




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: Mahogany Research-Freeze Wall Test	MINE/PROSPECTING ID#: P-2005-017	MINERAL: Oil shale	COUNTY: Rio Blanco
INSPECTION TYPE: Monitoring	WEATHER: Clear	INSP. DATE: July 26, 2023	INSP. TIME: 07:45
OPERATOR: Shell Frontier Oil & Gas Inc.	OPERATOR REPRESENTATIVE: Samantha Baker	TYPE OF OPERATION: MP - Mineral Prospecting	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$2,158,429.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
INSPECTOR(S): Amy Yeldell	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: August 11, 2023	

GENERAL INSPECTION TOPICS

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).

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>Y</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- PB	(EX) EXPLOSIVES----- <u>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>NA</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>NA</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>N</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>NA</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>NA</u>	(OD) OFF-SITE DAMAGE----- <u>NA</u>	

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

CORRECTIVE ACTIONS

INSPECTION TOPIC: Subsidence, Backfilling and Grading

PROBLEM/POSSIBLE VIOLATION: Problem: The presence of a subsidence feature is cited as a problem pursuant to Rule 3.1.5(2) for failure to ensure adequate compaction for stability.

CORRECTIVE ACTIONS: In order to resolve this problem please provide the Division with 1) a summary of your investigation which should include an explanation as to what lead to the subsidence, documentation of the feature (size, depth, etc.) and supporting maps and pictures. 2) A remediation plan that explains how the Operator intends to repair the subsidence feature in a way that will avoid future problems. The findings and remediation plan shall be due within 60 days of this report. Completion of the repair work shall be completed within 30 days of the plan approval (with an expectation that reseeding will occur in fall of 2023).

CORRECTIVE ACTION DUE DATE: 10/10/23

OBSERVATIONS

This inspection was conducted as part of the Colorado Division of Reclamation, Mining, and Safety normal monitoring program. The Mahogany Research-Freeze Wall Test is a Hard Rock NOI located in Rio Blanco County. Amy Yeldell of the Division conducted the inspection. Samantha Baker, Dillon Berry and Dave Murray represented the Operator.

The permitted NOI includes a total of 5 acres and has a current bond of \$2,158,429. All facilities areas located within the fenced in portion have been release under AR-1 in 2021. Following the approval of AR-1 only the hydrology pads remain permitted: 99-35-199, 100-35-199, 101-35-199, 102-35-199, and 130-35-199.

All hydrology wells have been plugged and abandoned, which includes cementing, cut and cap wells and backfill. Hydrology well pads have been reclaimed. The initial final reclamation efforts were completed in 2016. Additional grading and seeding has been conducted 2019-2022. Pads are now awaiting adequate vegetation establishment. The past winter consisted of heavy snows with warmer than average temperatures. The early spring/summer was very cold and plant germination was slow up till mid-June when temperature's skyrocketed into the high 90's with little to no moisture. Late June a few storms have begun but the summer monsoons have not truly started. All mining related debris has been removed from the site(s).

These pads were reseeded two years ago after being infested with Cheatgrass. Only the rabbit brush and sage remained. Now the vegetation is hit or miss. The pads are still primarily shrubs with patches of desirable grasses but most understory is weeds. Evidence of weed management was observed. Grazing does not appear to be negatively affecting this area

Pad 99-35-199 has a subsidence feature. Mr. Murray stated it is likely due to collapsible soils and the stormwater flowing differently now post reclamation. The subsidence feature is approximately 30' x 20'. At the time of the inspection soils were dry. It was indicated that an investigation is already taking place but that the final report has not yet been completed.

The presence of a subsidence feature is cited as a problem pursuant to Rule 3.1.5(2) for failure to ensure adequate compaction for stability. In order to resolve this problem please provide the Division with 1) a

summary of your investigation which should include an explanation as to what lead to the subsidence, documentation of the feature (size, depth, etc.) and supporting maps and pictures. 2) A remediation plan that explains how the Operator intends to repair the subsidence feature in a way that will avoid future problems. The findings and remediation plan shall be due within 60 days of this report (October 10, 2023). Completion of the repair work shall be completed within 30 days of the plan approval (with an expectation that reseedling will occur in fall of 2023). If additional land is needed for repair work beyond the permit boundary the Operator shall immediately notify the Division. No disturbances outside of the permit boundary are authorized.

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

Samantha Baker
Shell Frontier Oil & Gas Inc.
4487 County Road
Rifle, CO 81650

CC:
Travis Marshall, Senior EPS, Grand Junction DRMS
Dave Murray, Consultant

PHOTOGRAPHS

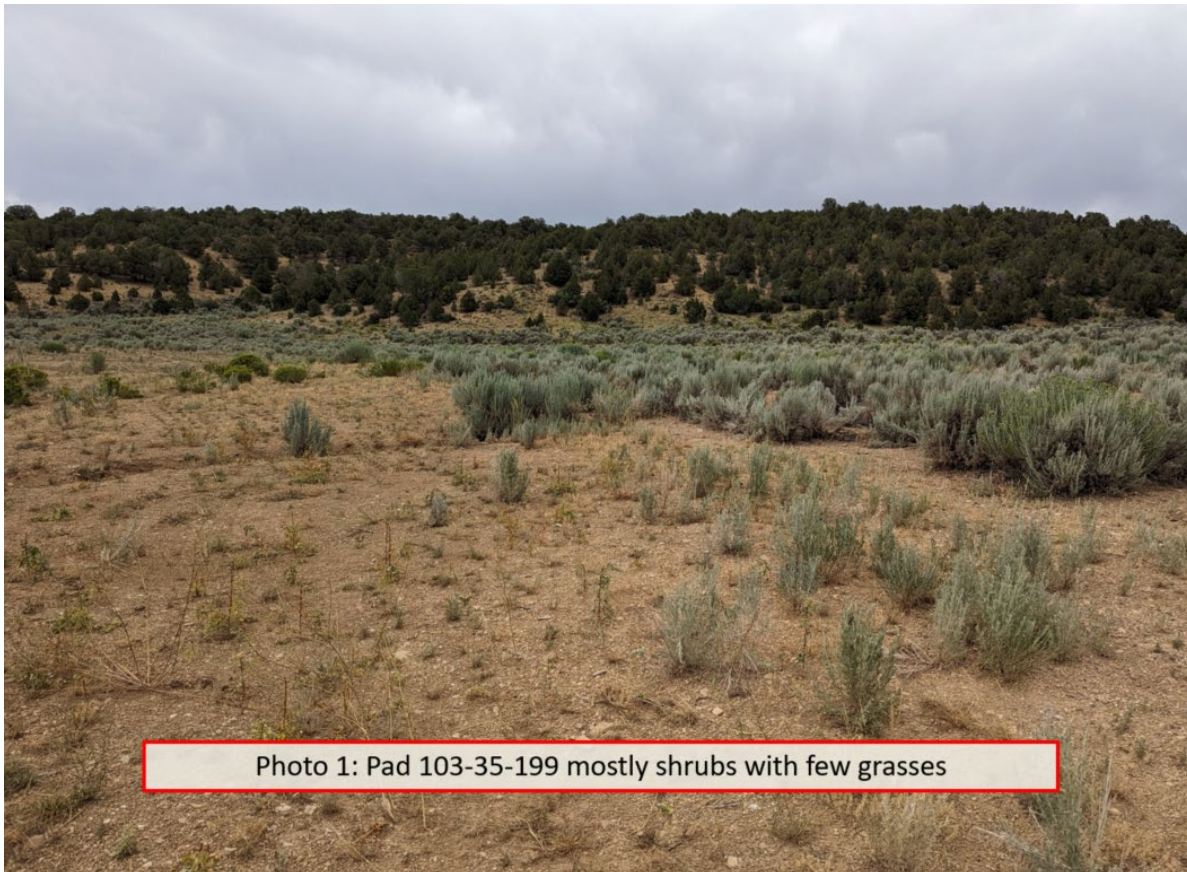


Photo 1: Pad 103-35-199 mostly shrubs with few grasses





Photo 4: Pad 99-35-199 subsidence feature.

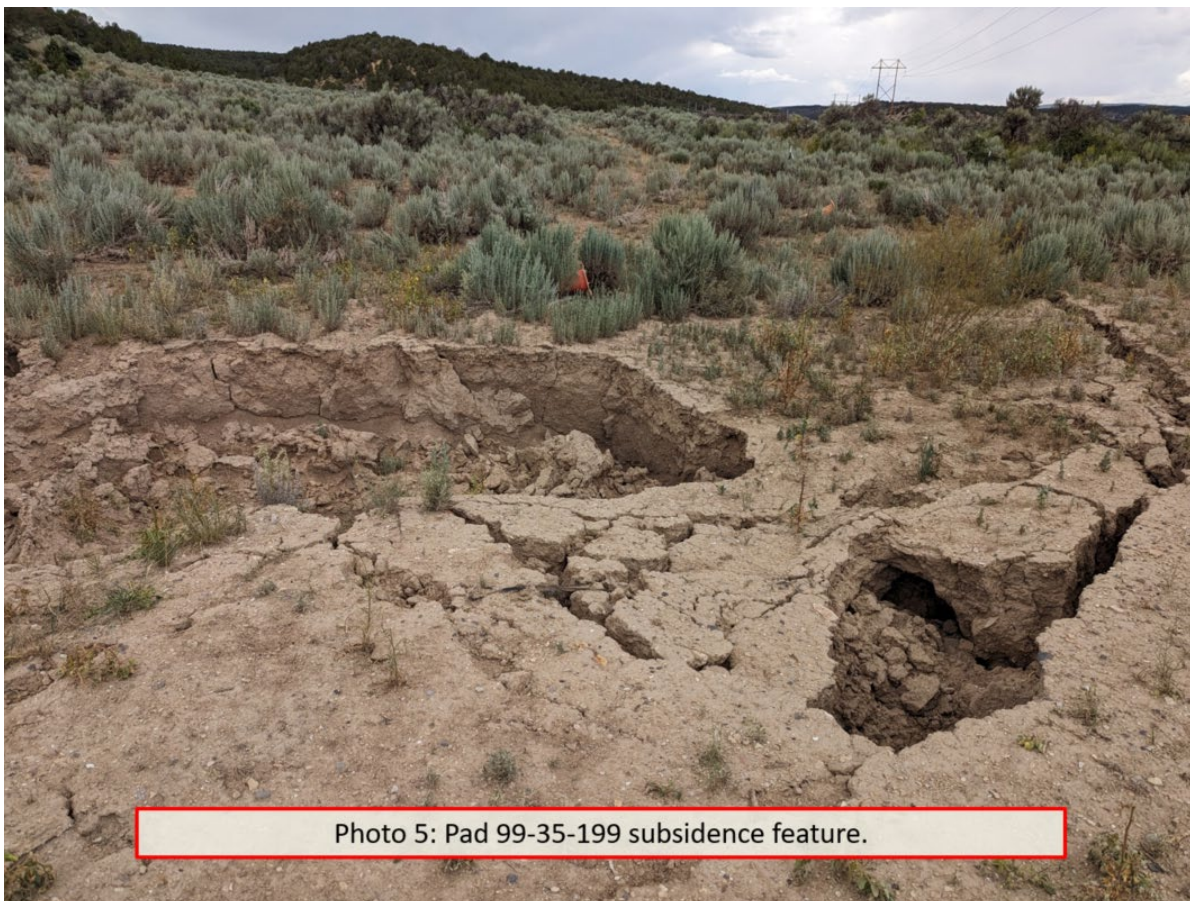


Photo 5: Pad 99-35-199 subsidence feature.



Photo 6: Pad 99-35-199 subsidence feature.

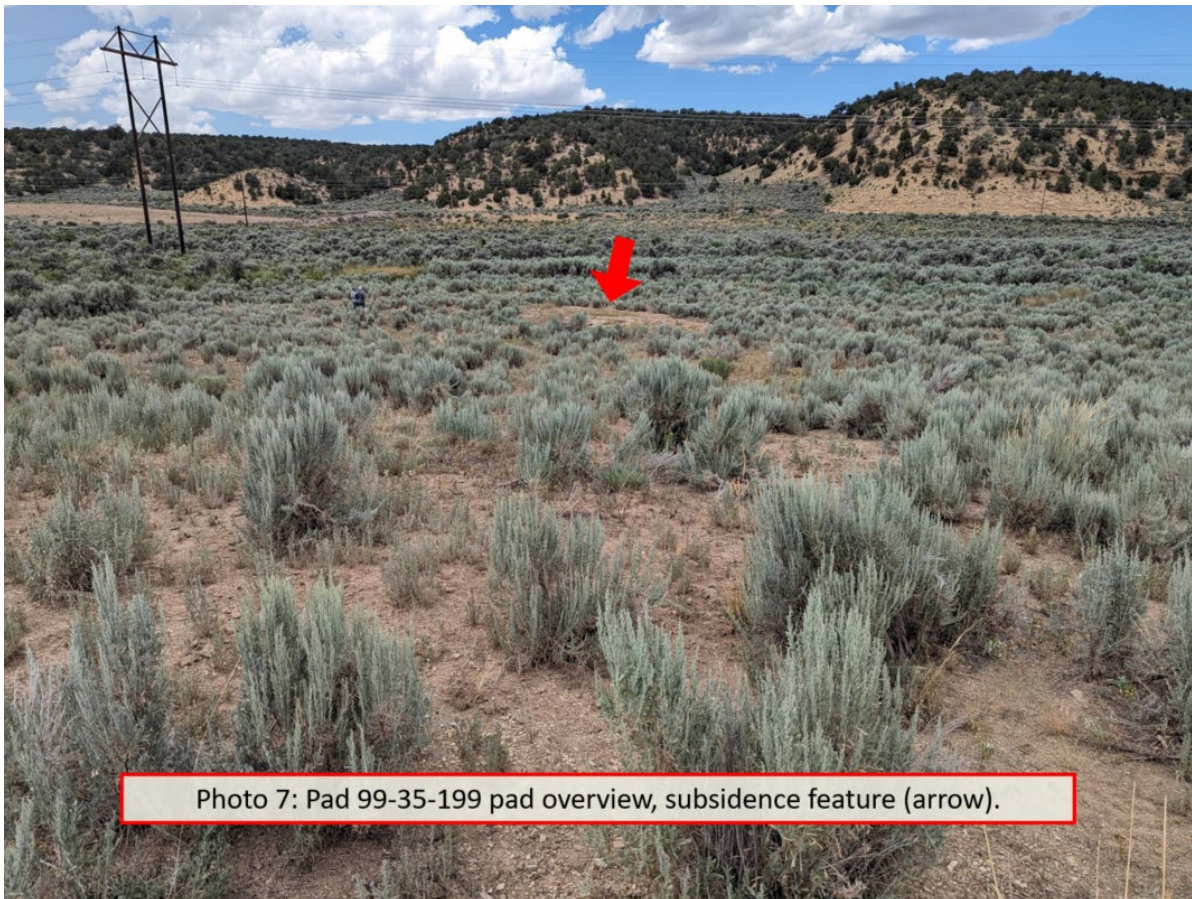


Photo 7: Pad 99-35-199 pad overview, subsidence feature (arrow).