UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
WATER QUALITY

DRAFT Fact Sheet and Statement of Basis Draft
Class 5-C1 permit
UIC Permit Number UTU-19-F4-8F9143D
November 7 2023

Blackstone Minerals NV LLC
Green River, Utah

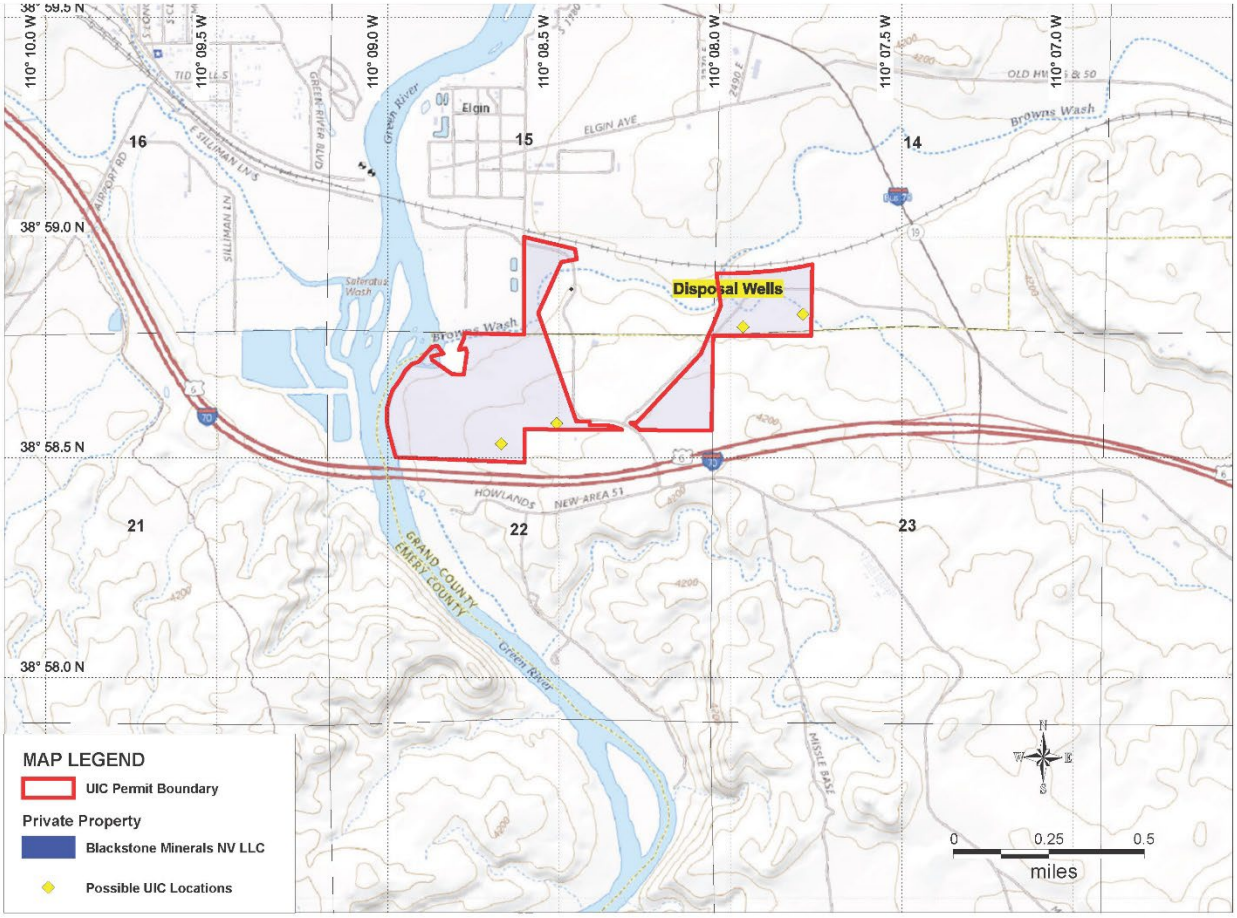

Figure 1. Permit Boundaries Map of Blackstone Minerals NV LLC

Location: **Green River, Utah**	**Operator:** **Blackstone Minerals NV LLC**
Facility Contact: **Greg Knox** **Blackstone Minerals NV LLC** **712 Proud Eagle Lane** **Las Vegas, Nevada 89114** **Gknox@ansonresources.com** **1-509-315-1585**	**Regulatory Contact:** **Porter Henze** **Utah Department of Environmental Quality** **Division of Water Quality** **UIC Program** **195 North 1950 West** **Salt Lake City, UT 84116** **pkhenze@utah.gov** **Tel. 385-566-7799**

Purpose of the Statement of Basis and Fact Sheet

The Utah Division of Water Quality (DWQ) has prepared this Fact Sheet and Statement of Basis (FSSOB) for the draft Underground Injection Control (UIC) Class V Well Permit (Category UIC Well 5C1) for Blackstone Minerals NV LLC. Pursuant to the Utah UIC administrative rules in Utah Administrative Code (UAC) R317-7 and federal regulations in Title 40 of the Code of Federal Regulations CFR) incorporated by UAC R317-7-1 the purpose of this FSSOB is to briefly describe the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the permit. To meet these objectives, this FSSOB contains:

- Background information on the permit process and names and telephone numbers of contacts for additional information (listed on the first page of this FSSOB above);
- A description of the draft review process and public participation;
- A brief description of the facility and process; and
- Basis for a draft permit conditions

Permit Process

Application and Review Period

In June of 2023 Blackstone Minerals submitted a UIC Technical Report[1] for a UIC Class 5 Spent Brine Return (SBR) well (5C1 SBR). The DWQ completed its review of the application and has completed the provisionally approved Draft Permit.

Public Participation

The permit was prepared by the DWQ for public notice and public comment. Public comments will be accepted by the DWQ for 30 days following the first day of public notice in the local newspaper that serves the affected community. A hearing may be held by the DWQ if public comments are substantial and the Permit requires revision based on these comments.

Description of Permitted Facility

Blackstone Minerals is conducting lithium and associated brine resource mining operations near Green River, Utah. Brines will be extracted from the paradox formation, specifically Clastic Zone 31 using extraction wells. Brines will be processed using a lithium carbonate and lithium hydroxide production plant utilizing direct extraction. The spent brine that is depleted of lithium will be pumped into the injection wells under pressure into the Paradox formation between clastic zone 7 and 19, or about 6,040 to 6,445 feet below ground surface.

Site Geology

The permit area is located in the northern paradox basin of the Colorado Plateau in Southwestern Utah along the green River. The paradox basin is part of the Colorado Plateau that is underlain by a thick sequence of evaporite salt beds of Pennsylvanian age. Alternating evaporite beds and clastic beds were deposited in a partially enclosed inland sea as a result of cyclical recharge of the basin with ocean water. In this locality, the overall thickness of the Paradox formation is 1,700 to 1,800

1 Blackstone Minerals NV LLC, 2023, Underground Injection Control Class V Injection Well Permit Application Technical Report; DWQ-2023-124898

feet thick.

Site Hydrology
Green River Utah receives all of their water from the Green River. Some shallow water wells are used for irrigation, but groundwater is generally non-potable[2]. There are no Underground Sources of Drinking Water (USDWS) in the permit area or Area Of Review owing to low productivity and poor water quality. There are two regional aquifer systems in the area, one relatively shallow aquifer system in the Mesozoic Formations and one deep in the Paleozoic formations. Evaporite Beds consisting of salt generally act as confining layers that separate the aquifers. Groundwater in the target bed is composed of a brine solution with total dissolved solids of more than 10,000 ppm owing to salt beds in these formations.

Groundwater recharge is limited owing to low rainfall and high rates of potential lake evaporation Recharge comes mainly from the north and east from the Book and Roan cliffs. No connection or recharge between the two aquifers and the rivers is evident.

Permit Conditions

Part I of the permit is the Authorization to Construct and Inject. Part II includes all general permit conditions required in all UIC permit with the focus on Class V permits. Part III contains all the specific permit conditions required of all Class V SBR wells.

Construction Plan
Blackstone Minerals will submit well construction plans that meet the requirements of Part III (C) of this permit prior to well construction.

Standard Operating Procedures Plan
Blackstone Minerals has submitted injection well Operating Plan (Permit Attachment D) that meets the requirements of Part III (E) of this permit.

Monitoring, Testing and Reporting
Injectate Characterization - Each source of injectate will be analyzed for a complete suite of parameters once during the permit cycle. Additionally, any new source for injection will be analyzed for a complete suite of parameters annually for the permit cycle. During each injection event, the source of the injectate will be analyzed for an abbreviated suite of parameters that include those constituents of concern and those constituents that have historically been detected. The monitoring parameter list and monitoring schedule are detailed in Attachments F of the permit, respectively.

2 Rush, F.E. Whitefield, M. S. Hart, I. M. 1982. Regional hydrology of the Green River-Moab Area, northwestern Paradox Basin, Utah. U. S. Geological Survey Open File Report 82-107, 92 p.