

## Los Angeles Regional Water Quality Control Board

January 28, 2013

Mr. Danny Monson  
Atlantic Richfield Company  
4 Centerpointe Drive  
La Palma, CA 90623

Certified Mail  
Return Receipt Requested  
Claim No. 7011 2970 0000 0645 1775

**MODIFICATION OF GENERAL WASTE DISCHARGE REQUIREMENTS FOR  
GROUNDWATER CLEANUP AT PETROLEUM HYDROCARBON FUEL, VOLATILE  
ORGANIC COMPOUND AND/OR HEXAVALENT CHROMIUM IMPACTED SITES  
ARCO STATION NO. 5093 (B-1 SITE)  
21943 WILMINGTON AVENUE, CARSON, CA (CASE NO. I-10154)  
(ORDER NO. R4-2007-0019, SERIES NO. 132; CI NO. 9615)**

Dear Mr. Monson:

On July 29, 2010, the Executive Officer of this Regional Board issued a Waste Discharge Requirement (WDR) Order No. R4-2007-0019 to Atlantic Richfield Company to inject oxygen release compound to remediate the groundwater.

Your consultant Stantec, on your behalf submitted a "Corrective Action Plan" (the RAP) dated September 15, 2012, to modify the existing remedial approach and proposed to inject hydrogen peroxide with Fenton's Reagent into the saturation zone to enhance oxidation and intrinsic bioremediation of residual fuel constituents in the groundwater. A Regional Board staff directive letter dated September 20, 2012 approved the RAP. The most recent monitoring data showed the maximum concentrations of petroleum hydrocarbon as gasoline (TPHg) at 34,000 µg/L, benzene at 13,000 µg/L, methyl tertiary butyl ether (MTBE) at 150 µg/L, and tertiary butyl alcohol (TBA) at 9,800 µg/L.

We have completed our review of your application to modify the General Waste Discharge Requirements for the injection of hydrogen peroxide with Fenton's Reagent at the site referenced above for groundwater remediation.

Regional Board staff has determined that the proposed discharge of hydrogen peroxide with Fenton's Reagent meets the conditions specified in Order No. R4-2007-0019, "*Revised General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel, Volatile Organic Compound and/or Hexavalent Chromium Impacted Sites (General WDR)*," adopted by the Los Angeles Regional Water Quality Control Board on March 1, 2007.

Enclosed are your Waste Discharge Requirements, consisting of General WDRs Board Order No. 2007-0019 and Monitoring and Reporting Program No. CI-9615 and Standard Provisions.

The WDRs issued shall not be terminated until Regional Board staff determines the WDRs are no longer needed for the subject site.

In accordance with regulations adopted by the State Board in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting monitoring reports to the State Board GeoTracker system under UST Global ID T0603703585. To comply with the Monitoring and Reporting Program (MRP) under this WDR, the Discharger shall upload the WDR monitoring reports to the Geotracker under the two Global ID T0603703585 (continuing) and Global ID WDR100000256 (new). For more information regarding the new Global ID under WDR, please see ESI training video available at:

<https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to Compliance File No. CI-9615 to assure that the reports are directed to the appropriate file and staff. Do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2007-0019 only to the applicant. A copy of the Order will be furnished to anyone who requests it, or on line at:

[http://www.waterboards.ca.gov/losangeles/board\\_decisions/adopted\\_orders/general\\_orders/r4-2007-0019/r4-2007-0019.pdf](http://www.waterboards.ca.gov/losangeles/board_decisions/adopted_orders/general_orders/r4-2007-0019/r4-2007-0019.pdf)

To avoid paying future annual fees, please submit a written request for termination of your enrollment under the general permit in a separate letter, when your project has been completed and the permit is no longer needed. Be aware that the annual fee covers the fiscal year billing period beginning July 1 and ending June 30, the following year. You will pay the full annual fee if your request for termination is made after the beginning of the new fiscal year beginning July 1.

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the MRP, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100000256. Please see Paperless Office Notice dated October 20, 2011 for further details at:

[http://www.waterboards.ca.gov/losangeles/resources/Paperless/R4%20Paperless%20Office%20Notice%20\(10-20-11\).pdf](http://www.waterboards.ca.gov/losangeles/resources/Paperless/R4%20Paperless%20Office%20Notice%20(10-20-11).pdf).

ESI training video is available at:

<https://waterboards.webex.com/waterboards/ldr.php?AT=pb&SP=MC&rID=44145287&rKey=7dad4352c990334b>.

Mr. Danny Monson  
Arco Station No. 5093

- 3 -

January 28, 2013

If you have any questions, please contact Mr. Eric Wu at (213) 620-6683 or ewu@waterboards.ca.gov. Questions regarding underground storage tank issues should be forwarded to Mr. Jimmie Woo at (213) 576-6698 or jwoo@waterboards.ca.gov.

Sincerely,

  
Samuel Unger, P.E.  
Executive Officer

Enclosures: 1. Board Order No. R4-2007-0019  
2. Monitoring and Reporting Program No. CI-9615  
3. Standard Provisions

cc: Kathy Jundt, State Water Resources Control Board, Underground Storage Tank Cleanup Fund  
Phuong Ly, Water Replenishment District of Southern California  
Tim Smith, Los Angeles County Department of Public Works, Environmental Programs  
Richard Lavin, County of Los Angeles, Department of Public Health Services, Drinking Water Program  
Andrew Modugno, Stantec



STATE OF CALIFORNIA  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION  
MONITORING AND REPORTING PROGRAM NO. CI-9615  
for

ARCO STATION NO. 5093  
21943 WILMINGTON AVENUE, CARSON, CA  
(FENTON'S REAGENT FOR GROUNDWATER CLEANUP)  
(ORDER NO. R4-2007-0019, SERIES NO. 132)

I. REPORTING REQUIREMENTS

- A. Atlantic Richfield Company (hereinafter Discharger) shall implement this monitoring program on the effective date of enrollment, January 28, 2013. The first monitoring report under this program shall be received at the Regional Board by **July 15, 2013**. Subsequent monitoring reports shall be received at the Regional Board according to the following schedule:

<u>Monitoring Period</u>	<u>Report Due</u>
January – June	July 15 <sup>th</sup>
July – December	January 15th

The Discharger shall comply with the Electronic Submittal of Information (ESI) requirements by submitting all reports required under the Monitoring and Reporting Program, including groundwater monitoring data, discharge location data, and pdf monitoring reports to the State Water Resources Control Board GeoTracker database under Global ID WDR100000256.

- B. If there is no discharge or injection during any reporting period, the report shall so state.
- C. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be provided each time a new and/or renewal certification is obtained from ELAP.
- D. The method limits (MLs) employed for effluent analyses shall be lower than the permit limits established for a given parameter, unless the Discharger can demonstrate that a particular ML is not attainable and obtains approval for a higher ML from the Regional Board Executive Officer (Executive Officer). The Discharger shall submit a list of the analytical methods employed for each test and the associated laboratory quality assurance/quality control (QA/QC) procedures upon request by the Regional Board.
- E. Groundwater samples must be analyzed within allowable holding time limits as specified in 40 CFR Part 136. All QA/QC samples must be run on the same dates when samples were actually analyzed. The Discharger shall make available for inspection and/or submit the QA/QC documentation upon request by Regional Board staff.
- F. Each monitoring report must affirm in writing that "All analyses were conducted at a laboratory certified for such analyses by the California Department of Health Services, and in accordance with current United States Environmental Protection Agency (USEPA) guideline procedures or as specified in this Monitoring Program." Proper chain of custody procedures

January 28, 2013

must be followed and a copy of the completed chain of custody form shall be submitted with the report.

- G. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with WDRs. This section shall be located at the front of the report and shall clearly list all non-compliance with WDRs, as well as all excursions of effluent limitations.
- H. The Discharger shall maintain all sampling and analytical results: date, exact place, and time of sampling; dates analyses were performed; analyst's name; analytical techniques used; and results of all analyses. Such records shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge, or when requested by the Regional Board.
- I. If the Discharger performs analyses on any groundwater samples more frequently than required by this Order using approved analytical methods, the results of those analyses shall be included in the report.
- J. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized to demonstrate compliance with the requirements and, where applicable, shall include results of receiving water observations.
- K. The Discharger should not implement any changes to the Monitoring and Reporting Program prior to receiving the Executive Officer's written approval.
- L. In accordance with regulations adopted by the State Board in September 2004 regarding electronic submittal of information (ESI), the Discharger has been electronically submitting monitoring reports to the State Board GeoTracker system under UST Global ID T0603703585. To comply with the Monitoring and Reporting Program (MRP) under this WDR, the Discharger shall upload the WDR monitoring reports to the Geotracker under the two Global ID T0603703585 (continuing) and Global ID WDR100000256 (new).

## II. DISCHARGE MONITORING REQUIREMENTS

The reports shall contain the following information regarding injection activities:

1. Location map showing application area.
2. Written summary defining:
  - Depth of insertion and depth to groundwater;
  - Quantity of Fenton's Reagent compound per area; and
  - Total amount of Fenton's Reagent applied at site.

3. Groundwater monitoring wells shall not be used as Fenton's Reagent injection points.

III. GROUNDWATER MONITORING PROGRAM

A groundwater-monitoring program shall be designed to detect and evaluate impacts associated with the Fenton's Reagent application at injection well P-6. The monitoring program shall consist of upgradient well GW-3, source wells GW-1, GW-13, and GW-14, and downgradient wells GW-5 and GW-11 (See Figure 1). A baseline monitoring and sampling shall be conducted prior to the proposed Fenton's Reagent application. Baseline monitoring will establish the initial conditions with respect to the contaminant levels. These sampling stations shall not be changed and any proposed change of monitoring locations shall be identified and approved by the Executive Officer. The Discharger shall conduct baseline sampling one or two weeks prior to Fenton's Reagent application and regular sampling with the required frequencies from the monitoring wells for the following constituents:

<u>CONSTITUENT</u>	<u>UNITS</u> <sup>1</sup>	<u>TYPE OF SAMPLE</u>	<u>MINIMUM FREQUENCY OF ANALYSIS</u>
pH <sup>2</sup>	PH units	Grab	Semi-Annually
Temperature <sup>2</sup>	°F	grab	Semi-Annually
Oxidation-reduction potential <sup>2</sup>	Milivolts	grab	Semi-Annually
Specific conductivity <sup>2</sup>	µmhos/cm	grab	Semi-Annually
Ferrous iron	µg/L	grab	Semi-Annually
Dissolved Oxygen <sup>2</sup>	µg/L	grab	Semi-Annually
MTBE	µg/L	grab	Semi-Annually
Tert-Butyl Alcohol (TBA)	µg/L	grab	Semi-Annually
Di-isopropyl Ether (DIPE)	µg/L	grab	Semi-Annually
Ethyl-t-Butyl Ether (ETBE)	µg/L	grab	Semi-Annually
Tert-Amyl-Methyl Ether (TAME)	µg/L	grab	Semi-Annually
Acetone	µg/L	grab	Semi-Annually
Formaldehyde	µg/L	grab	Semi-Annually
Total Petroleum Hydrocarbons as gasoline (TPHg)	µg/L	grab	Semi-Annually
Carbon tetrachloride	µg/L	grab	Semi-Annually
Benzene	µg/L	grab	Semi-Annually
Ethylbenzene	µg/L	grab	Semi-Annually

Toluene	µg/L	grab	Semi-Annually
Total xylenes	µg/L	grab	Semi-Annually
Methane	µg/L	grab	Semi-Annually
Total organic carbon	µg/L	grab	Semi-Annually
Total dissolved solids	mg/L	grab	Semi-Annually
Sulfate	mg/l	grab	Semi-Annually
Chloride	mg/L	grab	Semi-Annually
Boron	mg/L	grab	Semi-Annually
Carbon dioxide	mg/L	grab	Semi-Annually
Manganese	µg/L	grab	Semi-Annually
Total iron	µg/L	grab	Semi-Annually
Alkalinity	µg/L	grab	Semi-Annually
Chromium (VI) <sup>3</sup>	mg/L	grab	Semi-Annually <sup>3</sup>
Total Chromium <sup>3</sup>	mg/L	grab	Semi-Annually <sup>3</sup>

<sup>1</sup> mg/L: milligrams per liter; µg/L: micrograms per liter; µmhos/cm: microohms per centimeter; °F: degree Fahrenheit.

<sup>2</sup> Field instrument will be used to test for this constituent.

<sup>3</sup> The Discharger is required to monitor for total chromium and chromium six in the baseline, second and fourth semi-annual sampling. If detected at any of these sampling events, the total chromium and chromium six must be monitored semi-annually thereafter.

All groundwater monitoring reports must include, at minimum, the following:

- a. Well identification, date and time of sampling;
- b. Sampler identification, and laboratory identification;
- c. Quarterly observation of groundwater levels, recorded to 0.01 feet mean sea level and groundwater flow direction.

#### IV. MONITORING FREQUENCIES

Specifications in this monitoring program are subject to periodic revisions. Monitoring requirements may be modified or revised by the Executive Officer based on review of monitoring data submitted pursuant to this Order. Monitoring frequencies may be adjusted to a less frequent basis or parameters and locations dropped by the Executive Officer if the Discharger makes a request and the request is backed by statistical trends of monitoring data submitted.

V. CERTIFICATION STATEMENT

Each report shall contain the following declaration:

"I certify under penalty of law that this document, including all attachments and supplemental information, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

Executed on the \_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_(Signature)

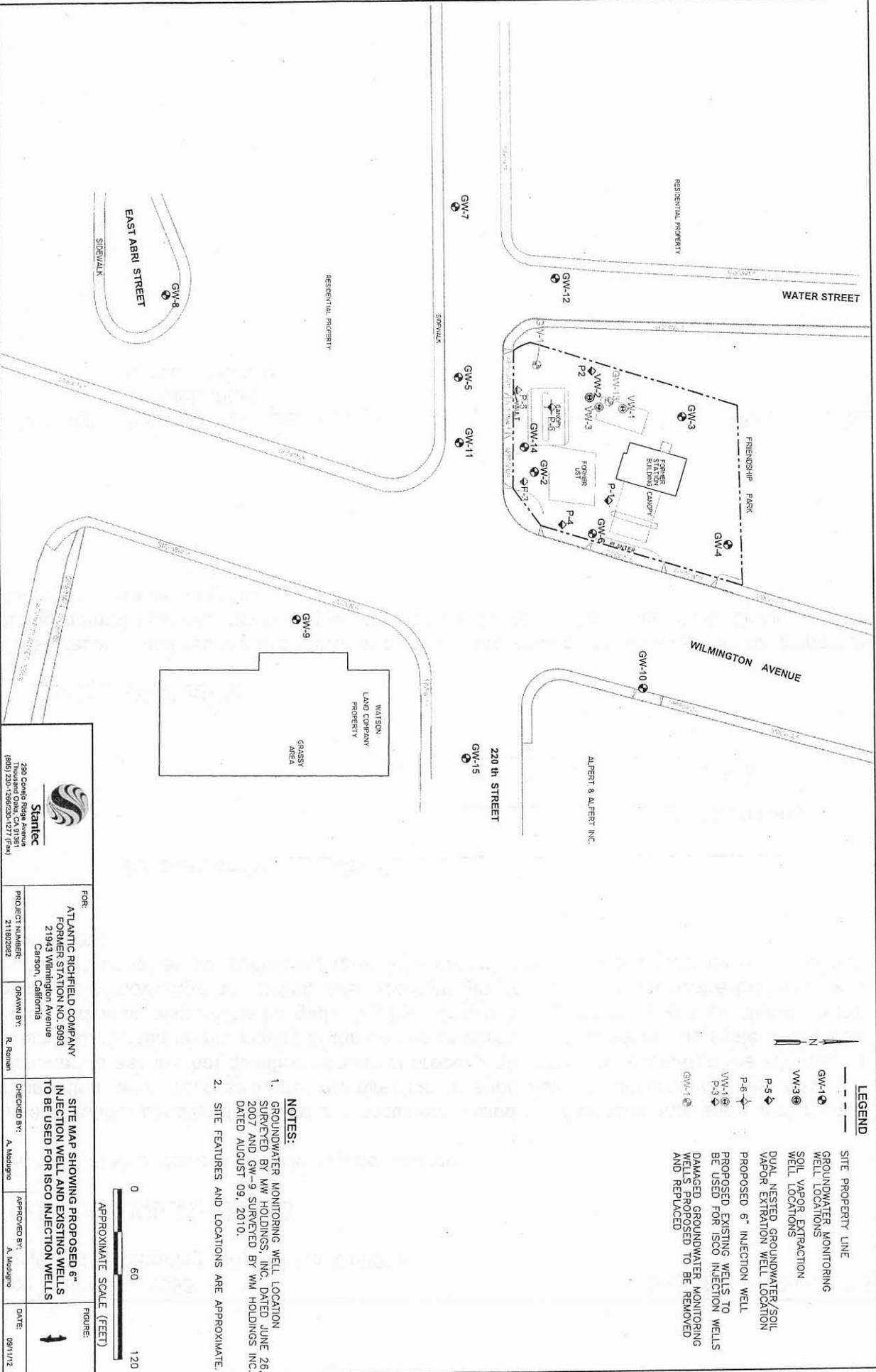
\_\_\_\_\_(Title)"

VI. PUBLIC DOCUMENTS

These records and reports are public documents and shall be made available for inspection during normal business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

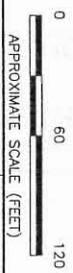
Ordered by: Samuel Unger  
Samuel Unger, P.E.  
Executive Officer

Date: January 28, 2013



- LEGEND**
- SITE PROPERTY LINE
  - ⊕ GW-1 ⊕ GROUNDWATER MONITORING WELL LOCATIONS
  - ⊙ VW-3 ⊙ SOIL VAPOR EXTRACTION WELL LOCATIONS
  - ⚡ P-5 ⚡ DUAL NESTED GROUNDWATER/SOIL VAPOR EXTRACTION WELL LOCATION
  - ⚡ P-6 ⚡ PROPOSED 6" INJECTION WELL
  - ⊕ VW-1 ⊕ PROPOSED EXISTING WELLS TO BE USED FOR ISCO INJECTION WELLS
  - ⊕ P-3 ⊕ DAMAGED GROUNDWATER MONITORING WELLS PROPOSED TO BE REMOVED AND REPLACED
  - ⊕ GW-1 ⊕

- NOTES:**
1. GROUNDWATER MONITORING WELL LOCATION SURVEYED BY MW HOLDINGS, INC. DATED JUNE 26, 2007 AND GW-9 SURVEYED BY MW HOLDINGS INC. DATED AUGUST 09, 2010.
  2. SITE FEATURES AND LOCATIONS ARE APPROXIMATE.



 280 Concho Ridge Avenue Thousand Oaks, CA 91320 (805) 235-1280 / (805) 235-1277 (FAX)	FOR:	ATLANTIC RICHFIELD COMPANY FORMER STATION NO. 5093 21943 Wilmington Avenue Carson, California	CHECKED BY:	A. Madugno	APPROVED BY:	A. Madugno	FIGURE:	1	
	PROJECT NUMBER:	21192822	DRAWN BY:	R. Roman	CHECKED BY:	A. Madugno	APPROVED BY:	A. Madugno	DATE:

**SITE MAP SHOWING PROPOSED 6" INJECTION WELL AND EXISTING WELLS TO BE USED FOR ISCO INJECTION WELLS**