STATE OF COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

TR 8 Adequacy Response 11-2-2020 - Cross Gold Mine M-1977-410

rmittasch@nedmining.com <rmittasch@nedmining.com> Mon, Nov 2, 2020 at 1:50 PM
To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>

Dear Ms. Eschberger,

Please accept our response to your TR-8 adequacy letter, dated September 1 2020.

I will also be mailing a hard copy to your office, as always

If you have any questions or concerns please do not hesitate to call or write us.

Regards

Richard Mittasch

VP Operations

Grand Island Resources, LLC

TR 8 Adequacy Response 11-2-2020.pdf
3259K

GRAND ISLAND RESOURCES

P.O. Box 3395
Nederland, CO 80466
November 2, 2020

November 2, 2020

Amy Eschberger
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

RE: Cross Gold Mine, Permit No. M-1977-410, Technical Revision No. 8 (TR-08), Preliminary Adequacy Review

Ms Eschberger,

This letter is provided by Grand Island Resources (GIR) in response to the Adequacy Review letter from the Division of Reclamation, Mining and Safety (DRMS) dated September 1, 2020 in conjunction with Permit No. M-1977-410, Technical Revision 8 (TR-08). After reviewing the materials submitted, DRMS identified several adequacy items that require additional information before an approval of TR-08 can be issued. Based on our understanding, these items are summarized as follows (in italics), along with a reply or response from GIR as appropriate:

1) *On Figure 1 – Water Management System, please address the following:*

   a. *Please identify the approved Permit Boundary as such and not as "SWMP boundary".*
   b. *Please identify the location of the discharge point on Coon Track Creek that is monitored under the NPDES permit.*
   c. *Please identify the location of the proposed lime feed and control building.*
   d. *Please clarify if Pond 3C is shown at its current dimensions or at its proposed expanded dimensions.*

For items a, b and c, please see the revised Water Management System map (Water Management System Map 1). d. The new pond 3C fits inside the old pond original footprint, however the banks of the pond have been dug out significantly to allow for more volume.

2) *Figure 1 – Water Management System shows Ponds 3A-C, especially Pond 3A, to be located very close to the approved permit boundary in that area. Does the operator believe there is enough room present around these ponds to complete the rehabilitation project proposed in this revision? Please be advised, any disturbance that occurs outside of the approved permit boundary would be considered offsite damage for which enforcement actions may be pursued. If additional space is required, the permit area must be expanded through the Amendment process.*

GIR believes pond 3A to be very close to the existing permit boundary. As was discussed with DRMS on 9/15/2020, the permit boundary will be amended twice in the coming months. First, GIR is to submit a 'Partial Release of Permit Area' which will reduce the overall permit boundary by 0.40 acres (DRMS Request for Partial Release of Permit Area Map2). Through the upcoming Amendment #2 process, the Disturbance area will then be increased to include additional land to the South West side of Pond 3A, ensuring all ponds are within the permitted area (Proposed Permit Boundary Modifications Map 3).

3) *Please address the following items regarding the sludge present in Ponds 3B and 3C:*

a. *On page 4, the operator states there is a small amount of sludge settled in the bottom of Ponds 3B and 3C that was left over from treatment 34 years ago. Please provide an estimated volume for the sludge present in these ponds.*

The sludge has been removed and is stored in "super sacks" on-site. There are 10 "super sacks" that are approximately half full. Estimated volume is 20 cubic ft per sack for a total of 200 cubic feet.

b. *On page 4, the operator states that multiple samples (of the sludge) have been tested through Colorado Analytical for their metals concentration as well as toxicity. The laboratory results provided appear to be for a composite sample. However, the operator does not specify how many samples were collected from the sludge in each pond, and how the sampling plan was developed to sufficiently characterize this material. Please provide more details on the sampling process utilized and how this process produced representative samples for adequately characterizing the sludge.*

Composite samples taken on 7/6/2020 were sampled from a variety of locations and depths in ponds 3B and 3C. The Operator was directed by the Laboratory to run 503 Sludge Analysis on the samples. However, this was not the correct analysis. The 503 analysis is for residential or municipal biosolid waste and not applicable for the sludge in question.

c. *The laboratory results provided for the sludge show a total lead concentration of 253.8 mg/kg, which is more than 20 times the toxicity characteristic leaching procedure (TCLP) regulatory limit. To be exact, the lead concentration in the sludge is 153.8% more than 20 times theTCLP limit for lead, which is 100 mg/kg. This means the sludge may be a hazardous waste and should be handled as such until further testing, using the TCLP analysis, confirms the waste's toxicity characteristic results. Please commit to collecting representative samples of the sludge, having a TCLP metals test run on these samples for arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver, and reporting the results of the TCLP test(s) to the Division prior to handling the sludge.*

At the direction of DRMS (after a conversation had on-site on 9/15/2020) GIR took samples from all 10 individual "super sacks" of material. The samples were taken from three different levels to get a representative, composite sample from each sack. See pictures for sampling techniques. Each sample was analyzed with the TCLP method and all of the results are well below EPA thresholds. (Colorado Analytical Lab reports attached) (Attachment 1).

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November 2, 2020

Figure 1 Super Sacks labeled to identify composite samples

Figure 2 Super Sacks labeled to identify composite samples

Figure 3 Sampling Super Sacks from multiple layers

d. *Please provide a disposal plan for the sludge in the event the TCLP results indicate the material is a "toxicity characteristic" hazardous waste. The operator may wish to contact the Hazardous Materials and Waste Management Division of the Colorado Department of Public Health and Environment to determine proper disposal of this type of waste.*

TCLP lab analysis conducted on 9/24/2020 showed our sludge to be a non-hazardous material. CDPHE's *Solid Waste Compliance Assurance Unit* confirmed that our sludge is not a regulated hazardous waste and can be disposed of at any solid waste landfill. GIR has contacted Republic Services and identified the landfill in Golden, CO as the preferred landfill for disposal. Prior to acceptance, Republic has requested additional analysis on the sludge:

a. VOC's and SVOC's (submitted 10/27/2020)
b. TENORM (submitting 11/2/2020)
    i. Combined Radium Ra-226 and Ra-228
    ii. Uranium U-nat
    iii. Thorium Th-232

Based on historical and current data, GIR believes the additional testing will meet the landfill requirements. At that time, Republic will provide an approved waste profile and manifest for transport.

4) *Please provide a maintenance plan for the sediment ponds, including inspection frequency, sludge removal and disposal, vegetation management, and monitoring the condition of inlet/outlet pipes and other associated infrastructure.*

GIR's maintenance plan is as follows:

a. Clean sludge from liners as needed. Previous ponds only required cleaning once in 30+ years.
    i. Procedure to clean sludge from ponds:

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a. Stop flow to pond (water can temporarily be stored in mine)
b. Remove sludge using shovels, buckets and squeegees
c. Store in super sacks for lab analysis
d. Pending lab analysis, dispose of accordingly
e. Patch repair any holes in liner

b. Liners inspected weekly (Pond Maintenance/Inspection Checklist Attachment 2)
c. Vegetation management – To be monitored weekly as part of the maintenance/inspection program (Attachment 2).

5) *Please provide a reclamation plan for the sediment ponds and associated infrastructure. Will the liners on the ponds be removed, and the ponds backfilled, retopsoiled, and revegetated? Will the pipelines, sheds, and other associated infrastructure be removed for reclamation? Do the sheds have concrete foundations or any other permanent features which will require demolition for reclamation? Are there any portions of the pipeline which are buried and require excavation for reclamation? If the operator proposes leaving any features and/or structures for reclamation, please describe how this would be consistent with the approved post-mining land use of forestry with minor residential use, and with county land use and zoning regulations.*

The liners on the pond will stay in place and be used as part of the future storm water management system. The water monitoring shed will be leveled. It has a foundation made of cinder blocks and poured concrete (Attachment 3) that will be backfilled. There is a run of pipe that is partially buried that would require excavation for reclamation. Removing and disposing of the pipe will be done in-house at minimal cost and impact.

6) *Please provide estimated costs for reclaiming the features/structures described in Item #5 above, including approximate material volumes, haul distances, dimensions of structures to be removed/demolished, and the approximate distance to any proposed disposal location(s) on and/or off site. This information is necessary for the Division to calculate the required financial warranty for reclaiming these features/structures.*

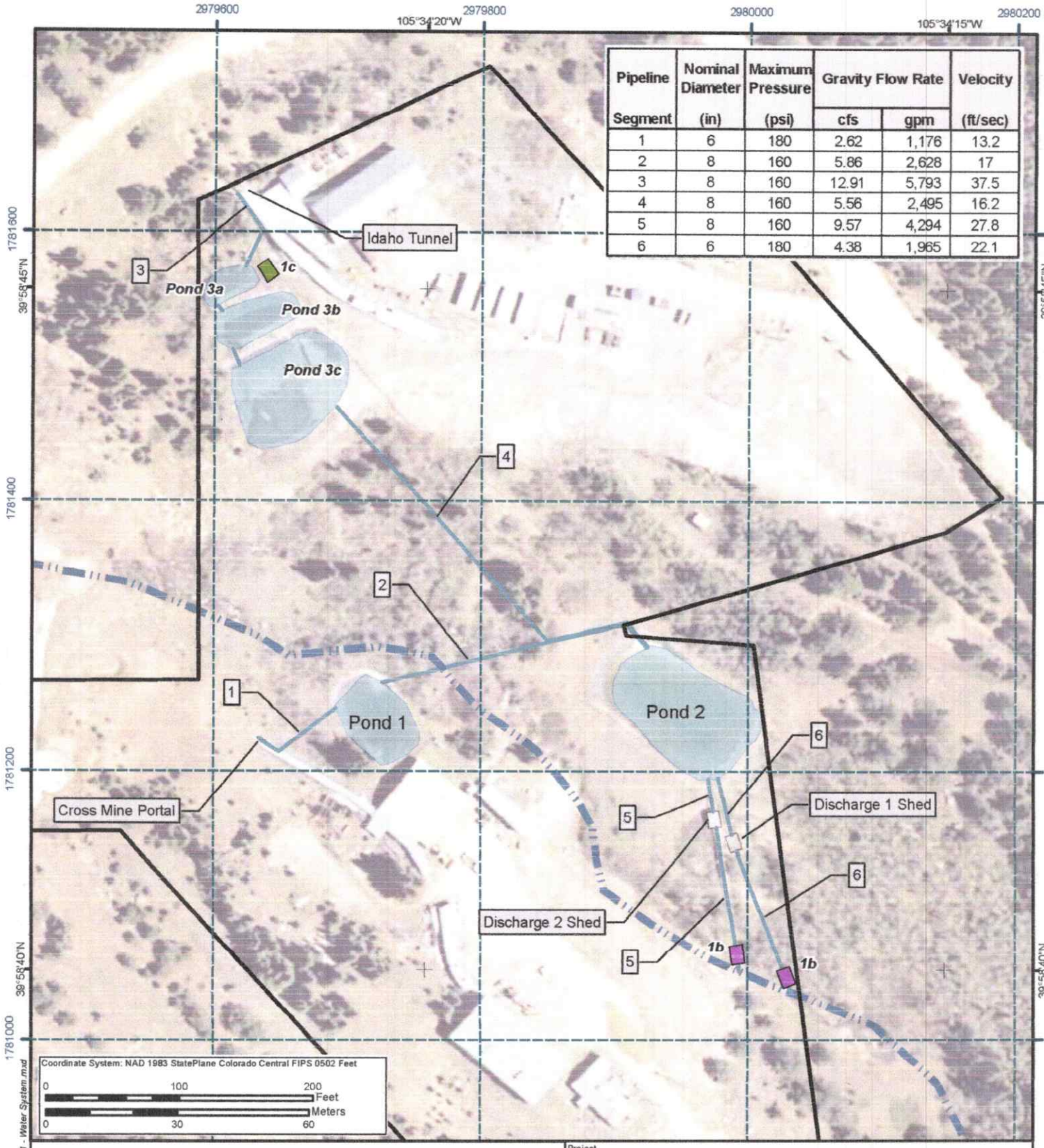
1. Reclamation Cost Estimates
   a. Liners to stay in place - $0
      a. Clean sludge and dispose of. Based on current sludge removal, “cradle to grave” estimate is $3,000.
   b. Level and backfill water shed - $1,500
   c. Excavate and remove up 10” driscoll pipe and 8” SDR 35 (estimated length 300’) $2,500
   d. Total Reclamation estimate $7,000

Should you have any additional questions or concerns please feel free to contact me at (516) 582-0833 or by email at Rmittasch@nedmining.com at your convenience.

Sincerely,

Richard Mittasch
VP of Operations
Grand Island Resources, LLC

Map 1



Pipeline Segment	Nominal Diameter (in)	Maximum Pressure (psi)	Gravity Flow Rate cfs	Gravity Flow Rate gpm	Velocity (ft/sec)
1	6	180	2.62	1,176	13.2
2	8	160	5.86	2,628	17
3	8	160	12.91	5,793	37.5
4	8	160	5.56	2,495	16.2
5	8	160	9.57	4,294	27.8
6	6	180	4.38	1,965	22.1

Legend

- Approved Permit Boundary (1a)
- Coon Track Creek
- Waterline
- Pond
- Discharge Shed
- Discharge Location (1b)
- Caribou Water Monitoring Shed (1c)

Project: Cross Mine Technical Revision No. 8

Title: **Water Management System**

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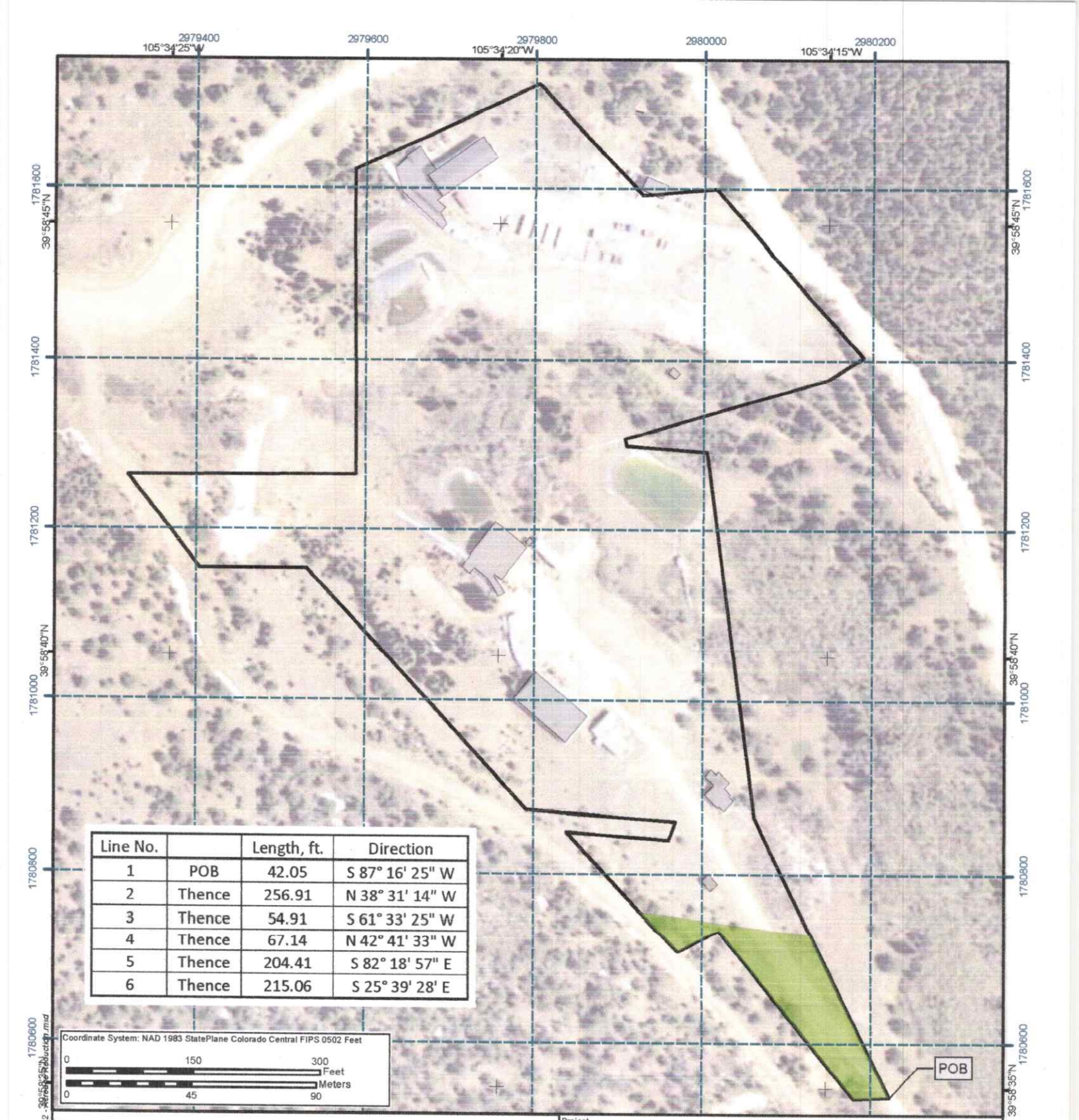
Project No. US 0401			File No.	
GIS:	JST	10/30/20	Scale As Shown	Rev 0
Check:	JST	10/30/20	Map 1	
Review:	JST	10/30/20		

Path: G:\Projects\Wederland\ArcMap\DRMS\TR8\Map 1 - Water System.mxd

Map 2



Line No.		Length, ft.	Direction
1	POB	42.05	S 87° 16' 25" W
2	Thence	256.91	N 38° 31' 14" W
3	Thence	54.91	S 61° 33' 25" W
4	Thence	67.14	N 42° 41' 33" W
5	Thence	204.41	S 82° 18' 57" E
6	Thence	215.06	S 25° 39' 28" E

Coordinate System: NAD 1983 StatePlane Colorado Central FIPS 0502 Feet

0 150 300 Feet

0 45 90 Meters

Legend

- Proposed Permit Removal Area (0.40 ac)
- Permit Boundary - Original (9.36 ac)

Project

Cross Mine Technical Revision No. 8

Title

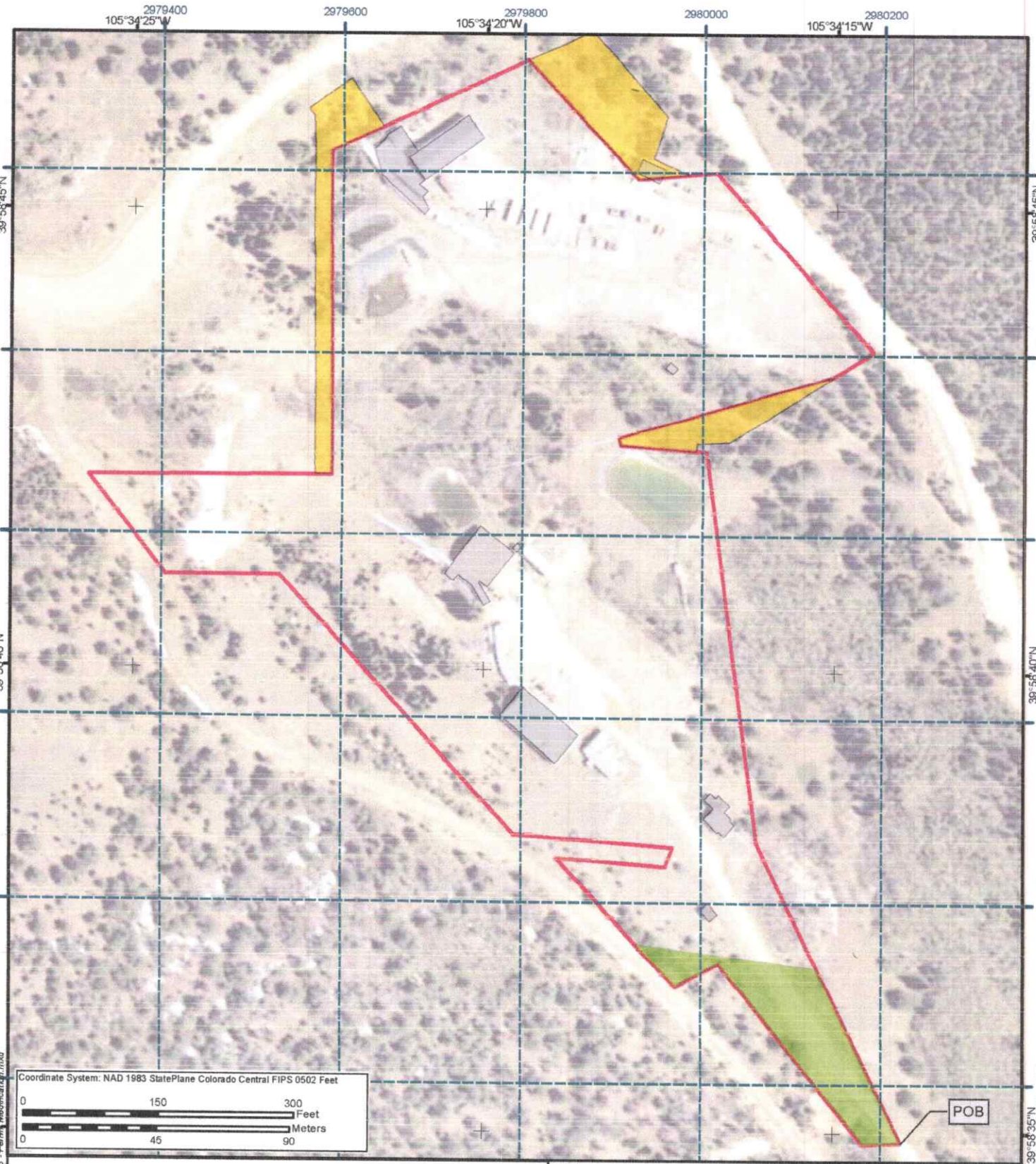
Division of Reclamation, Mining and Safety
Request for Partial Release of Permit Area

GRAND ISLAND RESOURCES

Project No. US 0801			File No.	
GIS:	JST	10/30/20	Scale As Shown	Rev 0
Check:	JST	10/30/20	Map 2	
Review:	JST	10/30/20		

Path: G:\Projects\Vedder\and\ArcMap\DRMS\TR8\Map 2 - Release\Reduction.mxd

Map 3



Legend

- Permit Boundary - Original (9.36 ac)
- Proposed Expansion Areas (0.65 ac)
- Proposed Permit Removal Area (0.40 ac)

Project: Cross Mine Technical Revision No. 8

Title: **Proposed Permit Boundary Modifications**

GRAND ISLAND RESOURCES

Project No. US 0801			File No.	
GIS:	JST	10/30/20	Scale As Shown	Rev 0
Check:	JST	10/30/20	Map 3	
Review:	JST	10/30/20		

Path: G:\Projects\Nederland\ArcMap\DRMS\TR8\Map 3 - Permit Modification.mxd

Attachment 1

Colorado Analytical LABORATORIES, INC.

Analytical Results

Report To: Daniel Pollock
Company: Grand Island Resources LLC
PO Box 3395
Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #1
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-01
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**74.415 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.861 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0370 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.3532 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

ASA = "Methods of Soil Analysis, Parts 1 and 2", Second Edition, American Society of Agronomy and Soil Science Society of America, Madison, WI, 1982.
SW-846 = "Test Methods for Evaluating Solid Waste", USEPA, November 1986
AB-DTPA = "Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity", Colorado State University Technical Bulletin LTB88-2; Jan 1998; SM Workman, PN Soltanpour and RH Follett.

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Report To: Daniel Pollock
Company: Grand Island Resources LLC
PO Box 3395
Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID **Caribou Pond Sludge #2**
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-02
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**81.915 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.697 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0317 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.4641 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**0.0008 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

ASA = "Methods of Soil Analysis, Parts 1 and 2", Second Edition, American Society of Agronomy and Soil Science Society of America, Madison, WI, 1982
SW-846 = "Test Methods for Evaluating Solid Waste", USEPA, November 1986
AB-DTPA = "Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity", Colorado State University Technical Bulletin LTB98-2, Jan 1998, SM Workman, PN Soltanpour and RH Follett

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Analytical Results

Report To: Daniel Pollock
Company: Grand Island Resources LLC
PO Box 3395
Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #3
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-03
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**73.956 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.555 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0475 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.3849 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

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SW-846 = "Test Methods for Evaluating Solid Waste", USEPA, November 1986
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Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #4
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-04
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**91.343 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.709 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0411 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.3840 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

ASA = "Methods of Soil Analysis, Parts 1 and 2", Second Edition. American Society of Agronomy and Soil Science Society of America. Madison, WI. 1982
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Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #5
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-05
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**83.563 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.836 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0158 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium		0.03	SW-846-6020	10/1/20	IPC
Lead	**0.1344 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**0.0007 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

ASA = "Methods of Soil Analysis, Parts 1 and 2", Second Edition, American Society of Agronomy and Soil Science Society of America, Madison, WI, 1982.
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Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #6
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-06
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**87.240 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**1.054 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0200 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.1714 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

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Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #7
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-07
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**73.604 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.863 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0304 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.2600 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

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Analytical Results

Report To: Daniel Pollock
Company: Grand Island Resources LLC
PO Box 3395
Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #8
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-08
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**74.808 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.939 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0355 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.3575 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

ASA = "Methods of Soil Analysis, Parts 1 and 2", Second Edition, American Society of Agronomy and Soil Science Society of America, Madison, WI, 1982.
SW-846 = "Test Methods for Evaluating Solid Waste", USEPA, November 1986
AB-DTPA = "Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity", Colorado State University Technical Bulletin LTB88-2; Jan 1998; SM Workman, PN Soltanpour and RH Follett.

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Colorado Analytical LABORATORIES, INC.

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Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #9
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-09
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**79.231 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.936 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0248 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.2919 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	0.1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

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Analytical Results

Report To: Daniel Pollock
Company: Grand Island Resources LLC
PO Box 3395
Nederland CO 80466

Task No: 200925048
Date Received 9/25/20
Reported: 10/6/20
Client PO:
Client Project: Caribou Ponds

Customer Sample ID Caribou Pond Sludge #10
Sample Date/Time: 9/24/20 2:00 PM

Lab Number: 200925048-10
Matrix: TCLP Extract

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
As Received Basis					
Total Solids	**78.246 %**	0.001	SM 2540-G	9/26/20	MBN
TCLP Metals					
Arsenic	**< 0.012 mg/L in Extract**	0.012	SW-846-6020	10/1/20	IPC
Barium	**0.687 mg/L in Extract**	0.032	SW-846-6020	10/1/20	IPC
Cadmium	**0.0239 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Chromium	**< 0.03 mg/L in Extract**	0.03	SW-846-6020	10/1/20	IPC
Lead	**0.2543 mg/L in Extract**	0.0012	SW-846-6020	10/1/20	IPC
Mercury	**< 0.1 mg/L in Extract**	1	SW-846 7471	10/1/20	IPC
Selenium	**< 0.016 mg/L in Extract**	0.016	SW-846-6020	10/1/20	IPC
Silver	**< 0.0006 mg/L in Extract**	0.0006	SW-846-6020	10/1/20	IPC

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Chain of Custody Form

Colorado Analytical LABORATORIES, INC

Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

Lakewood Service Center
12860 W. Cedar Dr, Suite 100A
Lakewood CO 80228

Phone: 303-659-2313

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	Project Name / Number
Company Name: LARAMA ISLAND RESOURCES	Company Name:	CARIBOU
Contact Name: DANIEL POLLOCK	Contact Name:	PONAS
Address: P.O. BOX 3395	Address: SAME	Task Number (Lab Use Only)
City NEDERLAND State CO Zip 80466	City State Zip	CAL Task 200925048
Phone: 720. 207. 5154	Phone:	ARF
Email: DPOLLOCK@NEDMINING.COM	Email:	
Sample Collector: DANIEL POLLOCK		
Sample Collector Phone: SAME	PO No.:	

Sample Matrix (Select One Only)			Date	Time	Sample ID	No. of Containers	Grab	Composite	Tests Requested: TCLP
Waste Water ☐	Soil ☐	Drinking Water ☐							
Ground Water ☐	Sludge ☑								
Surface Water ☐			9/24/20	2:00P	CARIBOU PONA SLUDGE #1	1		✓	✓
					" " #2	1		✓	✓
					" " #3	1		✓	✓
					" " #4	1		✓	✓
					" " #5	1		✓	✓
					" " #6	1		✓	✓
					" " #7	1		✓	✓
					" " #8	1		✓	✓
					" " #9 (b)	1		✓	✓
					" " #10	1		✓	✓

Instructions: * PROCESS CONTROL ONLY * NOT TO REPORT TO ANY AGENCY

C/S Info:

Deliver Via: UPS

C/S Charges ☒ S

Seals Present Yes ☐ No ☑

Temp. 0.9 °C/Ice Y

Sample Pres. Yes ☐ No ☒

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
DLP	9/24/20 3:00A		9/25/20 13:55				

Attachment 2

GRAND ISLAND
RESOURCES

P.O. Box 3395
Nederland, CO 80466
October 22, 2020

Pond Maintenance/Inspection Checklist

Pond:_____ Date:_____ Inspected By:_____

General Observations

Is water Flowing: Y or N Depth:_____

Evidence of obstruction or erosion that would affect the performance of the pond: Y or N

Pond/Line Conditions

Any holes or signs of liner cracking/deterioration: Y or N

Do embankments or side slopes show any erosion or instability: Y or N

Any evidence of animal activity: Y or N

Any evidence of vegetation encroaching the liner: Y or N

Any accumulation of trash, leaves or debris: Y or N

Structural Components/Conditions

Are the pipes/inlets/outlets clogged or otherwise obstructed: Y or N

Is the Screen free of debris: Y or N

Is there any sign of leaking/exfiltration: Y or N

Is there build-up of sludge that needs to be cleaned: Y or N

Inspection Notes and/or Action Items:

_____

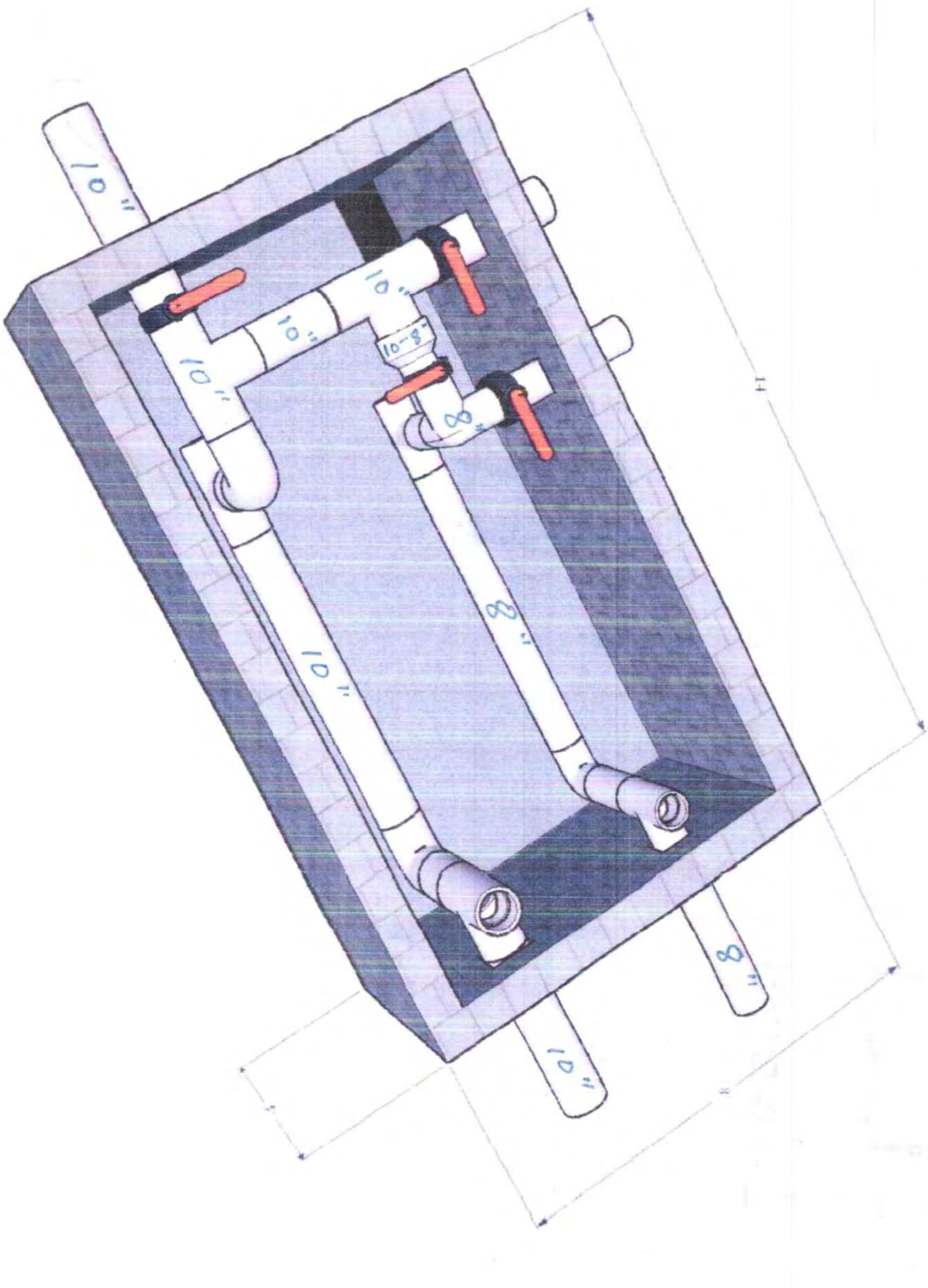
_____

_____

_____

_____

Attachment 3


10"
10"
10"
10"
10-8"
8"
8"
10"
8"
10"