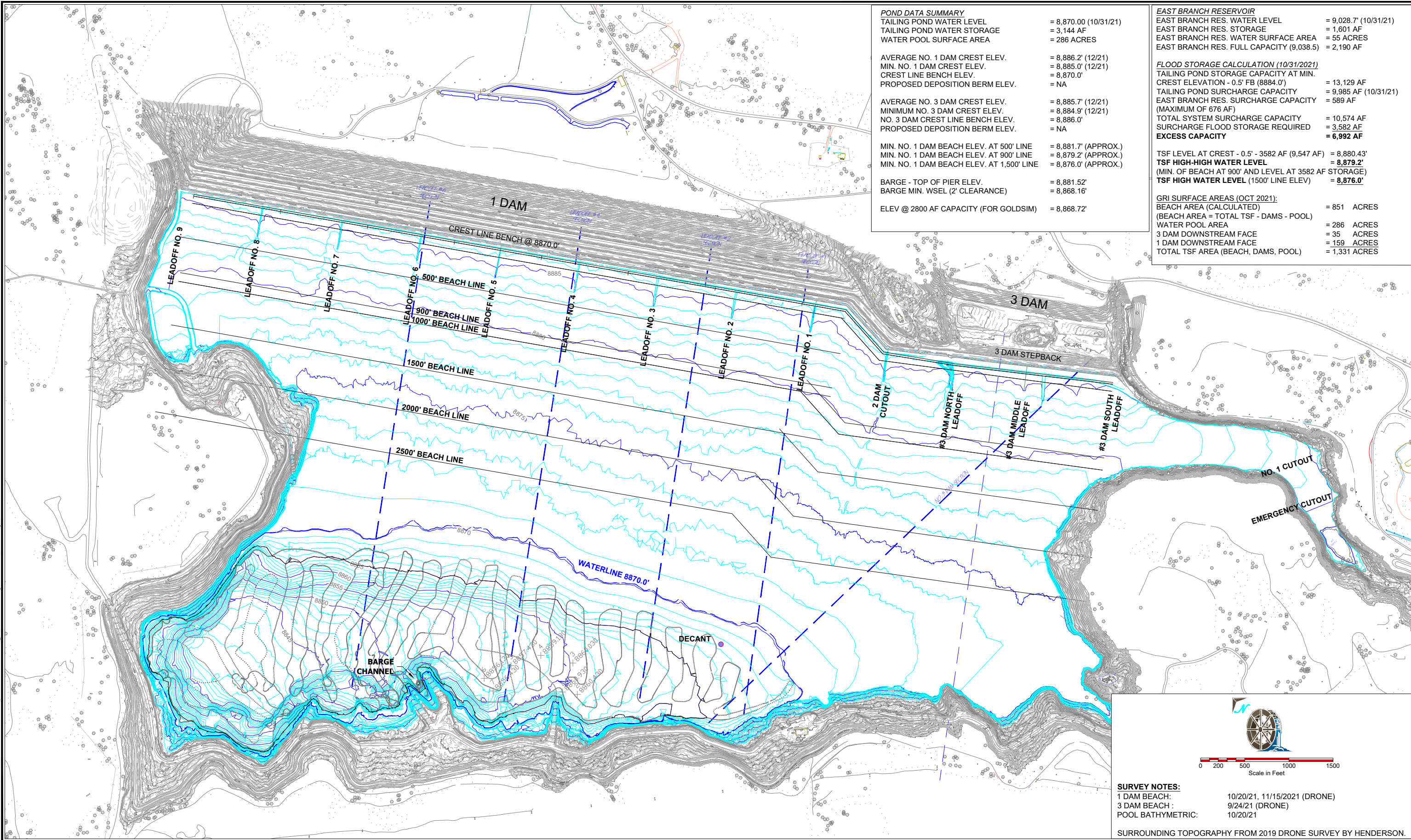
Survey Data:

Bathymetric		Oct 20, 2021
1 Dam Beach	c2-c7	Oct 20, 2021
	c8-c9	Nov 15, 2021
3 Dam Beach		Sep 24, 2021

Elevation-Area-Capacity Table				Beach Width	Beach Width	Beach Width	Beach Width
Water Elevation	Surface Area		Storage Capacity	#4 LO	#6 LO	3-Dam	Minimum
(feet)	(sq. ft.)	(acres)	(ac-ft)	(ft)	(ft)	(ft)	(ft)
8,841.0	83,115	1.91	0.0	3650+	3690+	4950+	
8,842.0	446,898	10.26	6.1	3650+	3690+	4950+	
8,843.0	773,913	17.77	20.1	3650+	3690+	4950+	
8,844.0	1,065,800	24.47	41.2	3650+	3690+	4950+	
8,845.0	1,310,373	30.08	68.5	3650+	3690+	4950+	
8,846.0	1,511,370	34.70	100.9	3650+	3690+	4950+	
8,847.0	1,695,323	38.92	137.7	3650+	3690+	4950+	
8,848.0	1,886,733	43.31	178.8	3650+	3690+	4950+	
8,849.0	2,093,980	48.07	224.5	3650+	3690+	4950+	
8,850.0	2,339,123	53.70	275.4	3650+	3690+	4950+	
8,851.0	2,573,193	59.07	331.8	3650+	3690+	4950+	
8,852.0	2,794,847	64.16	393.4	3650+	3690+	4950+	
8,853.0	3,006,919	69.03	460.0	3650+	3690+	4950+	
8,854.0	3,275,510	75.20	532.1	3650+	3690+	4950+	
8,855.0	3,619,489	83.09	611.2	3650+	3690+	4950+	
8,856.0	4,044,975	92.86	699.2	3650+	3690+	4950+	
8,857.0	4,603,316	105.68	798.5	3650+	3690+	4950+	
8,858.0	5,022,240	115.29	909.0	3650+	3690+	4950+	
8,859.0	5,411,794	124.24	1,028.7	3650+	3690+	4950+	
8,860.0	5,849,983	134.30	1,158.0	3650+	3690+	4950+	
8,861.0	6,337,717	145.49	1,297.9	3650+	3690+	4950+	
8,862.0	6,766,045	155.33	1,448.3	3650+	3690+	4950+	
8,863.0	7,281,917	167.17	1,609.6	3650+	3690+	4950+	
8,864.0	7,784,776	178.71	1,782.5	3650+	3690+	4950+	
8,865.0	8,389,887	192.61	1,968.2	3650+	3690+	4950+	
8,866.0	9,072,088	208.27	2,168.6	3650+	3690+	4950+	
8,867.0	9,750,998	223.85	2,384.6	3650+	3,668	4950+	
8,868.0	10,516,160	241.42	2,617.3	3,551	3,613	4,920	
8,869.0	11,474,142	263.41	2,869.7	3,397	3,553	4,744	
8,870.0	12,440,217	285.59	3,144.2	3,241	3,489	4,559	
8,871.0	14,673,577	336.86	3,455.4	2,982	3,024	4,214	
8,872.0	17,178,087	394.35	3,821.0	2,586	2,591	3,861	
8,873.0	20,051,911	460.33	4,248.4	2,302	2,191	3,374	2,204
8,874.0	24,015,942	551.33	4,754.2	2,056	1,940	3,065	1,923
8,875.0	26,886,807	617.24	5,338.5	1,774	1,740	2,762	1,702
8,876.0	29,577,902	679.02	5,986.6	1,552	1,574	2,428	1,510
8,877.0	32,059,858	735.99	6,694.1	1,374	1,351	2,067	1,251
8,878.0	34,536,436	792.85	7,458.5	1,186	1,208	1,679	1,122
8,879.0	36,793,111	844.65	8,277.3	997	1,015	1,374	934
8,880.0	39,065,066	896.81	9,148.0	886	839	1,178	683
8,881.0	41,385,430	950.08	10,071.5	690	711	896	581
8,882.0	43,505,009	998.74	11,045.9	581	554	692	445
8,883.0	45,381,642	1,041.82	12,066.1	448	438	483	286
8,884.0	47,213,475	1,083.87	13,129.0	275	324	392	
8,885.0	49,470,898	1,135.70	14,238.8	197	144	111	
8,886.0	50,630,405	1,162.31	15,387.8	76	22	17	
8,887.0	51,150,535	1,174.25	16,556.1				

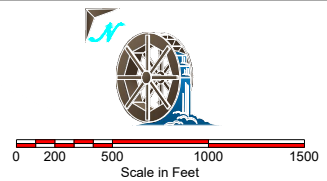
* All other values are interpolated from this table.

R:\1300\1331\333\00\PROJECT\SPONDERS\RYYPond2\Fall2021\Fall Pond and Beach 1-18-22 03:34pm SteveM_KRES: Climax 4C: Sentinel2 LSA image on 2021-11-07: Wheeler Log:



POND DATA SUMMARY	
TAILING POND WATER LEVEL	= 8,870.00 (10/31/21)
TAILING POND WATER STORAGE	= 3,144 AF
WATER POOL SURFACE AREA	= 286 ACRES
AVERAGE NO. 1 DAM CREST ELEV.	= 8,886.2' (12/21)
MIN. NO. 1 DAM CREST ELEV.	= 8,885.0' (12/21)
CREST LINE BENCH ELEV.	= 8,870.0'
PROPOSED DEPOSITION BERM ELEV.	= NA
AVERAGE NO. 3 DAM CREST ELEV.	= 8,885.7' (12/21)
MINIMUM NO. 3 DAM CREST ELEV.	= 8,884.9' (12/21)
NO. 3 DAM CREST LINE BENCH ELEV.	= 8,886.0'
PROPOSED DEPOSITION BERM ELEV.	= NA
MIN. NO. 1 DAM BEACH ELEV. AT 500' LINE	= 8,881.7' (APPROX.)
MIN. NO. 1 DAM BEACH ELEV. AT 900' LINE	= 8,879.2' (APPROX.)
MIN. NO. 1 DAM BEACH ELEV. AT 1,500' LINE	= 8,876.0' (APPROX.)
BARGE - TOP OF PIER ELEV.	= 8,881.52'
BARGE MIN. WSEL (2' CLEARANCE)	= 8,868.16'
ELEV @ 2800 AF CAPACITY (FOR GOLDSIM)	= 8,868.72'

EAST BRANCH RESERVOIR	
EAST BRANCH RES. WATER LEVEL	= 9,028.7' (10/31/21)
EAST BRANCH RES. STORAGE	= 1,601 AF
EAST BRANCH RES. WATER SURFACE AREA	= 55 ACRES
EAST BRANCH RES. FULL CAPACITY (9,038.5)	= 2,190 AF
FLOOD STORAGE CALCULATION (10/31/2021)	
TAILING POND STORAGE CAPACITY AT MIN. CREST ELEVATION - 0.5' FB (8884.0')	= 13,129 AF
TAILING POND SURCHARGE CAPACITY	= 9,985 AF (10/31/21)
EAST BRANCH RES. SURCHARGE CAPACITY (MAXIMUM OF 676 AF)	= 589 AF
TOTAL SYSTEM SURCHARGE CAPACITY	= 10,574 AF
SURCHARGE FLOOD STORAGE REQUIRED	= 3,582 AF
EXCESS CAPACITY	= 6,992 AF
TSF LEVEL AT CREST - 0.5' - 3582 AF (9,547 AF)	= 8,880.43'
TSF HIGH-HIGH WATER LEVEL	= 8,879.2'
(MIN. OF BEACH AT 900' AND LEVEL AT 3582 AF STORAGE)	
TSF HIGH WATER LEVEL (1500' LINE ELEV)	= 8,876.0'
GRI SURFACE AREAS (OCT 2021):	
BEACH AREA (CALCULATED)	= 851 ACRES
(BEACH AREA = TOTAL TSF - DAMS - POOL)	
WATER POOL AREA	= 286 ACRES
3 DAM DOWNSTREAM FACE	= 35 ACRES
1 DAM DOWNSTREAM FACE	= 159 ACRES
TOTAL TSF AREA (BEACH, DAMS, POOL)	= 1,331 ACRES



SURVEY NOTES:
1 DAM BEACH: 10/20/21, 11/15/2021 (DRONE)
3 DAM BEACH: 9/24/21 (DRONE)
POOL BATHYMETRIC: 10/20/21

SURROUNDING TOPOGRAPHY FROM 2019 DRONE SURVEY BY HENDERSON.

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

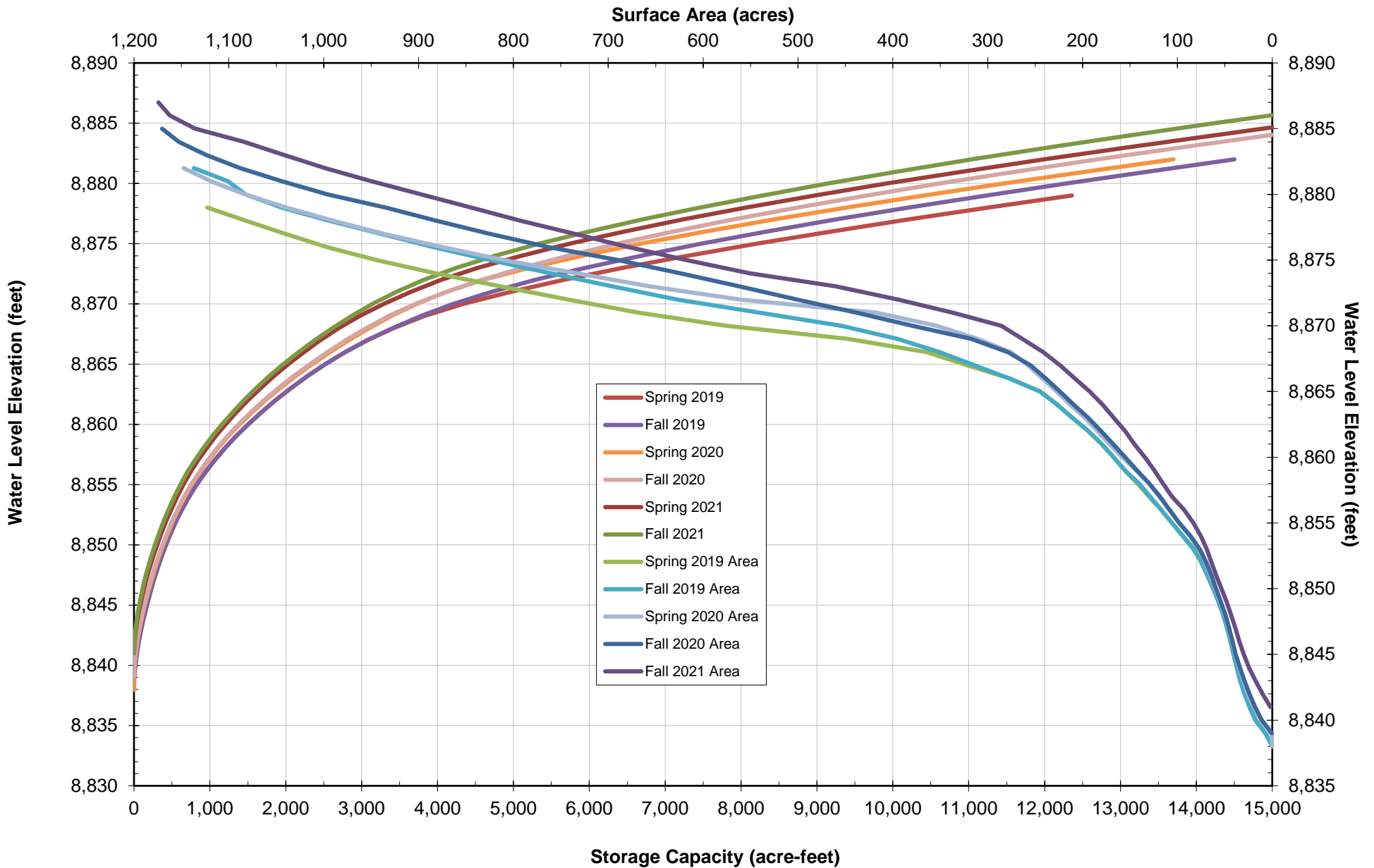


W. W. WHEELER & ASSOCIATES, INC.
Water Resources Engineers

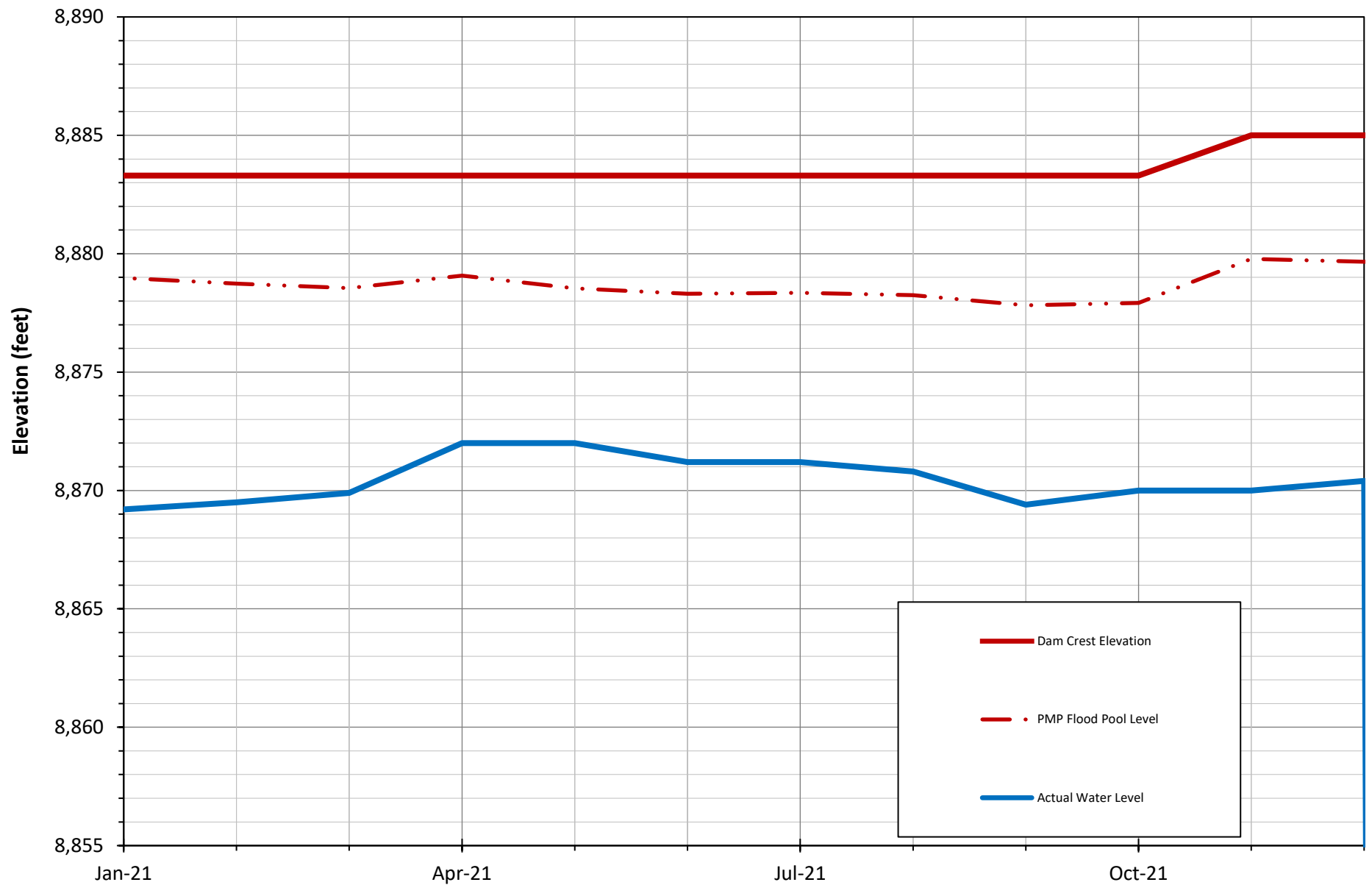
3700 S. INCA STREET
ENGLEWOOD, CO 80110-3405
303-761-4130
FAX 303-761-2802

HENDERSON MILL TAILINGS STORAGE FACILITY		Climax Molybdenum Henderson Mill Parshall, CO		
BEACH AND POND SURVEY	SAA	11/21	SCALE	AS NOTED
FALL 2021 SURVEY	CHECKED BY SMM	11/21		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 Seep Water Return Line Leak-down Test Results

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
Order Type:	MN03	Start Date:	06/01/2021	End Date:	06/03/2021
Priority:	3	Originator:	IP1020210510	Description: PM LEAK DOWN TEST 3 DAM SEEP H2O 1YR	
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 1YR	2			11/2/21
Long Text							
PM LEAK DOWN TEST 3 DAM SEEP H2O 1YR SUPERCEDES: 7/16/20 SUPERVISOR APPROVAL: TnT Supervisor LAST REVEIW DATE: 7/16/20 MAINT PLAN: 7000000912 ===== PROVIDE COPIES TO THE CHEIF ENVIRONMENTAL ENGINEER AND THE TnT SUPERVISOR UPON COMPLETEION. ===== 1. <input checked="" type="checkbox"/> Set up Sterling and a sump pump at 3 Dam pump vault. Pump out vault as needed throughout test. 2. <input checked="" type="checkbox"/> Shut power off to pump in lift station. 3. <input checked="" type="checkbox"/> Shut off ball valves in manhole on west side of road beside I-70 gate and next to the yellow light. 4. <input checked="" type="checkbox"/> Close discharge valve for drain line and overflow line. 5. <input checked="" type="checkbox"/> Fill drain and overflow line with 740 water truck. Use clean water from the water tower.							

6. ☒ Check discharge valves and stand pipes for leaks.
7. ☒ Lock valves (intake and discharge) and read pressure gauge at the discharge valves.

Drain Line Pressure 60 Date/Time 11/2 - 2:00 PM

Overflow Line Pressure 75 Date/Time 11/1 - 2:00 PM

8. ☒ Wait 24 hours and recheck the pressure gauge.
- Drain Line Pressure 60 Date/Time 11/2 - 2:00 PM
- Overflow Line Pressure 75 Date/Time 11/2 - 2:00 PM

9. ☒ If there is not a drop in pressure over 24 hours remove the locks. Open the intake valves first, then the discharge valves. Open the ball valve to the overflow pipe. Restart the 3 Dam seep pump system. If pressure does drop report drop to supervision.

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

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

12. ☒ Write WO for any problems found

Completion Comments

Need New over flow valve

Completed by : Print Name

JE

Signature

053138

Date Completed

11/2/21

Supervisor Reviewer : Print Name

Robert Smith

Signature

[Signature]

Date Completed

11/3/21

MATERIALS

Operation	Component	Description:	Qty	UOM	IC	SS	Location

RETURN MATERIALS

Quantity	Stock or Part	Description:	Name

FOLLOW ALL SAFETY INSTRUCTIONS RELATED TO EACH OPERATION

Attachment D

Henderson Mill Tailing Storage Facility Annual Report



AECOM
7595 Technology Way
Suite 200
Denver, CO 80237
www.aecom.com

303-694 2770 tel
303 694 3946 fax

March 2, 2022

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

Subject: Annual (Year 2021) Tailings Storage Facility Evaluation, Henderson Tailings Storage Facility, Permit No. M-1977-342, Henderson Mill, Colorado

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 (2021) TSF Evaluation as requested. Presented below is a summary of key observations made during 2021.

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 11 to October 31, 2021.

AECOM completed full monthly site inspections of the TSF from May to October 2021. 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 and inclinometer data, as available. 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 2021, a major project completed by Henderson mill personnel was construction of the 3 Dam Crest Raise. As part of normal operations, the crest is raised upstream as required to maintain hydraulic performance of the tailings delivery line. The project involved constructing the next crest raise approximately 70 ft upstream and relocating the tailings delivery line to the new crest road.

No significant issues were identified in 2021 during the EOR site visits. Any maintenance issues during the EOR site visits were discussed with the Henderson tailings operations staff and corrective action plans were developed and implemented.

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 that are reviewed by AECOM on a monthly basis.

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 exceedances. Rate of change alarms are triggered when predetermined elevation changes



Mr. Ron Hickman
Climax Molybdenum Company
March 2, 2022
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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. AECOM reviewed the annual inclinometer data and found movement within the tolerance expected as part of tailings dam construction.

Continued diligence in monitoring embankment construction, decant pond level, 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,

A handwritten signature in black ink, appearing to read "Lisa Yenne". The signature is fluid and cursive, with the first name "Lisa" and last name "Yenne" clearly distinguishable.

Lisa R. Yenne, PE
Project Manager