



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: Broken Spear Pit | MINE/PROSPECTING ID#: M-2000-050 | MINERAL: Sand and gravel | COUNTY: Lincoln |
| INSPECTION TYPE: Monitoring | INSPECTOR(S): Timothy A. Cazier | INSP. DATE: August 24, 2015 | INSP. TIME: 08:55 |
| OPERATOR: Lincoln County Bain Farms LLC | OPERATOR REPRESENTATIVE: Mark Bain | TYPE OF OPERATION: 110c - Construction Limited Impact | |
| REASON FOR INSPECTION: Normal I&E Program | BOND CALCULATION TYPE: None | BOND AMOUNT: \$10,000.00 | |
| DATE OF COMPLAINT: NA | POST INSP. CONTACTS: None | JOINT INSP. AGENCY: None | |
| WEATHER: Clear | INSPECTOR'S SIGNATURE:  | SIGNATURE DATE: October 19, 2017 | |

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: Availability Of Records

PROBLEM/POSSIBLE VIOLATION: Problem: Current boundary markers delineate 10.4 acres which is a half acre more than what is allowed by the permit.

CORRECTIVE ACTIONS: Adjust one or more boundary markers while keeping the current affected area inside the boundary to reduce the permit area to the approved 9.9 acres and submit a technical revision (along with the required \$216 fee) with a map and legal description to document the corrected permit area.

CORRECTIVE ACTION DUE DATE: 12/18/17

OBSERVATIONS

This inspection was conducted as part of the regular monitoring program. The Permittee (Bain Farms LLC) was represented by Mr. Mark Bains during the inspection. The Broken Spear Pit is accessed from Lincoln Co Rd 31, about 12.6 miles north of Genoa (on US Hwy 24). This is a 110c sand and gravel mine. It was not operating at the time of the inspection.

Availability of Records: Annual fees are paid through April 2017. The previous inspection was on July 15, 2013. The approved post-mine land use is rangeland. There are no open infractions. The permit was transferred to Bain Farms in 2013. Subsequent to the inspection and as discussed in more detail in Off-site Damage below, **the delineated permit boundary greater than the allowed 9.9 acres is cited a Problem on p. 1 of this report.**

Backfilling and Grading: Sufficient backfill material appeared to be available to be pushed down and keep the disturbance within the affected area boundary.

Complete Inspection: The entire permit area was inspected. No problems were observed during the inspection.

Excess Spoil and Dev. Waste: No overburden piles were observed.

Financial Warranty: The \$10,000 bond held by the Division is adequate for the observed mine disturbance.

Fish and Wildlife: No impacts observed.

Hydrologic Balance: Standing water was observed in the pit (see **Photo 1**) pit and was determined to be stormwater from recent rains. No exposed groundwater was observed.

Gen. Compliance with Mine Plan: The operation appeared to be in compliance with the approved mine plan. The site is on the south bank of the ephemeral Arikaree River. Google Earth (September 2014 imagery) was used to measure the disturbed area, which was estimated to be approximately 3.25 acres. High walls were partially submerged. Mr. Bain estimated there might be as much as eight feet of highwall below the water line. The stability of the highwall was not able to be determined due to the presence of the water. It should be noted that another ephemeral stream (Currie Creek) enters the pit from the south and this stream is eroding the bank right at the permit boundary (see **Photo 2**).

Off-site Damage: A hand held GPS unit (Trimble Juno 3B) was used to collect position data for each of the permit boundary corner markers (see **Photo 3**). Data processing for each collected point (wood corner post) confirmed a horizontal precision of between 5 and 6 feet. The operation was confirmed to be confined to the permit boundary (See **Figure 1**). However, a permit boundary was delineated using the GPS points for each marker and determined to be 10.4 acres (blue line on Figure 2) This is 0.5 acres greater than what is permitted, 9.9 acres; which is also the maximum allowed affected area for a 110c permit. In order to try to determine the source of the problem, an image of the permit boundary from the original application was used as an overlay in Google Earth (See **Figure 2**). This resulted in an area of 14.8 acres (see red line on **Figure 2**). There are potential errors in this assessment as only bearings, and no distances were provided for the two short segments on the south side of the "T" shaped boundary. The Division suggests moving wood posts 4 and 5 (**Figure 1**) to the northwest with the help of a professional surveyor to achieve the 9.9 acres limit and documenting the change in a technical revision submitted to the Division.

Processing Waste: None observed.

Roads: Haul and access roads did not appear to be a source of sediment that could be tracked offsite.

Reclamation Success: Mr. Bain indicated no reclamation has been initiated.

Revegetation: Mr. Bain indicated no seeding or revegetation has been initiated. No noxious weeds were observed.

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 properly posted (see **Photo 4**) and boundary markers (wood posts) were observed to delineate the permit boundary (see **Photo 5**).

Permit Stipulations: None.

Storm Water MGT Plan: No oil or fuel spills observed. Stormwater drains to the pit and infiltrates.

Topsoil: A topsoil stockpile is on the south side of the pit (see **Photo 6**).

Please contact Tim Cazier (303)866-3567 ext. 8169 or email at tim.cazier@state.co.us if you have any questions regarding this report.

PHOTOGRAPHS



Photo 1. Standing water observed in the pit (looking SW).

PHOTOGRAPHS (cont.)

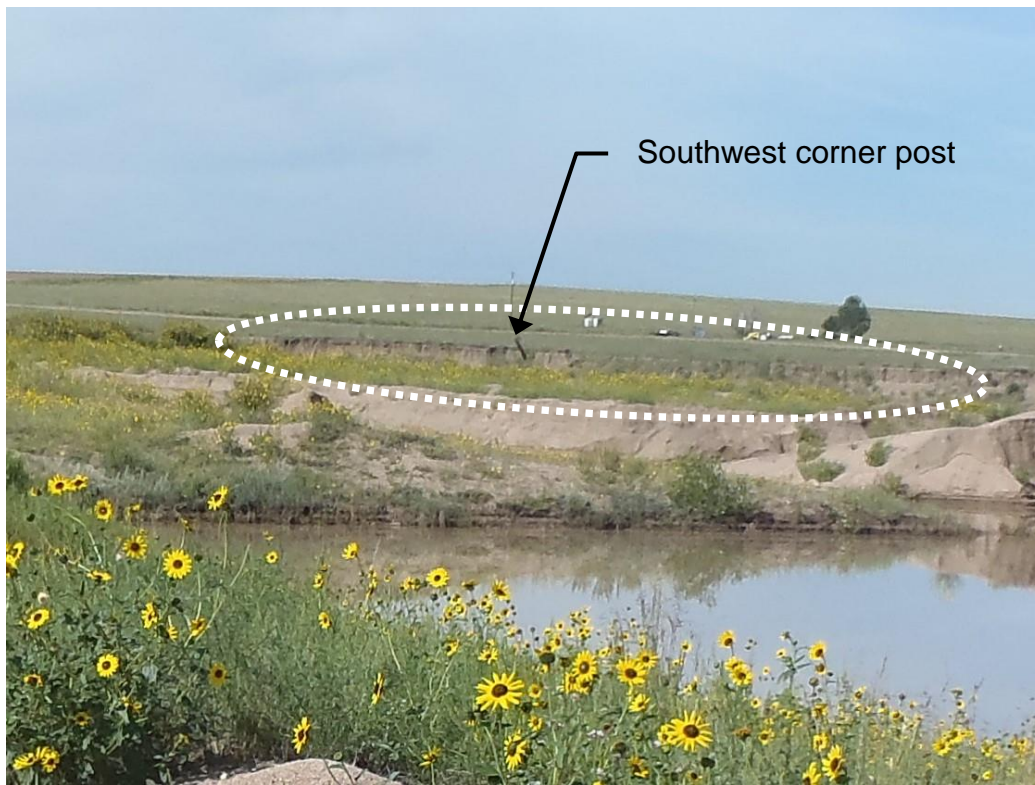


Photo 2. Eroding west bank of Currie Creek & boundary marker (looking SW).



Photo 3. Trimble Juno 3B used to collect position of each permit boundary corner marker.

PHOTOGRAPHS (cont.)



Photo 4. Permit sign properly posted.



Photo 5. Typical boundary marker (wood post) used to delineate the permit boundary.

PHOTOGRAPHS (cont.)



Photo 6. Topsoil stockpile on south side of pit.

GENERAL INSPECTION TOPICS

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

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

Y = Inspected and found in compliance / N = Not inspected / NA = Not applicable to this operation / **PB = Problem cited** / PV = Possible violation cited

Inspection Contact Address

Mark Bain

Bain Farms LLC

1417 6th Street

Limon, CO 80828




Enclosures

CC: DRMS file

Figure 1. M-2000-050 Broken Spear Pit Post Inspection Map

Google Earth Imagery from 6/13/2017
GPS data (wood posts) collected 8/24/2017)

Legend

-  M-00-50 Dist. Area
-  Permit Boundary
-  Wood Post

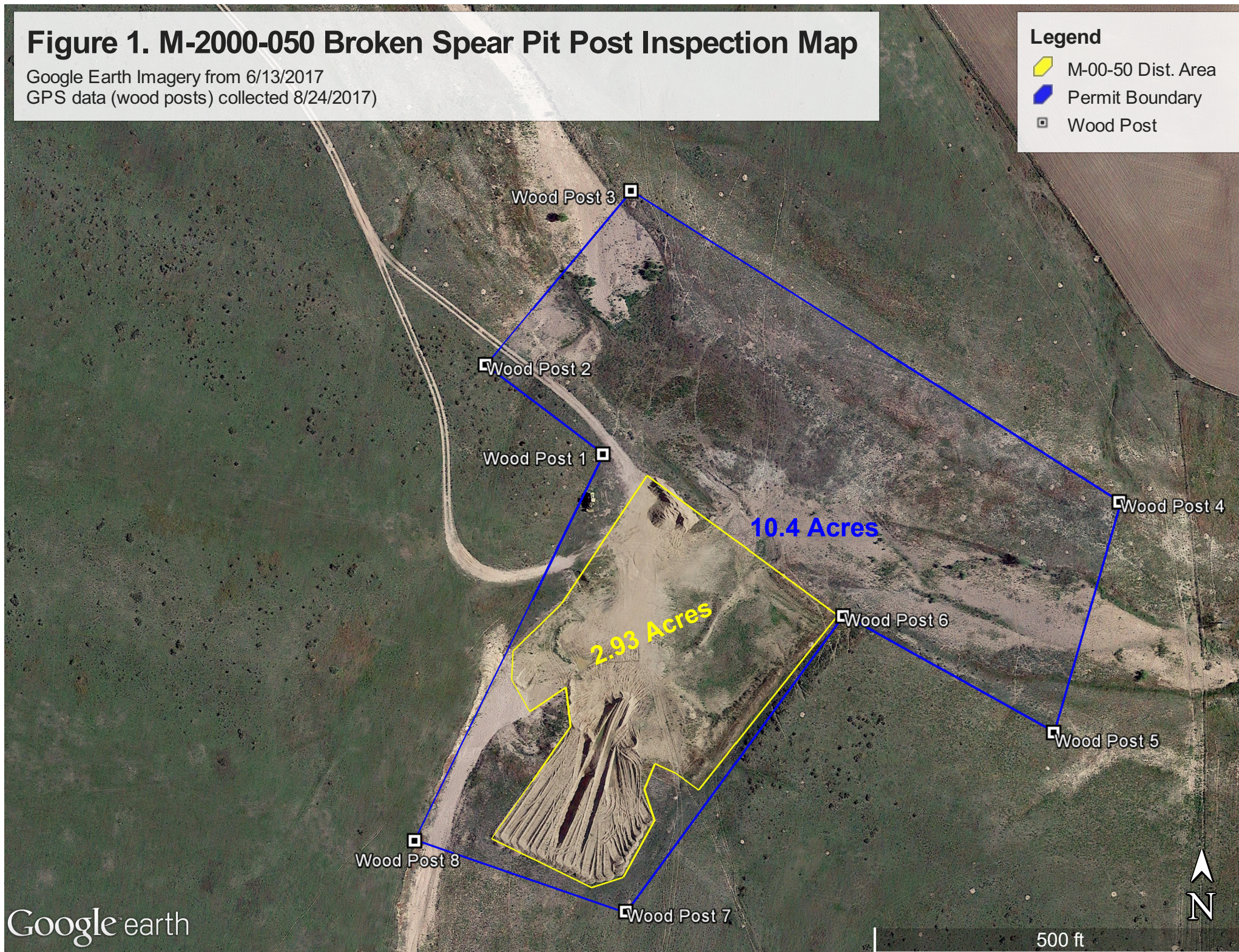


Figure 2. M-2000-050 Broken Spear Pit Post Inspection Map

Google Earth Imagery from 6/13/2017; GPS data collected 8/24/2017

Includes Image Overlay from Original Application (5/12/2000)

