



## **GEOLOGIC HAZARD PLAN**

Date: November 29, 2023

Location: OGDG SKR 698-10-BV

Legal Description:

Tract 72, Section 10 & 15, Township 6S, Range 98W, 6<sup>th</sup> PM, Garfield County, Colorado

Chevron U.S.A., Inc. (Chevron) is to drill and produce two (2) wells on the existing SKR 698-10-BV Pad, located in Tract 72, Section 10 & 15, Township 6S, Range 98W, in Garfield County, Colorado. Per Colorado Energy and Carbon Management Commission (ECMC) Rule 304.b.(7).I., a Geologic Hazard Map (attached) was created to identify Geologic Hazards within a one-mile radius of the proposed working pad surface (WPS). Per ECMC Rule 304.c.(21), this Geologic Hazard Plan was developed to describe the hazards and proposed mitigation measures.

### **Site Characteristics**

Research and investigations related to Geologic Hazards were completed for the existing SKR 698-10-BV Pad and surrounding areas. As defined by the State of Colorado, a Geologic Hazard means a geologic phenomenon which is so adverse to past, current, or foreseeable construction or land use as to constitute a significant hazard to public health and safety or to property. The term includes but is not limited to: avalanches, landslides, rock falls, mudflows, and unstable or potentially unstable slopes; seismic effects; radioactivity; and ground subsidence.

According to the Colorado Geological Survey (CGS) landslide information available on the ECMC's GIS online, there are several landslides identified in the vicinity of the well pad. These landslides are at the base of or on the steep slopes of the adjacent plateaus and are common in this part of the Piceance Basin. The most common impact associated with these landslides results from rock fall, which is often triggered during precipitation events and freeze-thaw cycles.

### **Mitigation Measures**

As noted above, rock fall associated with these landslides commonly occurs throughout this part of the Piceance Basin. Roads used to access the existing SKR 698-10-BV Pad have been constructed by Garfield County to try to alleviate impact from rock falls or landslide vents to the extent possible. The measures used include terracing above the roads and separation of the road from the base of the steep slopes as much as possible. The landslides identified to the north and east of the existing pad have sufficient distance from the pad or intervening topography that any rock fall or landslides from these areas would not impact the well pad. The landslide identified to the south is on the other side of the drainage to the south of the well pad and the well pad is elevated above that drainage so that any rock fall or landslides are not likely to reach the pad. Although the slope immediately to the north of the well pad is not identified as the location of landslides, the construction of the pad accounted for potential landslides from this slope by gradual sloping and terracing along the northern edge of the pad.

### **Summary**

Geologic hazards were reviewed for the existing SKR 698-10-BV Pad and surrounding areas. The CGS identifies several landslide features in the vicinity. The landslides do not pose a risk to construction or production operations at the proposed pad which would constitute significant hazards to public, health, safety, or property.

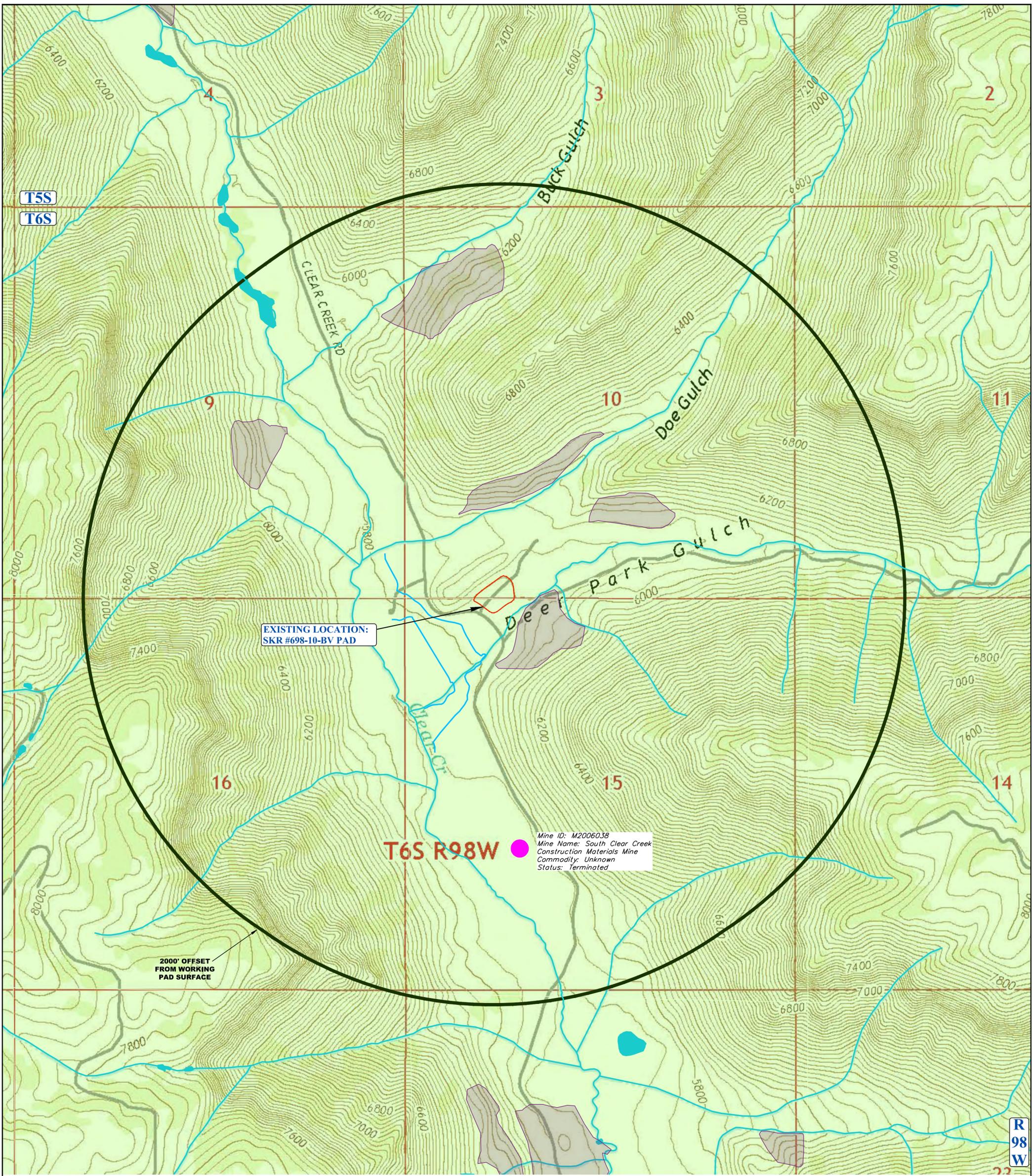
## Professional Geologist Certification

I certify that I am a Professional Geologist, having met the educational requirements and professional work experience required by C.R.S. § 23-41-208(b). I have reviewed information pertaining to this Oil and Gas Location and the surrounding area and have identified the following Geologic Hazards: Landslides. The identified hazard does not pose a risk to construction or production operations nor are a hazard to public health, safety, or property in the area surrounding the Oil and Gas Location.



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Doug Dennison  
Senior Permitting Coordinator  
Chevron/Noble Energy



**NOTES:**

- There are no known/permitted coal areas, landslides or earthquake records within 5280' of the working pad surface. [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/) (07-03-23)
- Fault (ECMC) - None - [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/) (07-03-23)
- Landslide (ECMC) - [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/) (07-03-23)
- Underground Mine (ECMC) - None - [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/) (07-03-23)
- Collapsible Soils (CGS) - <https://cologeosurvey.maps.arcgis.com/apps/webappviewer/index.html?id=a6f816b35fb64d3da096e84af661f070> (07-03-23)
- Radioactive Minerals (ECMC) - None - [https://cogccmap.state.co.us/cogcc\\_gis\\_online/](https://cogccmap.state.co.us/cogcc_gis_online/) (07-03-23)
- Floodplain information was taken from ECMC GIS data. (Floodplain-Colorado 100-year Effective as of (2020) (07-03-23)

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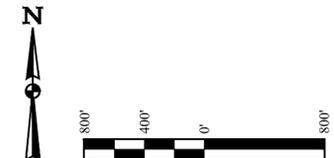
  
 Doug Dennison  
 Lead Regulatory Affairs Spec.  
 TITLE

11/29/2023  
 DATE

**LEGEND:**

- WORKING PAD SURFACE
- OIL & GAS LOCATION (LOD)
- FLOOD PLAINS
- EG-14 CRETACEOUS & TERTIARY FORMATIONS
- LANDSLIDE


**UELS, LLC**  
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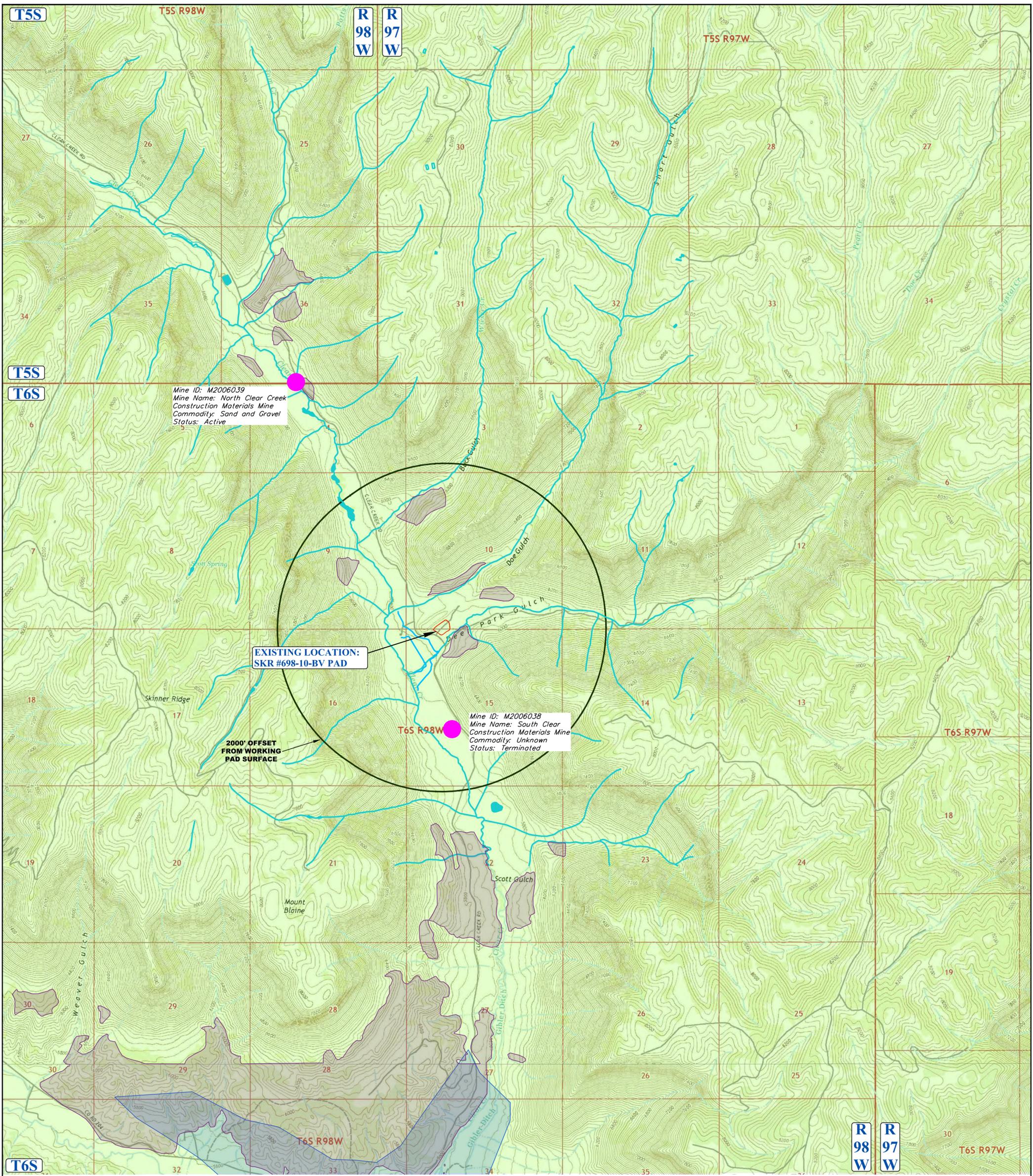


REV: 2 09-29-23 T.L.L. (ADD IRRIGATION DRAINAGES & CERTIFICATION)

**CHEVRON U.S.A. INC.**  
 SKR #698-10-BV PAD  
 TRACT 72, SECTIONS 10 & 15, T6S, R98W, 6th P.M.  
 GARFIELD COUNTY, COLORADO

SURVEYED BY	D.S.	06-29-23	SCALE
DRAWN BY	D.R.B.	07-03-23	1" = 800'

**GEOLOGIC HAZARDS MAP**



Mine ID: M2006039  
 Mine Name: North Clear Creek  
 Construction Materials Mine  
 Commodity: Sand and Gravel  
 Status: Active

Mine ID: M2006038  
 Mine Name: South Clear  
 Construction Materials Mine  
 Commodity: Unknown  
 Status: Terminated

EXISTING LOCATION:  
 SKR #698-10-BV PAD

2000' OFFSET  
 FROM WORKING  
 PAD SURFACE

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**UETAH**  
 ENGINEERING & LAND SURVEYING

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**GEOLOGIC HAZARDS MAP**