




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: Logan Wash	MINE/PROSPECTING ID#: M-1977-424	MINERAL: Oil shale	COUNTY: Garfield
INSPECTION TYPE: Monitoring	WEATHER: Clear	INSP. DATE: April 21, 2023	INSP. TIME: 13:30
OPERATOR: Occidental Oil Shale, Inc.	OPERATOR REPRESENTATIVE: Bruce Smith	TYPE OF OPERATION: 112 - Hard Rock Regular Operation	
REASON FOR INSPECTION: High Priority	BOND CALCULATION TYPE: None	BOND AMOUNT: \$570,428.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
INSPECTOR(S): Amy Yeldell	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: April 27, 2023	

The following inspection topic(s) were identified as having a **Problem (PB)**, which includes correction actions and a deadline whereby the Operator must demonstrate compliance with the conditions of the Permit and the requirements of the Act and Rules. Failure to address the corrective actions by the deadline may cause the Division to escalate the Problem to a **Possible Violation (PV)** and schedule the issue for formal hearing before the Mined Land Reclamation Board (Board).

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

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

INSPECTION TOPIC: Availability Of Records

PROBLEM: A spill has occurred at the site. Emergency notification was reported by the Operator via phone in accordance with Rule 8.1. To date the Division has not yet received a formal written notification regarding the details of the event as required by Rule 8.2. This is cited as a problem.

CORRECTIVE ACTIONS: 1) As soon as practicable provide the Division with a written report of the event pursuant to Rules 8.2.2 and 8.2.3. 2) Provide the Division with an interpretation of the sample results as well as raw data. Pending the soil sample results soil removal or remediation may be necessary. 3) Once BMP features have been repaired please provide the Division photo documentation and a summary of the work scope conducted to prevent future erosional issues along the water line.

CORRECTIVE ACTION DUE DATE: 5/26/23

OBSERVATIONS

The Logan Wash is a 112 Hard Rock permitted site that includes a total of 26 permitted acres. The site is in final reclamation. The mine is located in Garfield County, approximately seven miles northeast of De Beque, Colorado as the crow flies.

This inspection was conducted by the Colorado Division of Reclamation, Mining, and Safety (Division) in response to a spill that was discovered on April 14, 2023. The Division was notified via phone on April 14, 2023 at 10:35 am in accordance with Rule 8.1. To date the Division has not yet received a formal written notification regarding the details of the event as required by Rule 8.2. This is cited as a problem. As soon as practicable provide the Division with a written report of the event pursuant to Rules 8.2.2 and 8.2.3. On April 21, 2023 Bruce Smith of Western Water and Land, Inc. represented Occidental Oil Shale, Inc. and accompanied Amy Yeldell of the Division on the inspection. Only the Logan Wash Road was inspected, no observations were made of the mine.

This site has a buried retort water line. The water line conveys mine water from the Logan Wash Mine west to the Evaporation Pond Facility. Water is conveyed via a 4 inch (in some areas 6 inch) PVC pipe. The water line runs along and sometimes directly under the Logan Wash Road from the bottom of the gulch to the evaporation pond. When accessing the mine to conduct sampling Mr. Smith came across a severed portion of the water line. The broken pipe was located at N 39.415756, W 108.233559 which is approximately 0.73 miles above the turn off to the Evaporation pond Road and 2.7 miles up Logan Wash Road from CR 204 (Rd 45 in Mesa County).

The duration and volume of spill is unknown. According to Mr. Smith the road had been scoured away by stormwater approximately 7 feet deep and the road was barely passable. Mr. Smith coordinated with contractors to get the pipe repaired that day and the water line is no longer leaking from the identified location. The eroded water line area was also temporarily backfilled. The estimated flow at the time of the repair was 2.1 GPM. During the repair, samples were taken of the retort water, soil sample downstream and an upstream reference soil sample. Flags were placed at the sample locations. Results had not been received back from the lab at the time of the inspection.

Access along Logan Wash Road is extremely rough due to stormwater eroding and/or depositing sediment throughout the road. The Logan Wash Road has stormwater ditches on either side of the road, as well as a berm to keep water in Logan Wash and off of the road at times of high flows. These BMPs have failed to maintain

stormwater effectively and were likely a contributing factor to the conditions that resulted in the water line break. Also observed during this inspection were culverts further up the Logan Wash Road which had become plugged with sediment and rocks. The plugged 36" twin culverts are designed to direct Logan wash from the south side of the road to the north side. Without these culverts functioning stormwater is flowing across and down Logan Wash Road. Excessive amounts of sediment have been deposited on the road and shoulders.

As a result of this event the inspection frequency conducted by the Operator has been increased to weekly to monitor for any future spring stormwater issues. Temporary repairs to the roads and ditches have been made. Contractors have been scheduled to finish repairing the road. The eroded area still requires an additional five feet or so of backfill to bring back to grade. Material will be imported and sufficiently packed to the repair road without damaging water line. The Operator as well as other road users are coordinating the maintenance of the stormwater ditches along the entire length of Logan Wash Road. A redesign or replacement of the plugged culvert area is also being discussed to prevent future maintenance problems. Utilities along Logan Wash Road have been marked by flags, indicating repairs are imminent.

Follow up actions: 1) As soon as practicable provide the Division with a written report of the event pursuant to Rules 8.2.2 and 8.2.3. 2) Provide the Division with an interpretation of the sample results as well as raw data. Pending the soil sample results soil removal or remediation may be necessary. 3) Once BMP features have been repaired please provide the Division photo documentation and a summary of the work scope conducted to prevent future erosional issues along the water line.

Responses to this inspection report should be directed to Amy Yeldell at the Division of Reclamation, Mining and Safety, Room 215, 1001 E 62nd Ave, Denver, CO 80216. Direct contact can be made by phone at 303-866-3567 Ext 8183 or via email at amy.yeldell@state.co.us

Inspection Contact Address

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Enclosure

EC:
Travis Marshall, DRMS
Scott Hall, BLM
David Anderson, Oxy

PHOTOGRAPHS







Photo Five: Plugged culvert on Logan Wash Road



Photo Six: Material deposited on road side at plugged culverts

