

**STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**APPLICATION OF AGUA SUCIA, LLC FOR A LEASE PRESSURE
MAINTENANCE PROJECT IN THE DELAWARE FORMATION, EDDY
COUNTY, NEW MEXICO**

**CASE NO. 14564
ORDER NO. R-4614-A**

ORDER OF THE DIVISION

BY THE DIVISION:

This case came on for hearing at 8:15 a.m. on October 28, 2010, at Santa Fe, New Mexico before Examiner David K. Brooks.

NOW, on this 14th day of February, 2011, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

FINDS THAT:

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) Agua Sucia, LLC ("Agua Sucia" or "applicant"), seeks approval to implement pressure maintenance operations by injection of [lease produced] water into the Delaware formation within the R.T. Wilson Federal Lease (United States Oil and Gas Lease NMLC-064756) containing 200 acres, more or less, of the following lands within Eddy County, New Mexico:

Township 26 South, Range 31 East, NMPM

Section 24: SE/4 and SE/4 NE/4

(3) The R.T. Wilson Federal Lease consists of federal surface and federal minerals and currently has one well on each 40-acre tract, although the well in Unit J is now plugged. There are no other wells within Section 24. The project would initially consist of one injection well bounded within the lease on the north, south, and southwest by three producing wells in an inverted pattern. All wells within this R.T. Wilson lease

are shown below:

30-015-05864	R.T. Wilson Federal Well No. 1	<u>Subject Well</u>	Unit I
30-015-05866	R.T. Wilson Federal Well No. 3	Producer	Unit H
30-015-05867	R.T. Wilson Federal Well No. 4	Producer	Unit O
30-015-05865	R.T. Wilson Federal Well No. 2	Producer	Unit P
30-015-05868	R.T. Wilson Federal Well No. 5	P&A	Unit J

(4) The proposed vertical extent of the proposed Pressure Maintenance Project is that productive interval underlying the R.T. Wilson Federal Lease Area within the Ramsey Sand of the Bell Canyon member of the Delaware Mountain Group as presently completed open hole in the R. T. Wilson Federal Well No. 1 - extending from an approximate minimum depth of 4,232 feet to an approximate maximum depth of 4,250 feet.

(5) Sahara Operating Company controls the offsetting acreage within Section 19 and Section 30. Sahara currently has three producing Delaware wells within the ½ mile Area of Review. Two of the three are close enough to possibly receive pressure support. Hansen Operating Company, Inc. has offsetting acreage within Section 25 containing two plugged wells.

(6) The R.T. Wilson Federal Well No. 1 or “subject well” was drilled in 1956 and appears to be adequately cased and cemented, confining injection to the proposed interval. Within the Area of Review, all 6 active wells and all 5 plugged wells appear to be adequately cased, cemented, or plugged to prevent movement of injection fluids out of zone and to protect any underground sources of drinking water.

(7) The proposed R.T. Wilson Federal Lease Pressure Maintenance Project is wholly contained within the western portion of the North Mason-Delaware Pool (Pool Code 44859) which extends from Eddy County, east into Lea County. Wells completed within this pool are governed by Special Rules as promulgated in Case No. 1197 by Commission Order No. R-944, issued January 16, 1957. Said order defined this Pool vertically to include the Delaware formation and allowed the 40-acre non-marginal top unit allowable to be set each month by the Commission based in part on what the equivalent Delaware allowable is just south, in Loving County, Texas.

(8) Division records indicate that, within one mile of the subject well, the Oil Conservation Commission has approved two Salt Water Disposal wells, by orders: R-4135 and R-4614, and one Pressure Maintenance Project by Order No. R-3541. All three of these wells were approved into the upper Delaware productive interval.

(9) Agua Sucia, LLC (OGRID 265779) is the operator of record of the wells located on this acreage. Agua Sucia is in compliance with Division Rule 5.9 and therefore eligible for approval of disposal and injection permits.

(10) The applicant has notified all affected parties of the intent to inject into the proposed injection well and has received no objections. No other parties appeared in this case or otherwise opposed this application.

(11) Agua Sucia presented exhibits and testimony from a professional engineer indicating the following:

(a) The Delaware formation in this area dips gently to the east. The productive reservoir extends southeast of this location with the majority extending into Texas.

(b) Historically, the five Ramsey Sand producers on this lease produced a total of 360,000 barrels of oil and 620,000 Mcf gas. Production from the existing wells is now extremely low, and the wells can be considered to be "stripper" wells. Without implementing secondary recovery or enabling less expensive disposal of water, this lease will soon become uneconomic.

(c) The operator intends to only use the proposed injection well for re-injection of produced water, and only from this lease.

(d) Records on the older injection wells in this general area indicate the formation will take water at an adequate rate and indicate the formation and reservoir are amenable to waterflooding. The previous injection into this lease was into Well No. 5 located directly to the west of the subject well, approved by the Commission under Order No. R-4614. The additional recovery from this reservoir as a result of this prior injection is estimated at 50,000 barrels of oil. The Well No. 5 is now plugged.

(e) Changing the "pattern" by allowing injection into the subject well is expected to result in a positive production response. The predicted benefit is approximately 25,000 barrels of additional oil. The cost to convert the well is expected to payout and the project will be profitable.

(f) Another benefit will be reduced water hauling costs from this lease. The addition of an injection well on-lease will most importantly enable the operator to activate higher water-cut oil intervals or conduct work-overs in these wells and thereby increase oil production.

(g) All wells within the ½ mile area of review are adequately cemented in order to isolate the injection to the intended injection interval. There are no faults or conduits which could transport injected waters out of the injection interval. Any fresh water sands will be protected from this injection operation, and fresh water will not be endangered.

(12) The proposed Pressure Maintenance within this lease is feasible and should result in the recovery of additional oil and gas that would not otherwise be recovered.

(13) The estimated additional costs of the proposed Pressure Maintenance operations will not exceed the estimated value of the additional oil and gas recovered plus a reasonable profit.

(14) The proposed project will prevent waste, protect correlative rights, and should be approved and called the R.T. Wilson Federal Lease Pressure Maintenance Project.

(15) Agua Sucia should be approved to inject into the R.T. Wilson Federal Well No. 1. Provisions should be made for the operator of the R.T. Wilson Federal Lease to apply administratively for additional or alternate injection wells as needed.

IT IS THEREFORE ORDERED THAT:

(1) Agua Sucia, LLC ("Agua Sucia") is hereby authorized to implement pressure maintenance operations within the R.T. Wilson Federal Lease by injection of lease produced water into the Ramsey Sands within the Delaware Mountain Group from depths of approximately 4,232 feet to 4,250 feet.

(2) The R.T. Wilson Federal lease acreage, all of which is approved as the "Project Area", consists of 200 acres, more or less, defined as follows:

Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico

Section 24: SE/4 and SE/4 NE/4

(3) Agua Sucia is approved to utilize the R.T. Wilson Federal Well No. 1 (API No. 30-015-05864), located 1980 feet from the South line and 660 feet from the East line, Unit 1, of Section 24, Township 26 South, Range 31 East, NMPM, Eddy County, New Mexico, for injection of lease produced water (UIC Class II only) into the open hole from 4,232 feet to approximately 4,250 feet within the Ramsey sand of the Bell Canyon member of the Delaware Mountain Group for purposes of pressure maintenance.

(4) The Division Director may administratively authorize an alternate well or additional injection wells within this lease as provided in 19.15.26.8F. NMAC.

(5) The R.T. Wilson Federal Lease Pressure Maintenance Project is hereby approved and shall initially consist of one injection well and three producing wells, all contained in the 200 acre lease.

(6) The operator of the R.T. Wilson Federal Lease shall be Agua Sucia, LLC (OGRID 265779).

(7) Agua Sucia shall take all steps necessary to ensure that the injected water enters only the permitted injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(8) Injection into any approved injection well or wells within this project shall be accomplished through plastic-lined tubing installed in a packer located within 100 feet of the uppermost injection perforation. The casing-tubing annulus shall be filled with an inert fluid, and a gauge or approved leak-detection device shall be attached to the annulus in order to detect any leakage in the casing, tubing, or packer.

(9) The injection well or pressurization system shall be equipped with a pressure control device or acceptable substitute that will limit the maximum surface injection pressure to 846 psi.

(10) The Division Director may administratively authorize a pressure limitation in excess of the above, upon a showing by the operator, supported by an approved Step Rate Test, that such higher pressure will not result in the fracturing of the injection formation or confining strata or damage to the reservoir.

(11) The operator shall provide notice, 72 hours in advance, to the supervisor of the Division's district office of the date and time of the installation of injection equipment and of any mechanical integrity test so that the same may be inspected and witnessed. The operator shall provide written notice of the date of commencement of injection to the Division's district office. The operator shall submit monthly reports of the disposal operations on Division Form C-115, in accordance with Division Rules 26.13 and 7.24.

(12) Without limitation on the duties of the operator as provided in Division Rules 30 and 29, or otherwise, the operator shall immediately notify the Division's district office of any failure of the tubing, casing or packer in the well, or of any leakage or release of water, oil or gas from or around any produced or plugged and abandoned well in the area, and shall take such measures as may be timely and necessary to correct such failure or leakage.

(13) The injection authority granted under this order is not transferable except upon Division approval. The Division may require the operator to demonstrate mechanical integrity of any injection well that will be transferred prior to approving transfer of authority to inject.

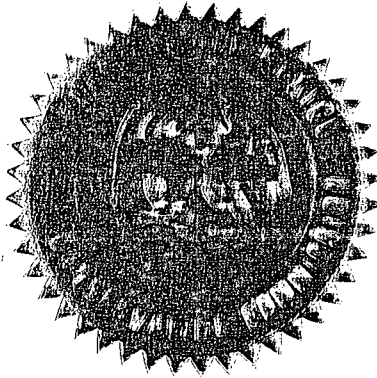
(14) The Division may revoke this injection permit after notice and hearing if the operator is in violation of 19.15.5.9 NMAC.

(15) In accordance with Division Rule No 26.12.C., the disposal authority granted herein shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject well, provided however, the Division, upon written request, mailed by the operator prior to the termination date, may grant an extension thereof for good cause. One year after injection into the project area has ceased or not been reported, the authority to inject will terminate *ipso facto*.

(16) Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

(17) Jurisdiction is retained by the Division for the entry of such further orders as may be necessary for the prevention of waste and/or protection of correlative rights or upon failure of the operator to conduct operations (1) to protect fresh or protectable waters or (2) consistent with the requirements in this order, whereupon the Division may, after notice and hearing (or without prior notice and hearing in case of emergency), terminate the injection authority granted herein.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated



SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in cursive script, appearing to read "Daniel Sanchez", with a long horizontal flourish extending to the right.

DANIEL SANCHEZ
Acting Director