



MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Green/Croissant Property Sand and Gravel M	MINE/PROSPECTING ID#: M-2001-022	MINERAL: Sand and gravel	COUNTY: Weld
INSPECTION TYPE: Monitoring	INSPECTOR(S): Jared Ebert	INSP. DATE: May 20, 2021	INSP. TIME: 09:30
OPERATOR: Loveland Ready-Mix Concrete, Inc.	OPERATOR REPRESENTATIVE: Stephanie Fancher-English	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Citizen Complaint (CT01)	BOND CALCULATION TYPE: None	BOND AMOUNT: \$209,700.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: May 28, 2021	

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Backfilling & Grading

PROBLEM: DRMS does not have documentation the slopes below the water surface of Cell No. 4 are backfilled and graded to the required 3H:1V ratio in accordance with the reclamation plan.

CORRECTIVE ACTIONS: Provide documentation the slopes below the water surface of Cell No. 4 have been backfilled and graded to the required 3H:1V ratio by the corrective action date.

CORRECTIVE ACTION DUE DATE: 7/30/21

OBSERVATIONS

This was an inspection of the Green/Croissant Property Sand and Gravel Mine, operated by Loveland Ready-Mix Concrete, Inc. (LRM), permit number M-2001-022. I, Jared Ebert with the Colorado Division of Reclamation, Mining and Safety (Division or DRMS) conducted the inspection. On April 7, 2021, DRMS received a complaint from Jamie and Dustin Christensen regarding the site. In response to the complaint, Peter Hays with DRMS conducted an inspection on May 5, 2021. After the May 5, 2021 inspection, that afternoon, Jamie and Dustin Christensen filed another complaint through the DRMS website regarding the DRMS inspection among other things. I acknowledged the receipt of the complaint and on May 12, 2021, Mr. and Mrs. Christensen requested that I inspect the site. This inspection was conducted in response to this request and to assess the site conditions given the nature of the Christensen's concerns. I met with Mr. and Mrs. Christensen on the north side of Cell No.4 at 09:30. Between 09:30 and about 11:30, the Christensen's and I walked around Cell No. 4 and discussed their concerns while I made observations and took slope measurements. After meeting with the Christensen's, I met with Stephanie Fancher-English with LRM between about 11:30 and 12:30. Mrs. Fancher-English and I also traversed the site.

Acid And Toxic Materials:

The Christensen's noted in their May 12, 2021 email a white substance observed in the water along the south shore where LRM placed concrete rip-rap in 2019. These white spots were observed. DRMS believes these white spots are fine sediment from the backfilled material and rip-rap. The water table is not far below the ground surface given the wetland type vegetation observed west and south of the Cell No. 4 lake. Groundwater is flowing into the lake and likely collecting fine sediment from the more porous rip-rap and settling out into the pond. The Christensen's indicated they plan to take water samples of the area and have them tested to evaluate possible impacts to water quality. I requested they share their results with the Division as well as their sampling plan.

Hydrologic Balance

A spring was noted near the northwest corner of the lake where groundwater was observed seeping into the lake. In addition it appears a drain pipe has been installed on the west side of the lake where water from the adjacent wetland flows into the lake. The location of the spring and the drain are depicted on the enclosed map.

Backfilling and Grading:

The Christensen's do not believe LRM has backfilled and graded Cell No. 4 to the required 3H:1V ratio. LRM provided a survey map to the Division on both July 23, 2019 and on April 15, 2021. LRM believes these maps document the above water slopes have been graded to the required 3H:1V ratio. The Christensen's recently had a type of survey conducted of the Cell No. 4 area. The Christensen's provided two site maps depicting the overall results of their survey (copies are enclosed with this report). According to the Christensen's, the red areas depicted on the maps are points they believe are steeper than 3H:1V. The Christensen's survey also included a number of other images they showed me during the inspection that provides greater detail and resolution to the imagery maps provided to DRMS. I requested that the Christensen's provide DRMS with the results of this survey.

Prior to conducting the inspection, using ArcMap, version 10.3.1, I generated fifteen random points around the Cell No. 4 lake shore. During the inspection, I navigated to each of the fifteen points and measured the

angle of the slope from the waterline to the top of the slope using a Suunto Clinometer. Enclosed is a map depicting the sample points. The results of these measurements are below:

Sample Point	% Slope
0	37%
1	13%
2	33%
3	20%
4	26%
5	15%
6	27%
7	27%
8	13%
9	23%
10	36%
11	33%
12	23%
13	16%
14	18%

Thirteen out of the fifteen slope measurement were found to be less than or equal to the required 3H:1V ratio. Two sample points (Points 0 and 10), yielded results steeper than 3H:1V and were closer to 2.65H:1V. Slight variations in slope such as this is to be expected and many of the slopes were much less steep than the required 3H:1V ratio. Based on the evidence submitted by LRM and the measurement taken by DRMS, it appears the slopes above the waterline of Cell No. 4 have been graded in accordance with the reclamation plan. LRM's survey maps only documents the above waterline slopes. The below waterline slopes appear to be fairly gentle, however DRMS could not measure the slopes below the waterline. LRM will need to demonstrate the slopes below the waterline have been graded to the required 3H:1V ratio. **This issue is cited as a problem at the beginning of this report.** A small six to twelve inch cut has developed where the slope intersects the lake water surface. This is not atypical for an open groundwater pond and will likely stabilize as vegetation continues to establish.

Other:

The Christensen's discussed some improvements they would like to make to their property, such as the building of a home, the construction of a new road, the planting of trees, and the installation of several recreational type facilities. When the Green/Croissant Property Sand and Gravel Mine was permitted in 2001/2002 the post mine land use for the entire site included various aspects, including limited residential development. Given this, the construction of a home would be in keeping with those original plans. LRM has indicated they would work with the Christensen's on a defined plan of the improvements and would be willing to file a Technical Revision to the reclamation plan to facilitate these improvements as long as they are clear and defined. This issue is a private matter between LRM and the Christensen's and DRMS has no regulatory authority to require LRM to file a Technical Revision but encourages both parties to come to an agreement.

Reclamation Success:

The Christensen's expressed concerns about the timing of reclamation. Based on DRMS records, the last date

of excavation occurred at the site was November 1, 2017. Given this, per Rule 3.1.3, LRM has until November 1, 2022 to complete reclamation. Based on the condition of the site and the current level of vegetation establishment, the Division has no reason to believe LRM has not been diligent in completing reclamation. Overall, it appears the steps of reclamation has been completed at this site and once the vegetation has established in accordance with Rule 3.1.10, the Cell No. 4 area will be eligible for release.

Revegetation:

LRM has recently reseeded and mulched several areas around the Cell No. 4 lake area. Some grassy vegetation has begun to germinate in this area but is not well developed to date. Otherwise, the remaining portions of the affected land have fairly dense grass established. While it is a little early in the season, it appears several types of wheatgrasses have established primarily. The Christensen's are concerned about the amount of Kochia that has grown at the site over the last few years. It does appear Kochia is beginning to germinate in areas around the Cell No. 4 lake. The Christensen's mentioned they were concerned about the frequency of mowing at the site to control weeds, especially Kochia. The permit for this site does not require LRM to mow for weed control at a specific frequency. Overall, the vegetation established at the site is in keeping with what would be expected for an alluvial mining/reclamation operation with only two or three growing seasons since the initial seeding. Given the drought conditions last year, it is to be expected that reseeding/inter-seeding would be necessary. While Kochia can be a nuisance, it is not a state listed noxious weed, and given the amount of grassy vegetation established, the density of Kochia should diminish.

Slides and Other Damage:

The Christensen's pointed out several low spots in the affected area where water has pooled. They called these areas "sink holes". There are some small depressions particularly along the western side of the lake. Some of these areas were holding water likely due to the recent precipitation and appeared to be about a half a foot to two feet deep. These areas were not of significant size and some of them may be the result of vehicle's driving over them during moist conditions. Along the southern shore, in the southwest corner of Cell No. 4 one small crack in the soil just above the water line was observed (see Figure 5). This crack may be the expansion of the crimping line when the area was mulched. LRM should monitor this area to insure the crack does not expand.

The Christensen's pointed out a culvert that protrudes into the adjacent Big Thompson River from the Cell No. 4 area. According to Mrs. Fancher-English this culvert was used as a discharge point for the dewatering operation during when the site was being excavated. Mining is complete at the site and therefore the culvert should no longer be used for that purpose. There is a basin that formed below the culvert, however the basin and the slopes around the culvert were vegetated and appeared stable.

PHOTOGRAPHS



Figure 1. From the northwest corner of the site looking south.



Figure 2. "Sink Hole" or depression near the northwest corner of the site.



Figure 3. Recently reseeded area on the west side of the site.



Figure 4. From the southwest corner of the site looking east.



Figure 5. Small crack in the southwest corner of Cell No. 4.



Figure 6. "White Spot" along southern shore where water is likely seeping in from the adjacent wetland through the concrete rip-rap depositing fine sediment.



Figure 7. From the southeast corner of the site looking west. Recently reseeded slopes.



Figure 8. From the southeast corner of the site looking north.

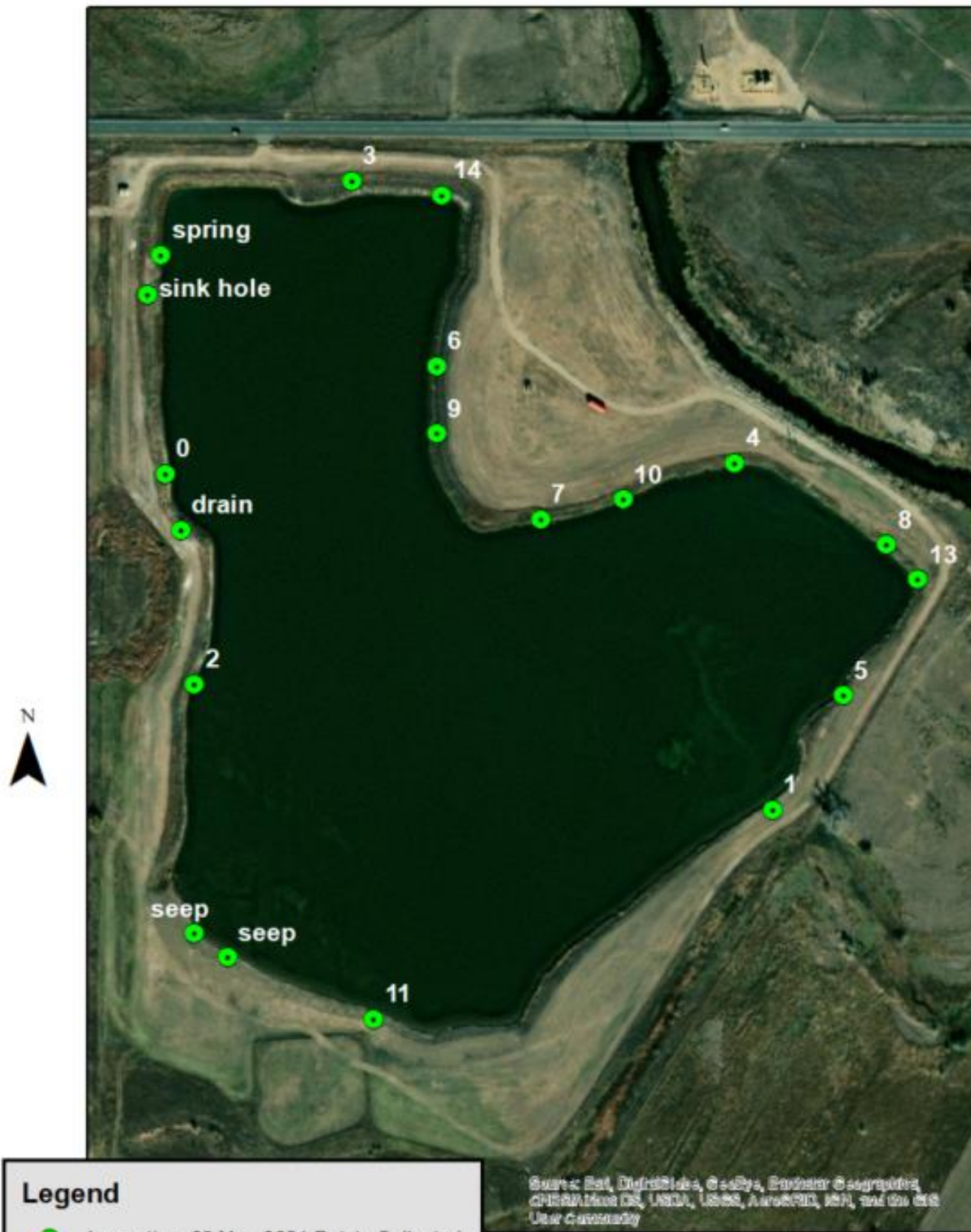


Figure 9. Culvert from the Cell No. 4 area to the Big Thompson River.



Figure 10. View from near the northwest corner of the Cell No. 4 looking east.

Green/Croissant Property Sand and Gravel Mine - M-2001-022
20 May 2021 - DRMS Inspection



Legend

- Inspection, 20 May 2021 Points Collected Citations

0 125 250 500 Feet

Data Collected 20 May 2021
Map Created 25 May 2021
Jared Ebert, DRMS

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS----- <u>N</u>	(FN) FINANCIAL WARRANTY----- <u>N</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>C</u>	(BG) BACKFILL & GRADING----- <u>PB</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>N</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>Y</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited C = Comment

Inspection Contact Address

Stephanie Fancher-English
Loveland Ready-Mix Concrete, Inc.
P.O. Box 299
Loveland, CO 80539

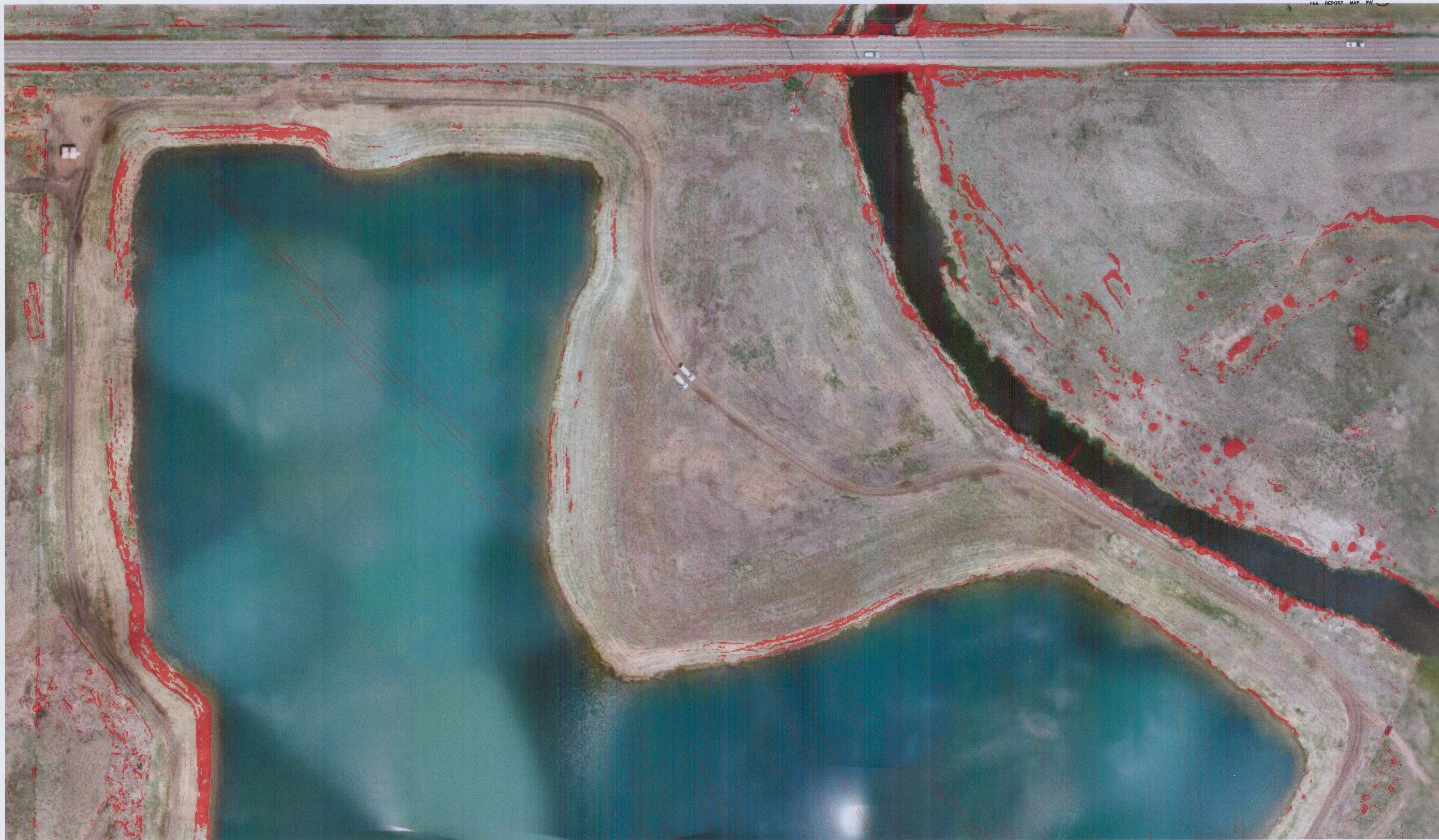
Enclosure: 1.) Two survey maps provided by the Christensen's during the May 20, 2021. Inspection.

EC: Jamie and Dustin Christensen, JAM2FINANCE@yahoo.com

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MAY 20 2021

DIVISION OF RECLAMATION,
MINING & SAFETY-MINERAL
FEE-REPORT-MAP-PW



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