



## FACT SHEET

(Pursuant to NAC 445A.874)

Permittee: Grant Canyon Oil & Gas LLC  
Project: Blackburn Oil Field -  
Permit Number: UNEV96200  
Date Revised: March 2014  
Reason: Renewal  
No. of Permitted Wells: Four (4)

### A. Description of Discharge

#### **Approved Injection Wells:**

Blackburn #12 - is permitted for water injection for the purposes of water disposal.

Blackburn # 3 - is permitted for both ambient air and water injection for the purposes of enhanced recovery and water disposal.

Blackburn #14 - is permitted for ambient air injection for the purposes of enhanced recovery.

Blackburn #16 - is permitted for ambient air injection for the purposes of enhanced recover.

#### **Location:**

Township 27N, Range 52E, Sections 7 & 8, Eureka Co. Nevada

Blackburn #12, #14 and #16 are in Section 7, Blackburn #3 is in Section 8

#### **Characteristics:**

All fluid injectate is produced in conjunction with conventional oil production. Oct. 2007 TDS = 1730 mg/l / Dec 2000 TDS = 1700 mg/l / Jan 1993 TDS = 1700 mg/l / Feb 1986 TDS = 1810 mg/l. Elevated levels in 1984 samples of TDS (2,368 mg/l), sodium (745 mg/l), chloride (735 mg/l), sulfate (320 mg/l) and pH (7.4) are present.

Chemical treatment for various reasons such as scale and corrosion inhibition may be needed. Such chemical treatment will require approval by the Division prior to use.

### B. Synopsis

2014 March: Discussion on fracking well #16, and disposal of pumpback water to well #12

2009 August: Blackburn well #16 approved for air injection

2008 February: Permit Renewed

Blackburn well #14 approved for air injection

Blackburn well #3 approved for air injection

2007 December: Testing of Blackburn well #3 for air injection

1996: Permit renewed

1991: Permit renewed

1986: Original permit issued

### 2008

The applicant has requested permitting for water injection into Blackburn#12 and enhanced recovery via air injection into Blackburn #14. Blackburn #3 has been requested to be permitted for both water disposal and ambient air injection.

Blackburn #3 will have a separate injection line for the air and water which will allow for water or air injection; co-injection is not permitted at this time. The construction of the co-injection system is uncertain and hasn't been submitted to the UIC program and will be reviewed at a later date. During times of co-injection there will be some corrosion concerns. If the permittee were to co-inject air and water for an extended period of time, an IPC tubing string will be installed to maintain mechanical integrity in the corrosive environment of an air/water mixture. Blackburn has noted that water disposal via Blackburn #3 would be used as a back-up to Blackburn #12. A booster compressor will be used to inject the air; however co-injection could be used to assist air injection in a case where the booster compressor was offline. The permittee shall monitor the wellhead injection pressure and limit it to prevent adverse impacts to the well's integrity or hydrofracturing of the formation(s) under all injection conditions. In addition, for water disposal purposes, the maximum wellhead pressure shall not exceed 1800 psig, and additional external integrity testing (e.g. radioactive tracer survey) will be required if pressure reaches 1,400 psig. Expected pressures are ~ 1050 psig at 3 bbls/min rate.

### 2007

The applicant has requested renewal and modification of permit UNEV96200. The application has requested a total of four (4) injection wells be permitted under the renewed permit, for both disposal of produced water and for enhanced recovery work. Blackburn #12 will remain the primary disposal well, and Blackburn #3 will be tested for enhanced recover purposes using air and for backup disposal purposes. The other two injection wells would be named later as need within the section identified above.

### 1996

The applicant has requested renewal of UIC permit UNEV96200 (previously #NVS000000001) to inject into well Blackburn #12, Blackburn Field, Eureka County, Nevada. The only wells known to exist within the area of review are associated with oil production. Injectate fluids are produced in conjunction with conventional oil production activities from other wells in the area. The average injection rate will

be 6,000 (previously 5,000) barrels water (1 barrel = 42 gals.) per day. The maximum pressure allowed at the well will be 1,000 psig. The existing well has undergone testing and has demonstrated mechanical integrity.

C. **Receiving Water Characteristics**

The injection zone for the Blackburn well #12 is within the Devonian Nevada Formation at or below 8,134 feet. This zone has been characterized by water analysis and by other injection wells in the area to be high in total dissolved solids and to contain hydrocarbons. A quarter-mile zone around has aquifer exemption pursuant to NAC 445A.855 until such time as the well is removed from injection status and/or plugged. Injection zones for Blackburn #3 are the Indian Wells Formation, Chainman Formation, and Devonian Nevada Formation. TDS values in #3 have ranged from 1,800-2,500 in certain zones, and up to 3,600 ppm blended (BLM file). Blackburn #14 injection zone is the Devonian Nevada Formation; perforations in this well exist in the Chainman Formation.

D. **Procedures for Public Comment**

The Notice of the Division's intent to reissue a permit authorizing the facility to discharge to the ground water of the State of Nevada is being sent to the Elko newspaper for publication no later than March 24, 2014.

The notice is being mailed to interested persons on our mailing list (see Attachment A). Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.239.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445.274.

E. **Proposed Determination**

The Division has made the tentative determination to reissue the proposed permit.

F. **Proposed Effluent Limitations and Special Conditions**

See Part I.A of the permit.

G. **Rationale for Permit Requirements**

Permit requirements will verify that the quality of water injected remains constant and confirm that injection of water does not adversely affect the existing hydrologic regime.

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Revision date: March 2014