COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

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: Lyster Pit	**MINE/PROSPECTING ID#:** M-2008-009	**MINERAL:** Sand and gravel	**COUNTY:** Moffat
INSPECTION TYPE: Monitoring	**WEATHER:** Clear	**INSP. DATE:** August 21, 2024	**INSP. TIME:** 09:00
OPERATOR: Oldcastle SW Group, Inc. dba United Compa	**OPERATOR REPRESENTATIVE:** Jesse Farmer	**TYPE OF OPERATION:** 112c - Construction Regular Operation	
REASON FOR INSPECTION: Citizen Complaint	**BOND CALCULATION TYPE:**	**BOND AMOUNT:** $214,270.00	
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None	
INSPECTOR(S): Hunter Ridley	**INSPECTOR'S SIGNATURE:** Hunter Ridley	**SIGNATURE DATE:** August 30, 2024	

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: Right of Entry
PROBLEM/POSSIBLE VIOLATION: Problem: Failure to maintain legal right of entry per Rule 6.3.7.
CORRECTIVE ACTIONS: The permittee/operator must provide proof of legal right to enter and conduct mining and reclamation operations.
CORRECTIVE ACTION DUE DATE: 11/30/24

OBSERVATIONS

On July 18, 2024 the Colorado Division of Reclamation Mining, and Safety (Division) received a citizen's complaint (CT-01) from a Mr. Brad Ocker. Mr. Ocker is an adjacent landowner to the Lyster Pit, File No. M-2008-009. Mr. Ocker's field is located to the east of the Lyster Pit. The complainant claims that his land adjacent to the gravel pit has received an excess of water flow from the mine, creating springs and a pond on his field which have not historically been there. The complainant claims that the standing water has affected his field's ability to sustain grasses and has promoted noxious weed growth. During this inspection, the Permittee (Oldcastle SW Group, Inc. dba United Companies) was represented by Jesse Farmer. The complainant, Brad Ocker, was in attendance for the inspection, along with the landowner of the mine site parcel, Chris Martin.

A site map (Figure 4) has been included at the end of this document and has been cited throughout the discussion in this report.

Site History

On October 14, 2020, the Division cited a Possible Violation via a Reason To Believe (RTB) letter for exposed groundwater at the site and for possible offsite damage related to the inundation of the northwest portion of the Mr. Ocker's field. On September 17, 2020, the Division conducted an inspection of the Lyster Pit. During the inspection, the Division met with the adjacent landowner, Brad Ocker to discuss his concerns with saturated soils in his field. The Division observed that Mr. Ocker's field was inundated in the northwest corner and was infested with Arrow Grass. Within the permit boundary and in Mr. Ocker's field, the Division observed standing water. This area is illustrated below in Photo 1, which was taken directly from the Division's 2020 inspection report. Within this area, there is a ditch that runs north-south along the eastern side of the previous permit boundary line/ property line. The northern portion of this ditch was submerged in water while the remaining length of the ditch was heavily vegetated, but drier towards the south as the land slopes northwest. No formal citizen's complaint was submitted to the Division at the time of this investigation.

On November 13, 2020, Oldcastle SW Group, Inc. dba United Companies provided Mr. Ocker and the Division with copies of a response letter to the October 14, 2020 RTB letter. This document contained a summary and report on hydrologic functions at the Lyster Pit site (attached below). This report documented a history of the site's groundwater hydrology, as investigated by the Division during the original permitting of the mine site in 2008 and as reviewed in the context of current inundated conditions. The report includes photographs taken from the Division's pre-operation inspection of the proposed mine site on April 10, 2008. These photographs show standing water located in the northwest corner of the site. As stated in the report, historic Google Earth imagery back to 2004 also shows the northwest corner area under standing water on both what is now Mr. Martin and Mr. Ocker's properties. The report summarized piezometer data collected over time at the site, which show that high groundwater levels are frequent across the mine site area. Compared with de-watering timelines, high groundwater levels were shown to persist even in times of de-watering activity, especially in well GW-4, which is located slightly west of the east ditch, ~ 200 ft from Hwy 394 and within the saturated area. Topographic data shows that the grade of the east side ditch is relatively flat. Combined with an overgrowth of vegetation, it is fair to conclude that drainage and or infiltration of stormwater in this area is not overly effective and thus, would produce standing water in times of excess stormwater. In this report, United Companies committed to mowing of the vegetated ditch to support drainage on this east ditch and try to alleviate standing water in the area. Technical Revision 3 (TR-3) incorporated the Operator's commitment to maintain the east ditch.

In response to this hydraulic summary, the Division notified the Operator the sufficient evidence had been provided to show that the standing water within the permit boundary and neighboring property was not exposed groundwater. Rather, this was standing stormwater produced due to natural hydrologic conditions and not as a result of mine activities. Therefore, no impacts to hydrologic balance or off-site impacts had occurred. The Possible Violation was thus withdrawn by the Division on November 24, 2020.

Site Observations August 21, 2024

Backfilling and Grading: The permit acreage was reduced to 60 acres in 2021 under Acreage Reduction 2 (AR-2). The small corner of the permit acreage owned by Mr. Ocker through a utility easement was also released as part of the AR-2 revision. A groundwater pond was observed on the eastern side of the permit, which has now been released. A visual berm approved to remain in the northeast corner of the permit boundary as a result of TR2 in 2011 was also observed. All backfill and grading work has been completed in the unreleased portion of the permit (Photo 3). Only final seeding of the area remains to complete final reclamation. The reclamation plan calls for revegetation to pastureland. Currently, the unreleased portion of the permit

contains a smaller graded pond adjacent to the larger, released groundwater pond. This smaller pond is not currently approved as part of the mine's reclamation plan. If the intention is for this feature to remain in final reclamation, a technical revision will be necessary to update the Exhibit F Reclamation Plan to show the smaller pond remaining and update Exhibit G Water information to account for increased acreages of exposed groundwater.

Hydrologic Balance: As per the approved reclamation plan, a groundwater pond has been created in the eastern half of the released permit area. The pond and surrounding vegetated area (37.10 acres) were approved to be released by the Division under AR-2 and were observed to still be well vegetated and stable (Photo 2). The pond was not at full capacity but contained exposed groundwater at the time of inspection. Since this is an unlined pond feature which is approved to expose groundwater, the water level of the pond is generally representative of surrounding groundwater levels. A topsoil berm is located in the northeastern portion of the released acreage and is well vegetated. The edge of this berm begins ~85 feet from the western boundary of Mr. Ocker's field and continues along the edge of the permit boundary and Hwy 394 until it reaches the mine site entrance gate (Figure 4). The berm is a surface feature and is not a barrier to groundwater flows. The groundwater pond located to the southwest of the saturated water area is unlined. Thus, with no slurry wall or clay liner to impede groundwater flows, the pond does not create a barrier to groundwater flows.

As previously stated, the Division has released this eastern portion of the Lyster Pit permit area which includes Mr. Ocker's easement property, the topsoil berm, and the groundwater pond. Meaning, the Division has determined that reclamation is complete in this area, the liability bond has been returned to United Companies, and the Division no longer holds any jurisdiction over that acreage. The Division does have jurisdiction over the currently unreleased portion of the Lyster Pit and can require United Companies to conduct corrective actions if determined to be necessary. The Division does not have the authority to require United Companies' action on any released acreage.

The northeastern corner of the released permit boundary and the northwest corner of Mr. Ocker's property was the area investigated during this inspection (Photo 1). This area was never disturbed by mining operations but was part of the permitted operation's acreage. General topography of the surrounding area is a very gradual slope northwest towards the river from the more southernly foothills. There is a pre-existing ditch located along the property line fence, which was in place prior to the permitting of the mine site. In the fall of 2023, Mr. Ocker and the mine site landowner Chris Martin installed another ditch parallel to the original ditch (Photos 1, 4, and 5; Figure 2) with the intent of encouraging stormwater flows towards the ditch located along Hwy 394. This added ditch curves around the eastern side of the topsoil berm and towards the Hwy 394 ditch (Figure 3 and Photo 1). At the time of inspection, the northern end of this ditch was heavily vegetated with cattails and other grassy debris (Photo 4). Three groundwater monitoring wells are located in and around the mine site and began being monitored by the original permittee a few months before the site's permitting in 2008 (Figure 2). At the very southern extent of both Mr. Martin and Mr. Ocker field's is the Deep Cut Ditch. The Yampa River is located ~0.5 mile north of the Lyster Pit's northern permit boundary (Figure 3).

The permitting of the Lyster Pit in 2008 required that the Operator submit groundwater monitoring data collected via the three wells located on and around the site. United Companies continued to submit this monitoring data on a yearly basis after the Succession of Operator from Conell Resources, Inc to United Companies in 2017. From November of 2016 through the most recent data submitted to the Division in August 2024, Groundwater Monitoring Wells #2, #3, and #4 (all located in the northeast corner of the released permit boundary) show groundwater levels between ~ 0.30 and 3.00 ft below the top of casing. With a casing height of ~ 12 inches, this would mean that groundwater levels have hovered in this area from several inches above the casing (saturated conditions) to ~24 inches below ground surface. Original documentation from the site's

permitting in 2008 by Connell Resources, Inc. cite seasonal groundwater fluctuations in this area between 4 -8 feet and notes that dewatering of the site may drop surrounding water levels by at least six feet below seasonally high water elevations. The Lyster Pit and Mr. Ocker's property are both located within the floodplain of the Yampa River. Meaning that naturally high groundwater levels in this area are to be expected and hydrology of groundwater levels are predominantly influenced by the river's activity.

At the time of the inspection, the northeast corner area under investigation was not saturated with water. Mr. Ocker stated that his adjacent field was not experiencing any excess of water this year but stated that this area had experienced saturated conditions in years prior. Dewatering of the adjacent Lyster Pit mine site has been occurring off and on throughout the life of the mine but was last conducted at the site in April of 2024. As a result, the surrounding area has likely experienced artificially low groundwater levels in times of dewatering. As dewatering ceases and groundwater in the area slowly begins to recharge, the natural state of high groundwater levels can be expected to reestablish.

At times throughout the life of mine, as illustrated in the 2020 Hydrologic Report by United Companies through comparative analysis between dewatering timelines and groundwater elevation data, high groundwater levels have sometimes persisted even in times of dewatering for the mine site. This points to the conclusion that mining activities are not the sole or leading influence on groundwater levels in the surrounding area and thus do not directly control the infiltration, or lack of infiltration, of stormwater in the northeast permit boundary. As the area's topography slopes northwest towards the river, it is also reasonable to expect seepage from Deep Cut Ditch to the south to contribute to groundwater levels towards the area of investigation.

An elevational cross section of the mine site and surrounding area was extracted using Google Earth software (Figure 3). This figure shows the elevational profile of the land beginning from the Yampa River and ending at the southernly foothills in the area. This cross section suggests that the area in which the mine site and Mr. Ocker property is located acts effectively as a large basin which captures surface water runoff from the southernly foothills towards Hwy 394 where the elevational profile rises sharply. Hwy 394 has been built up higher from the adjacent topography, likely to protect the road from flood conditions. A ditch is also located along Hwy 394 and carries water under the Hwy and out towards the river. This built-up road feature effectively acts as a barrier to surface water flows heading from the southernly foothills, across the mine and Mr. Ocker's property, and towards the river. During the inspection, it was noted among the Division, the Operator, the mine site landowner, and complainant that while digging the two ditches east of the mine site slightly deeper would help with the movement of stormwater during saturated conditions, the elevation of the Hwy 394 ditch limits this activity and thus exacerbates saturated conditions in times of excess stormwater.

In the absence of widely available floodplain mapping data in this portion of the State, the Division has located a GIS-based tool formulated by Yampa White Green Basin Roundtable (YWGBR). This group is a combination effort from those work and live in the Yampa Valley to development an Integrated Water Management Plan (IWMP) for the Yampa River. The YWGBR has used engineering and ground-based data assessment to more accurately characterize the physical and biological traits of the Yampa River Basin. OTAK is the environmental consulting group working in support of this project. As part of this effort, the YWGBR supports the display of these assessments through a GIS-based virtual web map application. A screenshot from this web mapper is shown below in Figure 5. Two colored lines are shown on this Figure. The yellow line layer has been toggled on to outline the midpoint line of the Yampa River. The pink line represents the 'Yampa IWMP Riverscapes Extents'. In this context, a riverscape defines an area within a river's alluvial plain whose hydrology is directly controlled by the river itself. Riverscapes are often characterized by flat or gently sloping topography, much like the area of Mr. Ocker's property and the mine site. This pink line feature shows that the extent of the Yampa River riverscape in this particular area extends all the way south towards the foothills located south of the mine site and Mr. Ocker's property. This further suggests that groundwater levels and conditions are predominantly

and directly influenced by the Yampa River and its natural fluctuation of water levels rather than by nearby mining activity.

In conclusion, the mine site and surrounding area experiences naturally high groundwater levels due to its proximity to the Yampa River and inclusion in the Yampa's riverscape / floodplain boundary. Stormwater infiltration rates are low specifically in the area of investigation due to a combination of nearly flat topography, an excess of vegetative growth in established ditches, and due to the presence of Highway 394, which has been built well above the ground surface level of Mr. Ocker's field and the now released permit area. Given these on-site conditions the area of investigation, one could reasonably expect to see saturated conditions build up in times of excess stormwater runoff as the slope and vegetated conditions do not encourage infiltration and Hwy 394 acts as a limiting factor to stormwater drainage. If drainage were to be improved along Hwy 394, saturated conditions at the site would likely diminish.

Right of Entry: The landowner for the mine site has recently changed to Chris Martin. As of the date of this inspection, and updated lease between United Companies and the landowner has not been provided to the Division. **Therefore, the Division is citing a problem for failure to maintain Legal Right of Entry for the property. Please provide the Division proof of updated legal right to entry by the above given corrective action due date.**

Financial Warranty: The bond was last updated post-inspection in 2019. The Division currently holds a bond amount of $214,270.00. Based on observations from this inspection, the bond amount has been deemed **adequate** to complete remaining reclamation at the site.

Availability of Records: Annual reports are current, having been filed through October 2023. The previous inspection was on June 2, 2021. There are no open infractions related to previous inspections.

Sediment Control: No erosion problems were observed and no BMPs were needed at the time of the inspection.

Signs and Markers: The permit sign was posted at the access road entrance pursuant to Rule 3.1.12.

Conclusions and Determinations

As a result of this inspection, the Division has made the determination that past events of saturation of the area in question are not related to mining activity. The topsoil berm in the northeast corner of the released permit area is strictly a surface feature and does not impact groundwater flows. Additionally, the groundwater pond in the released area is unlined and therefore also does not impose a physical barrier to groundwater flows. There are no other activities or features within the unreleased portion of the permit boundary which the Division has determined to be impacting Mr. Ocker's adjacent field. Rather, it is likely that naturally high groundwater levels, flat and basin-like topography, and limited functionality of the Hwy 394 ditch create ideal conditions for increased stormwater ponding in Mr. Ocker's field and in the northeast corner of the released permit area. With the above determination made by the Division, the Citizen's Complaint (CT-1) for the Lyster Pit is now considered resolved.

Photographs taken during the inspection, a site map, and referenced Photos and Figures have been included below. Responses to this inspection report should be directed to: Hunter Ridley at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 720-868-7757 or via email at hunter.ridley@state.co.us.

FIGURES

The Blue triangle in the attachment above represents the area saturated and inundated with exposed groundwater. The red line represents the permit boundary between the permitted area and Mr. Ocker's field.

Figure 1: "Attachment No. 1" taken from the Division's September 17, 2020 site inspection.

Figure 3 – Piezometer Locations (Google Aerial, 2019).

Figure 2: Groundwater monitoring well locations map from the hydrologic summary report provided to the Division by United Companies in 2020.

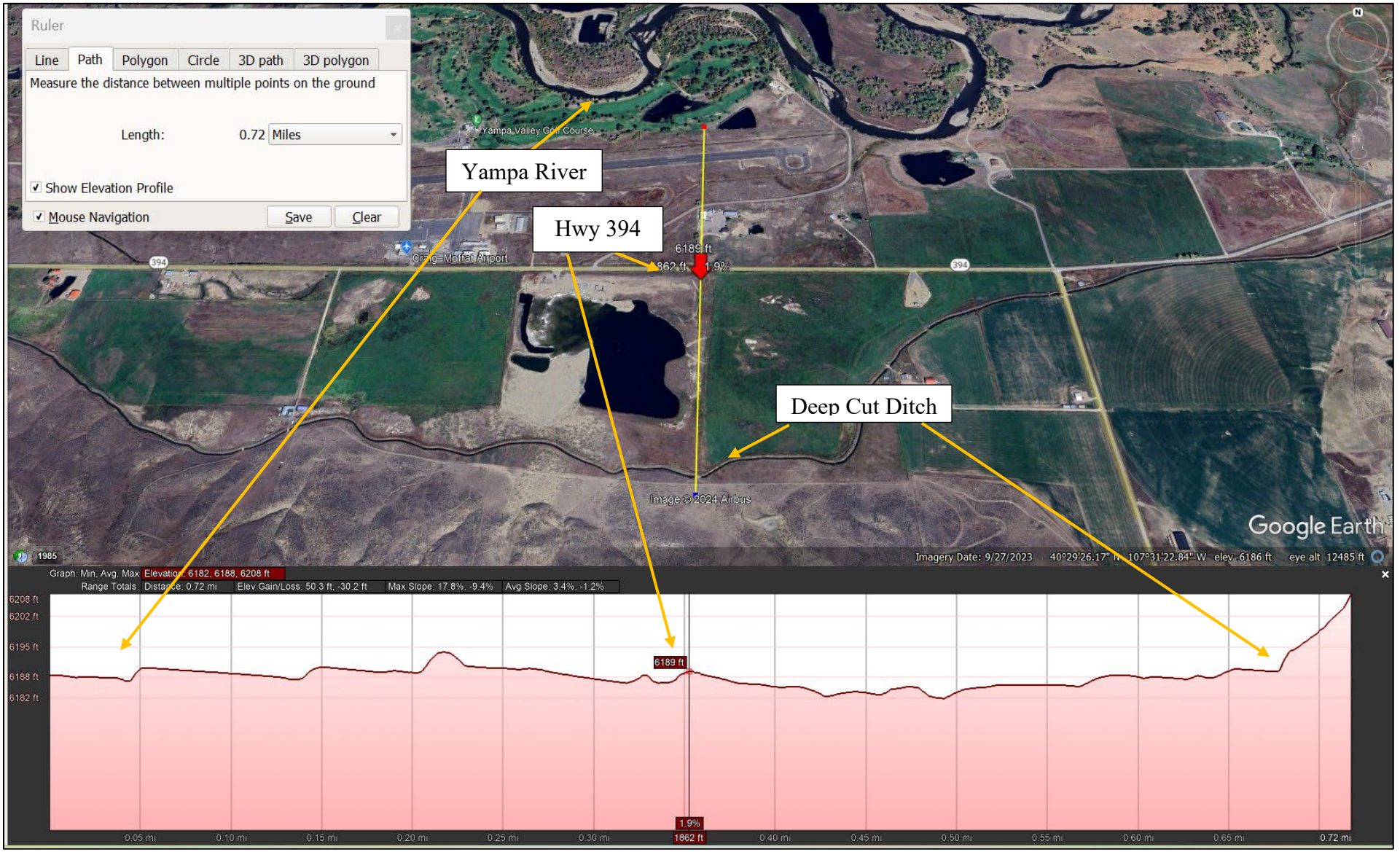

Figure 3: Elevational cross section data north to south (left to right) encompassing the southernly foothills towards the Yampa River. The red arrow represents the elevational location of Hwy 394 within the cross section.

Figure 2: Site Map of the Lyster Pit and adjacent field owned by Brad Ocker, 2020 imagery captured via Vexcel Viewer Software.

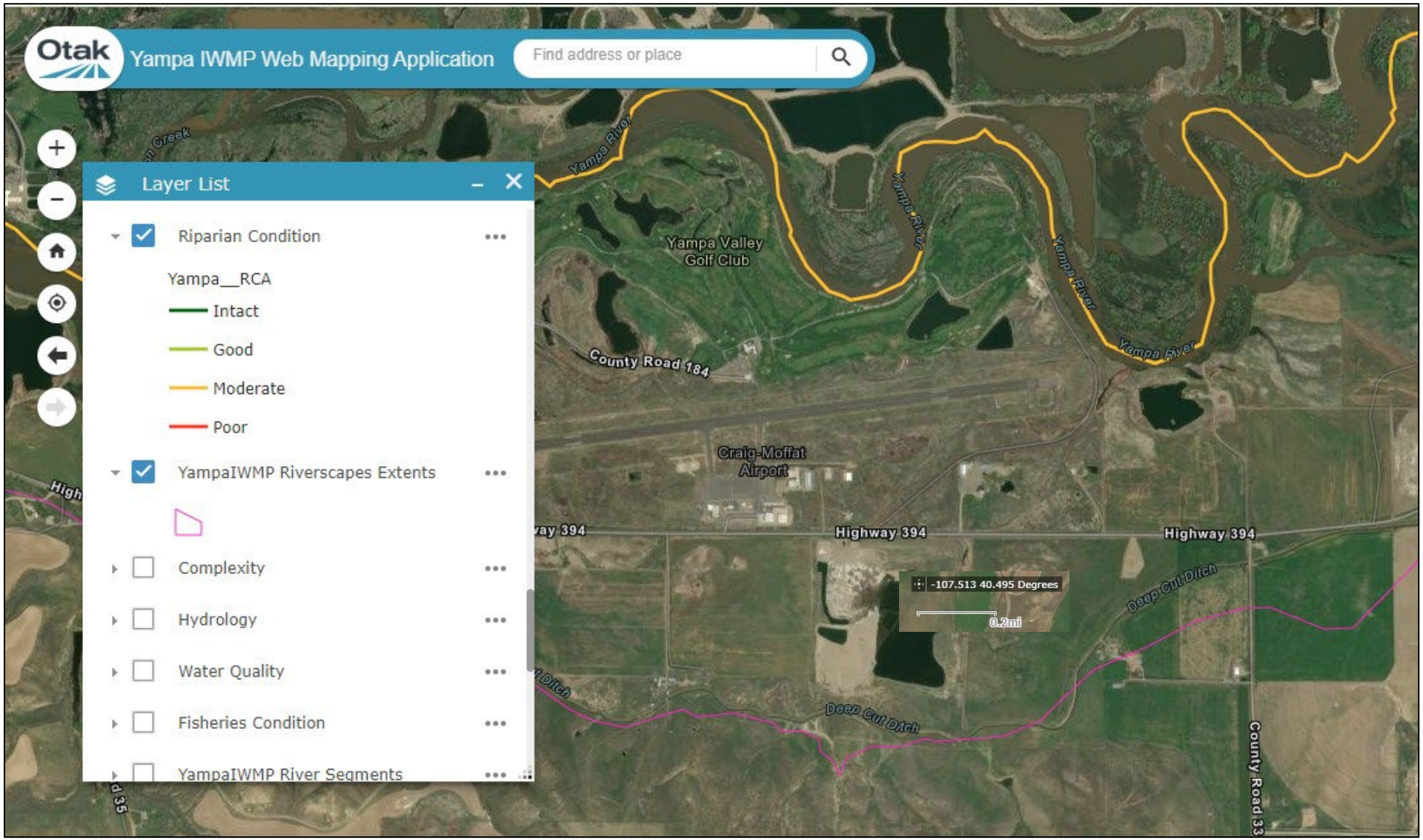

Figure 3: Screenshot from the Yampa White Green Basin Roundtable's Web Mapping Application.

PHOTOGRAPHS

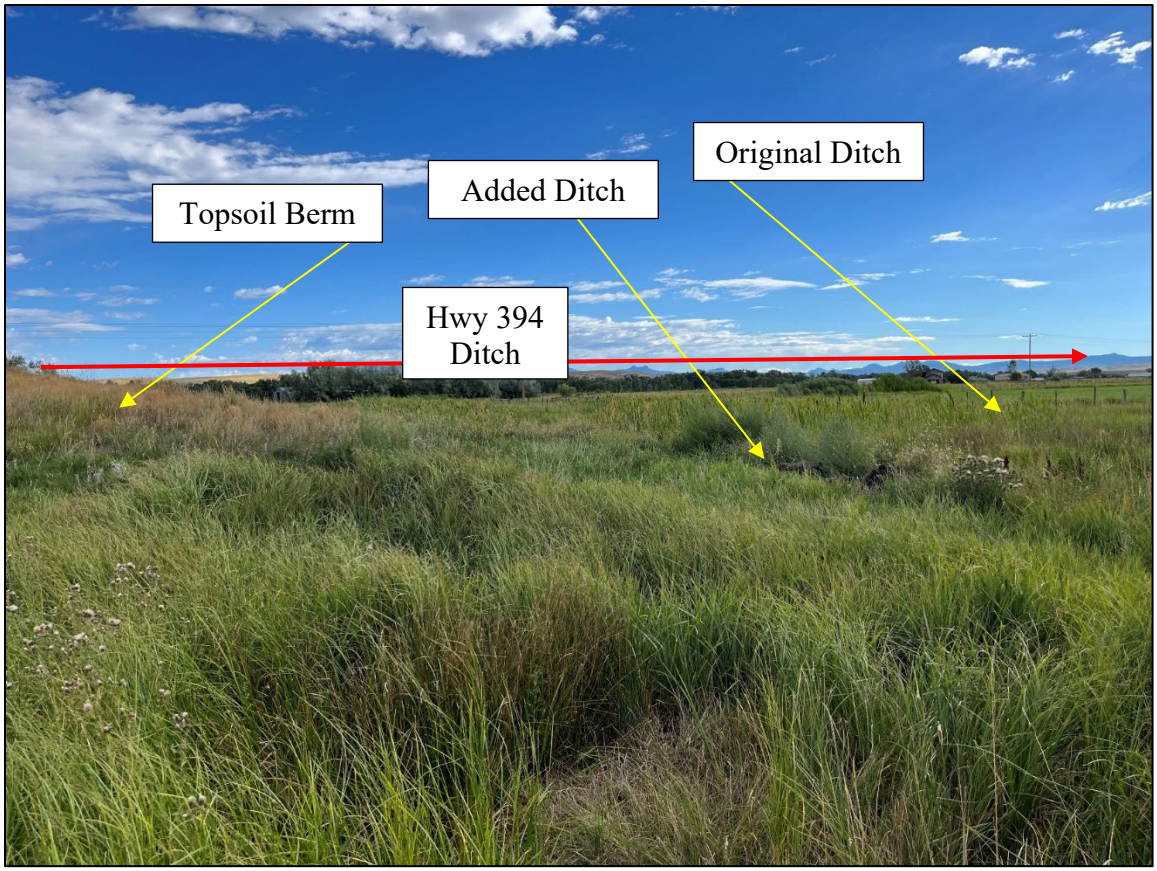

Photo 1: View northeast of the area of concern which has seen prior stormwater saturation. The edge of the topsoil berm is visible to the west.

Photo 2: View southwest of the exposed groundwater pond in the released area of the permit.

Photo 3: View south of the graded, unreleased permit area.

Photo 4: View northeast of the ditch installed by Mr. Ocker and the landowner Mr. Martin.

Photo 5: View south of the ditch installed by Mr. Ocker and the landowner Mr. Martin.

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

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

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

Inspection Contact Address
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November 13, 2020

Brad Ocker
9591 CR 33
Craig, CO 81625

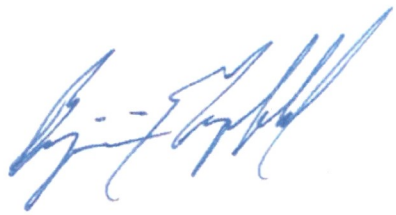
Lyster Pit M-2008-009 - Hydrology Report

Mr. Ocker

Oldcastle SW Group, Inc. dba United Companies is providing the attached report to the Colorado Division of Reclamation, Mining, and Safety in response to their inspection in September 2020. United is providing you with a copy of their report as a courtesy. Please contact Jason Burkey at (970) 328-1734 or jason.burkey@na.crh.com with any questions or to schedule mowing of the Drainage Ditch area.

Please contact me if you have any further questions or concerns.

Sincerely,



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November 12, 2020

Clayton Wein
Colorado Division of Reclamation, Mining, and Safety
1313 Sherman St, Rm 215
Denver, CO 80203

RE: Lyster Pit M-2008-009, Reason to Believe a Violation Exists, Permittee Response and Hydrology Report

Mr. Wein

Oldcastle SW Group, Inc. dba United Companies is providing this response letter to the Reason to Believe a Violation Exists issued by the DRMS at the Lyster Pit on October 14, 2020. The two violations noted in the letter are:

- C.R.S. 34-32.5-l 16(4)(h) for failure to minimize disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quality and quantity of water in surface and groundwater systems both during and after the mining operation and during reclamation.
- C.R.S. 34-32.5-116(4)(i) for failure to protect areas outside of the affected land from slides or damages occurring during the mining operation and reclamation.

These identified issues are based on the Division's inspection of September 17, 2020. During that inspection, the Division Inspector identified an area of standing water on the northeast corner of the affected area that was large enough to include a portion of the eastern neighbor's property (Mr. Brad Ocker). According to the inspection report, the Division believes that this is exposed groundwater.

1. Hydrologic Balance

The water identified by Mr. Ocker and Mr. Wein (Division Inspector) during the inspection is not due to any alteration of the hydrologic balance of the affected land or surrounding area. Furthermore, the presence of standing water on both the Lyster and Ocker properties is a common occurrence due to the naturally high groundwater table that limits infiltration. Typically, surface water flows which occur on the east side of the Lyster Pit and west side of the Ocker property flow towards CO-394, the state highway adjacent to and north of both properties. The Hydrology Summary included in this response explains the onsite hydrology in detail.

The ditch (Drainage Ditch) running along the Lyster-Ocker property line is thickly grown over with vegetation. Previous permittees of the Lyster Pit periodically mowed the vegetation in this

undisturbed area. The size and thickness of the vegetation along this ditch will reduce its ability to take on surface water flows from the Ocker irrigation activities. The permittee should mow this stretch of ground to encourage the surface water flows into the Drainage Ditch from the Ocker property.

2. Conclusion

The mining and reclamation activities at the Lyster Pit have not led to any offsite damages or any damages to the prevailing hydrologic balance. The area of concern identified in the Division's inspection report has never been disturbed by the pit. The topography and hydrology conspire to naturally collect surface water in the northeast corner of Lyster property. The groundwater table, even when the dewatering pump is active across the site, is very close to the undisturbed ground surface and results in very limited water infiltration capacity. The Drainage Ditch in the area are nearly flat, preventing positive drainage. These factors lead to a natural ponding effect that leads to the accumulation of standing water identified in the Division's inspection. There is no exposed groundwater in this northeast corner of the Lyster Pit. The standing water is not caused by mining or reclamation operations.

While the activities at the Lyster Pit are not the cause of standing water on the Ocker property, the permittee understands Mr. Ocker's desire to ensure maximum drainage of his fields following flood irrigation. Therefore, the permittee commits to mow the vegetation along the Drainage Ditch parallel to and just west of the Lyster/Ocker property line. This will improve runoff flow conditions for Mr. Ocker and will likely lead to a noticeable reduction in standing water. It should be noted that due to the natural hydrologic conditions of the site, there will likely always be some standing water in the northeast corner of the Lyster Pit during portions of the irrigation season.

Please contact me if you have any further questions or concerns.

Sincerely,

Ben Langenfeld, P.E.
Greg Lewicki and Associates
(720) 842 5321
benl@lewicki.biz

Lyster Pit Hydrology Summary

The Lyster Pit was permitted in 2008. During the April 10, 2008 pre-op inspection conducted by Travis Marshall (DRMS), the site had naturally "swampy" conditions including the presence of standing water, as seen in the Division site inspection photographs (Figure 1). Historical aerial photos available through Google Earth also show the standing water condition on the Lyster site and neighboring properties back in 2004 (Figure 2). The Lyster Pit was operated by Connell Resources prior to its current operator United Companies. Connell personnel informed GLA that in 2012 and 2013 there were times that the dewatering pump was not operating and standing water conditions were experienced during both pumping and non-pumping time periods.

Piezometer data gathered from four groundwater monitoring wells onsite over many years, going back at least to 2016, shows that the natural groundwater table is close to the surface (Figure 3). This includes periods of time when the dewatering pump is running. GW-3 and GW-4 (northeast corner of the permit area) both show groundwater levels very near the surface (Map 1 – NW Corner). GW-2, which was abandoned in 2010, shows groundwater levels very near the surface as well (Figure 3). GW-2 was located east of the Lyster Pit on the Ocker Property.

Adjusting for piezometer casing height, the ground water elevation in the northeast corner of the permit area, adjacent to Mr. Ocker property, is within a foot of the surface (Appendix 1). This includes during periods when the dewatering pump is running. In fact, the recharge flow from the east of the site clearly prevents the dewatering activities to the west of GW-3 and GW-4 from having a significant effect on the groundwater level. This can be seen in Appendix 2 – Groundwater Data which shows the depth to water measured by each piezometer along with if the dewatering pump was either running or not running. GW-3, the furthest north and closest to CO-394 groundwater monitoring well, shows water levels within two to three feet of the top of the casing. Accounting for casing height of roughly a foot, this leads to a groundwater table typically within 12 inches of the ground. GW-4 frequently measures a groundwater level above the local topography. Such a close groundwater table will not facilitate substantial surface water infiltration.

The groundwater lake at the Lyster Pit had an elevation of 6180.6' when surveyed in November 2020. This is over ten feet below the ground level at GW-3 (6192.0') and GW-4 (6192.0').

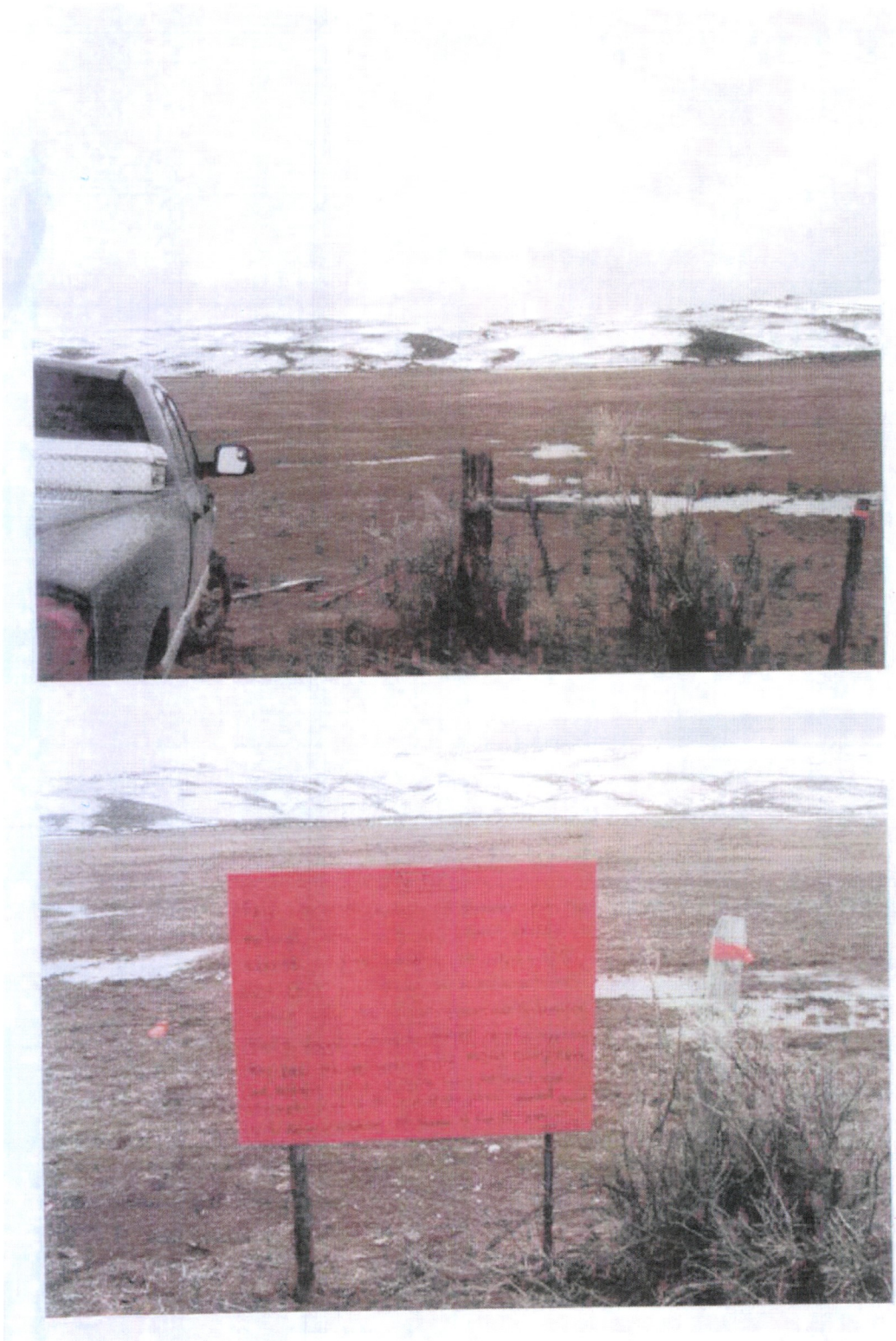


Figure 1 – Photos Showing Standing Water from the 2008 DRMS Pre-Op Inspection conducted on 04/10/08 by Travis Marshall. Photo taken on 04/10/08, view to the south.

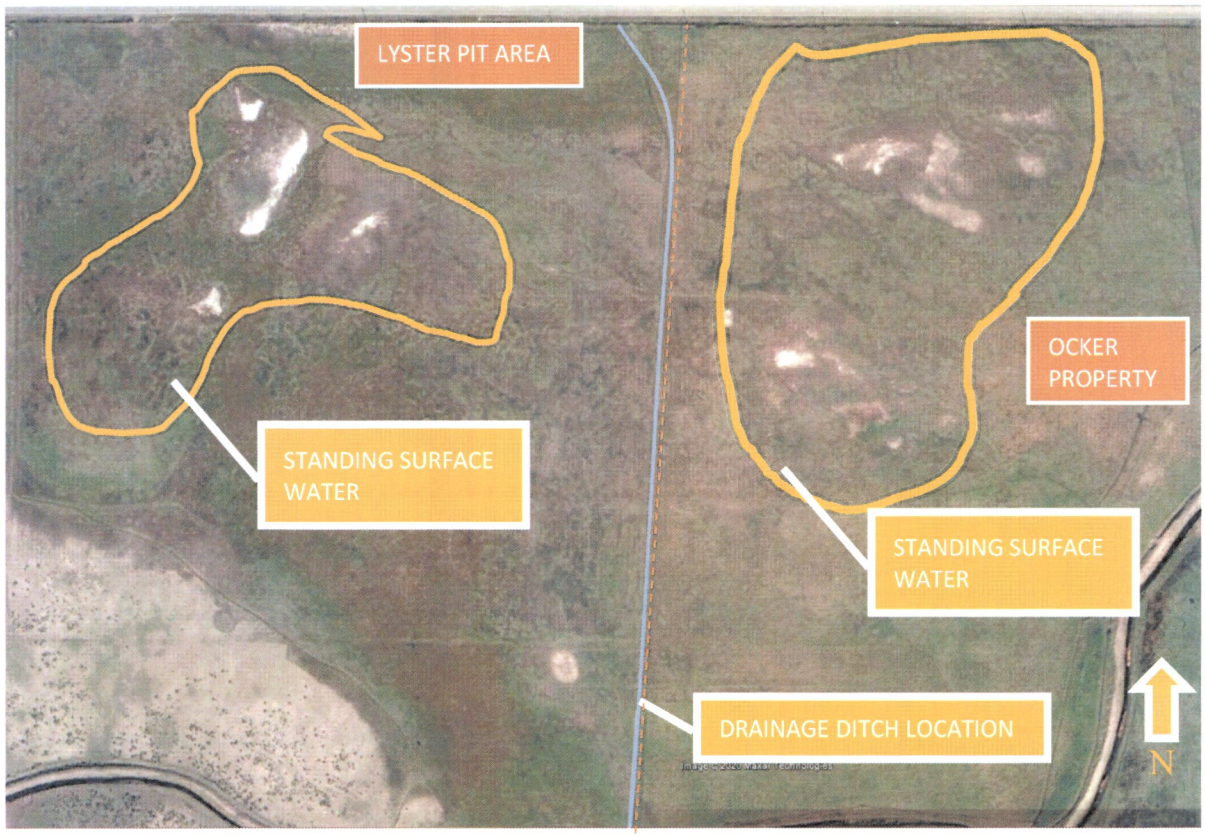


Figure 2 – Google Earth Aerial from 2004.

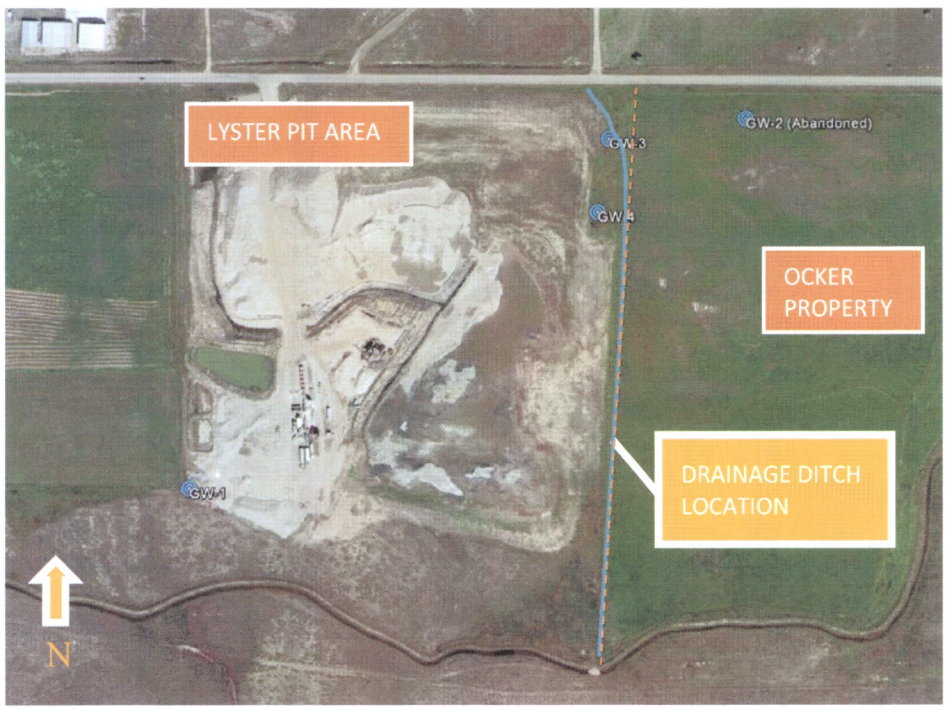


Figure 3 – Piezometer Locations (Google Aerial, 2019).

3. Surface Water Runoff Conditions

Surface water flows at the Lyster Pit and Ocker property consist of seasonal runoff and flood irrigation water. The surface water runoff flows clearly move from east to west across the Ocker property. At the fence line between the Lyster and Ocker sites, there is a ditch (Drainage Ditch) parallel to and west of the property line that generally drains to the north (Figure 3). Site investigation by GLA shows that the Drainage Ditch slope almost completely flattens at a small low point roughly 150 feet south of the CO-394 road ditch (Map 1 – NW corner). This low point area is thick with vegetation, as is the Drainage Ditch that flows into it. A connection point from the Ocker property to the Drainage Ditch and low point can be seen along the east fencelines; it is clear that at some point in the past, a manmade channel was dug to facilitate additional draining of some of the Ocker fields into the east side ditch (Figure 4). The low area and manmade channel are shown by the November 2020 topographic data collected via drone imagery shown on Map 1 – NW Corner. However, neither Connell Resources nor United Companies has ever conducted earthwork in this area. It is possible that the Ockers or previous owners of that property carved this connecting channel in themselves.

Figure 4 – Connection Point (Manmade Channel) Between Ocker Property and Drainage Ditch. Photo captured on 10/28/20, view to the east-northeast.

The Ocker property, topographically, will drain to the Drainage Ditch. No berms or other earth structures exist to block the flow path. The topsoil berm on the Lyster Pit is west of the Drainage Ditch; it does not interfere with flows coming from the Ocker property. No other elevations of grade above pre-mine topography exists near the Lyster-Ocker property line. Map 1 – NW Corner shows drainage directions along the property line. Topography is flat enough in the area of concern that surface water flows can reach the groundwater lake easily.

The Drainage Ditch is thick with vegetation to the point that surface water flows into and through said ditch would be significantly affected. Connell Resources noted that they mowed that area when they operated the pit prior 2017. It is likely that this mowing helped with smooth water flows off the Ocker property given the gentle slope from the east to the west.

There is no slurry wall or clay liner that would impede groundwater flows to the exposed lake and there is no surface barrier like a berm between the Ocker property and the lake. Any surface water or ground water flows that pass through the Lyster Pit from the east, that do not get intercepted by the Drainage Ditch, can drain to the lake.

4. Conclusion

The groundwater table at the Lyster Pit and Ocker property is so close to the surface that infiltration capacity is limited. Surface water flows, whether from precipitation or from irrigation, will not infiltrate very much. The undisturbed pre-mine topography on the east side of the Lyster Pit is very flat, with less than a 0.2% slope from south to north and roughly 0.5% from east to west with a low area roughly 150 feet from the northern road ditch. Runoff from east of the Lyster Pit drains into the Drainage Ditch which then drains to this low, flat area. Given the lack of infiltration, the runoff in this low point has nowhere to go and sits within the low point until it evaporates. This leads to standing water in the low point and its surrounding areas. Depending on the amount of surface water runoff from storm events and flood irrigation, the extent of the standing water may extend out into the Ocker property from this area in addition to extending south. This is the natural condition of the area; no mining activities at the Lyster Pit have altered these conditions.

APPENDIX 1 – PHOTOS

All photos in this appendix were taken on 10/28/20.

Piezometer GW-1, looking north along western property line.

Piezometer GW-1 casing measurement.

Northwest low area, looking east towards Ocker property.

Northwest low area, looking north towards to CO-394.

Drainage Ditch, looking south from northeast low area.

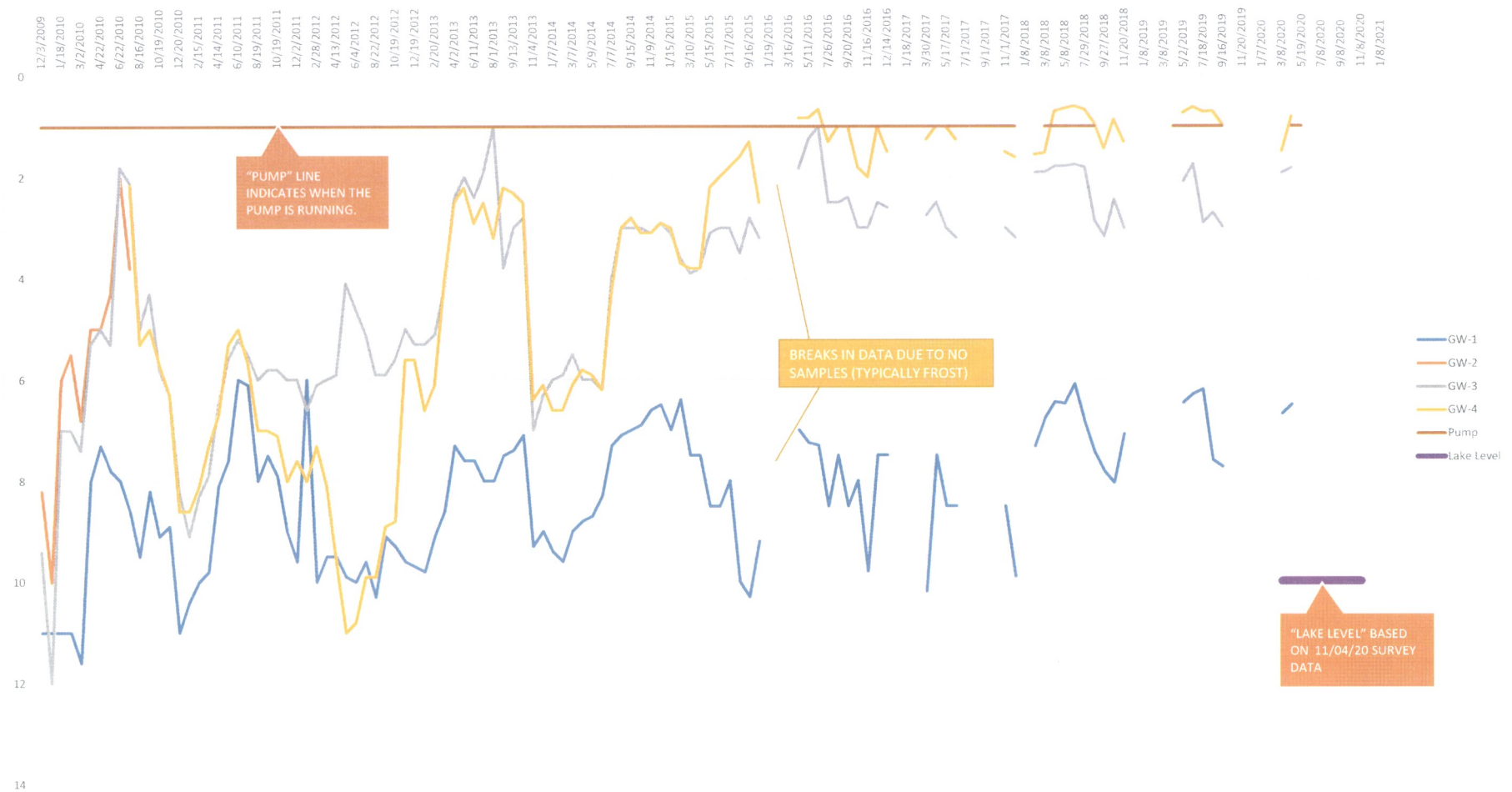
Ocker property manmade channel to low area, view to the east-northeast.

CO-394 and accompanying ditch, looking west.

Piezometer GW-3 with casing measurement.

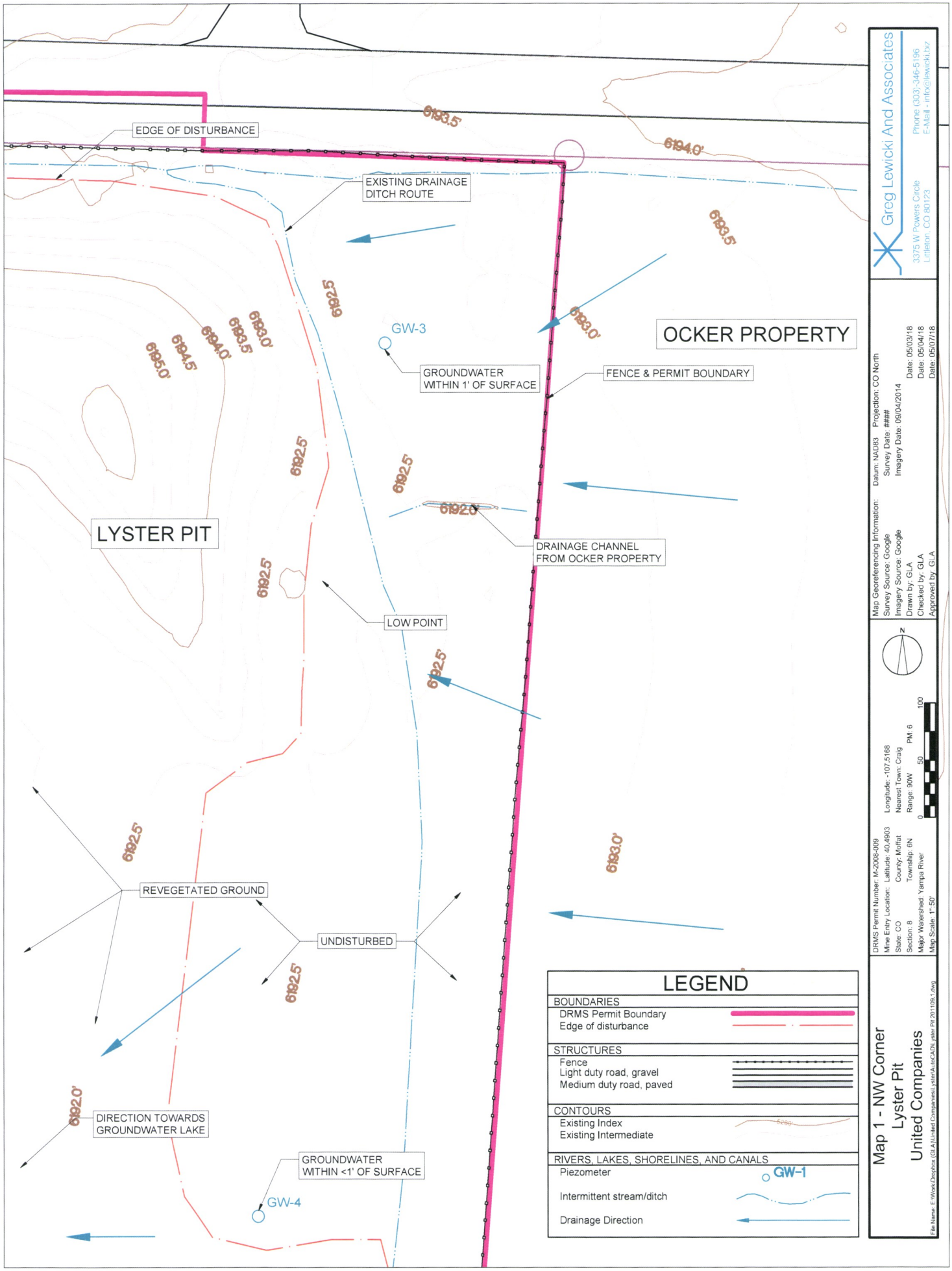
Piezometer GW-4 with casing measurement.

APPENDIX 2 – GROUNDWATER DATA



Groundwater Depth from Piezometers.

APPENDIX 3 - MAPS


EDGE OF DISTURBANCE
EXISTING DRAINAGE DITCH ROUTE
6193.5'
6194.0'
6193.5'
6192.5'
6193.0'
GW-3
OCKER PROPERTY
GROUNDWATER WITHIN 1' OF SURFACE
FENCE & PERMIT BOUNDARY
6195.0'
6194.5'
6194.0'
6193.5'
6193.0'
6192.5'
6192.5'
6192.0'
LYSTER PIT
DRAINAGE CHANNEL FROM OCKER PROPERTY
6192.5'
LOW POINT
6192.5'
6192.5'
6193.0'
REVEGETATED GROUND
UNDISTURBED
6192.5'
6192.0'
DIRECTION TOWARDS GROUNDWATER LAKE
GROUNDWATER WITHIN <1' OF SURFACE
GW-4
LEGEND
BOUNDARIES
DRMS Permit Boundary
Edge of disturbance
STRUCTURES
Fence
Light duty road, gravel
Medium duty road, paved
CONTOURS
Existing Index
Existing Intermediate
RIVERS, LAKES, SHORELINES, AND CANALS
Piezometer
GW-1
Intermittent stream/ditch
Drainage Direction
Greg Lewicki And Associates
3375 W Powers Circle
Littleton, CO 80123
Phone (303) 346-5196
E-Mail - info@lewicki.biz
Map Georeferencing Information:
Survey Source: Google
Imagery Source: Google
Drawn by: GLA
Checked by: GLA
Approved by: GLA
Datum: NAD83
Projection: CO North
Survey Date: ####
Imagery Date: 09/04/2014
Date: 05/03/18
Date: 06/04/18
Date: 05/07/18
DRMS Permit Number: M-2008-009
Mine Entry Location: Latitude: 40.4903
State: CO
Section: 8
Longitude: -107.5168
County: Moffat
Township: 6N
Nearest Town: Craig
Range: 90W
Major Watershed: Yampa River
PM: 6
Map Scale: 1" = 50'
0
50
100
N
Map 1 - NW Corner
Lyster Pit
United Companies
File Name: F:\Work\Dropbox (GLA)\United Companies\Lyster\AutoCAD\Lyster Pit 2011\fig 1.dwg

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