NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

F A C T S H E E T
(Pursuant to NAC 445A.874)

Permittee Name: **Atlantic Richfield**
Project Name: **Atlantic Richfield Station # 5326**
Permit Action: **UIC Draft Permit Issuance**
Permit Number: **UNEV2009203**

Type of Project: **Remediation**
Address: **333 E. Charleston Blvd**
Las Vegas, Nevada 89104
Injection Wells (#): **two (2)**

A. Description of Injection

Location: Atlantic Richfield Station #5326, located at the address above in the SW ¼ of Section 29, T.20S, R.61E. There are two (2) injection wells, IW-1 and IW-2. The wells are approximately 35 feet deep with 6" Schedule 40 PVC casing and screened interval between 10 feet and 35 feet.

Characteristics: The injectate is treated ground water and a solution of very low concentration (~1%) hydrogen peroxide solution, which are injected into the two injection wells at a rate of approximately 2,000-4,000 gallons/day, maximum 6,000 gpd (4.2 gpm). The treated ground water will be injected under gravity fed conditions.

B. Synopsis

A petroleum hydrocarbon release at Station #5326 was reported to NDEP on December 15, 2000. The release was discovered during the removal of three 10,000 gallon gasoline underground storage tanks. A dual-phase extraction pilot test was performed in October 2007. The results were very favorable, and a corrective action plan was submitted to NDEP in April 2008. The DPE system is comprised of six extraction wells (PEW-1 – PEW-6) and two injection wells (PIW-1 & PIW-2).

In the original workplan, a HiPOX in-line water treatment system was considered, but due to reduction in contaminant concentration, the cost was not justified. The current plan at time of UIC permit issuance was to install three in-series 1,000 pound granular-activated carbon (GAC) canisters. The GAC system will reduce the dissolved hydrocarbon concentration to less than 1.0 ppb.

Then a 25% solution of hydrogen peroxide will be injected at a rate of 10 gallons per day. The final peroxide concentration shall be approximately 1% in the injectate. The treatment system can process 8,640 gallons of ground water per day. It was originally estimated the extraction rate would be around 2,000 gallons per day, but due to higher production rates from deeper extraction wells than the test wells, the production rate may be around 4,500 gpd.

Monthly maintenance will be conducted on the remediation system. Monitoring will occur on a quarterly basis, other than initial UIC sampling of system influent on days 1 and 30 of initial operation.

C. Receiving Water Characteristics

Groundwater sampling at this site has demonstrated the presence of BTEX and MTBE in excess of the State and Federal action levels.

Depth to ground water is 11 to 14 feet across the project site. The aquifer that will be affected by injection at this site is the near surface aquifer. It is unlikely the first drinking water aquifer will be affected by injection activities because of the presence of impermeable soils between the near surface aquifer and the first drinking water aquifer.

The geology encountered during well construction at the site consists of valley fill materical composed of silty sand, silty clay, and caliche. The depth to ground water is approximately 13.5 feet bgs. The groundwater generally flows to the east.

D. Procedures for Public Comment

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to ground water of the State of Nevada was sent to the Las Vegas Review Journal on June 16, 2009. The notice was mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit may do so for a period of 30 days following the date of the public notice.

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.238.

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 issue the proposed permit.

F. Proposed Effluent Limitations and Special Conditions

Table 1

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Injectate Flow Rate	Total monthly, calculate Average daily	Effluent to IW-1 and IW-2	Monitor and Report; if more than 6,000 gal/day for more than 3 days, notify UIC program

Hydrogen Peroxide: Rate & Volume of application	Total monthly and Average daily	H2O2 / stenner pump	Not to exceed 25 gallons per day
UIC Sample List 3 – Organics (attached)	Day 1 & 30 of pumping / injection	Influent sample, before GAC canisters	Monitor and Report
UIC Sample List 3 – Organics (attached)	Quarterly – "if any values above detection level for influent on Day 1 or 30 sample other than BTEX and MTBE"	Effluent, after last GAC canister	Not to exceed Drinking Water Standards
Benzene, Toluene, Ethyl benzene, total Xylenes (BTEX), and Methyl Tertiary Butyl Ether (MTBE)	Monthly	Effluent, after last GAC canister	Not to exceed Drinking Water Standards
Groundwater Elevation (amsl) and Depth to Groundwater	Quarterly	All on-site monitoring and injection wells	Monitor and Report, MW-2 water level shall not rise to within three (3) feet of surface.

G. Rationale for Permit Requirements

The permit conditions will help to ensure that the injectate does not adversely affect the existing water quality or hydrologic regime.

Prepared by: Russ Land
Date: June 2009