



NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET

(Pursuant to NAC 445A.874)

Permit Number: UNEV89006  
Facility Name: Grant Canyon Field  
Facility Address: Grant Canyon Unit  
Railroad Valley, Nye County, NV

Permittee: Grant Canyon Oil and Gas, LLC  
Permittee Address: 717 17<sup>th</sup> St, Suite 1400  
Denver, CO 80202

Property Owner: Public Land

Legal Description: T.7N, R.57E., Sections 16, 20, & 21, MDB&M Nye County

Number of Permitted Wells: Three (3)  
Other Permitted Discharges: N/A  
Reporting Frequency: Quarterly

A. Description of Discharge

**Location #1:** Injection well Grant Canyon #1 located in Section 21, T7N, R57E, Nye County, Nevada.

**Characteristics:** All injectate into Grant Canyon #1 is fluid produced in conjunction with conventional oil production. The injectate fluid will have a TDS concentration of approximately 5000 ppm and will contain hydrocarbons and chemicals from the production process.

**Location #2:** Injection well Grant Canyon #3 located in Section 16, T7N, R57E, Nye County Nevada.

**Characteristics:** All injectate into Grant Canyon #3 is ambient air to enhance recovery related to conventional oil production.

B. Synopsis

2014 Renewal: no major changes to permit, Permittee request to add water disposal for well #3, but BWPC did not have enough well information and tested completed to authorize water disposal at this time. When Permittee wants to convert, information and testing can be completed then.

UNEV89006 was originally issued in 1989 to permit injection into Grant Canyon #1. In

2007, the applicant requested permission to modify UNEV89006 to include injection of ambient air for the enhanced recovery of oil in conventional oil production into Grant Canyon well #3. UNEV89006T07 was issued to add ambient air injection into Grant Canyon #3 and will expire upon subsequent renewal of UNEV89006. The only wells known to exist within the area of review are associated with oil production.

Grant Canyon well #1 receives injectate fluids produced in conjunction with conventional oil production activities from other wells in the area. The average injection rate is approximately 1000bbls/day (1 barrel = 42 gals) and a maximum rate of 2000 bbls/day. The maximum pressure allowed at the wellhead will be 1,300 psig.

Grant Canyon well #3 will receive compressed ambient air in order to replace the approximately twenty million barrels of oil which has been removed from the reservoir during twenty-two years of production. This air injection is intended to provide reservoir pressures to allow the Grant Canyon Unit production wells to flow freely. The average injection rate is approximately 800 cubic feet per minute (cfm) and a maximum rate of 1000 cfm. The maximum pressure allowed at the wellhead will be 1,600 psig and the maximum injection rate shall not exceed 1200 cfm.

Timeline:

Dec 1989	Original Permit Issued
Dec 1994	Renewal Permit Issued (well #5 removed from Permit)
Feb 1999	Renewal / Minor Mod Permit Issued
May 2006	Permit Transferred from Makoil to Grant Canyon Oil and Gas LLC
Feb 2007	Major Mod Application Rec'd
Mar 2007	Temporary Permit Issued (added well #3 to permit)
Jan 2008	Renewal Application Rec'd
Apr 2008	Permit Renewed
Feb 2013	Renewal Application Rec'd
Nov 2014	Permit Renewed

1. changed maximum daily rate to 4,000 bpd, old amount too high

C. Receiving Water Characteristics

The injection zone is within the Devonian Guilmette formation. This zone has been characterized by water analysis and by other wells in the area to be high in total dissolved solids and to contain hydrocarbons. An impermeable clay zone has been identified between the valley fill and the lower Paleozoic carbonates. A water quality analysis of the receiving zone indicates the receiving formation has the following general characteristics: TDS 3490 mg/L, sodium 1340 mg/L, calcium 63.3 mg/L, sulfate 420 mg/L, chloride 1100 mg/L and bicarbonate 1232 mg/L. Based on the fact the injection zone is a similar oil producing zone as the zone(s) in the producing wells and per Nevada Statutes on oil producing zones, groundwater degradation to the injection zones is not a concern.

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 *Ely Daily Times* for publication. The notice is being mailed to interested persons on our mailing list. 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, 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 445.150. 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 UNEV89006 for injection into a maximum of three wells.
- F. Proposed Injection Testing and Monitoring  
Refer to Part I.A of permit for specifics. The
- G. Rationale for Permit Requirements  
Permit requirements will verify the quality of fluid discharged to the injection well remains constant and will confirm that fluids disposal does not adversely affect the existing hydrologic regime.

Prepared by: Russ Land  
Bureau of Water Pollution Control  
Date: November 18, 2014

**Project Area**

