

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

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

**CASE NO. 14575
ORDER NO. R-12809-C**

**APPLICATION OF TARGA MIDSTREAM SERVICES LIMITED
PARTNERSHIP AS OPERATOR FOR VERSADO GAS PROCESSORS, LLC
("TARGA") FOR APPROVAL TO INJECT ACID GAS INTO TARGA'S
EXISTING EUNICE GAS PLANT SALT WATER DISPOSAL (SWD) WELL NO.
1 (API NO. 30-025-21497), LEA COUNTY, NEW MEXICO**

ORDER OF THE OIL CONSERVATION COMMISSION

BY THE COMMISSION:

THIS MATTER came before the Oil Conservation Commission ("Commission") for hearing at 9 a.m. on December 9, 2010, in Santa Fe, New Mexico.

NOW, on this 20th day of December, 2010, the Commission, having considered the testimony and the record,

FINDS THAT:

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

(2) The applicant, Targa Midstream Services Limited Partnership as operator for Versado Gas Processors, LLC ("Targa"), seeks authority to inject oil field produced water, natural gas processing plant waste water, and compressed acid gas (hydrogen sulfide and carbon dioxide) as commingled or separate streams into the San Andres formation, at an open hole depth interval from 4,250 feet to 4,950 feet below the surface, through its Eunice Gas Plant Salt Water Disposal (SWD) Well No. 1 (API No. 30-025-21497), which is located 2580 feet from the South line and 1200 feet from the West line, Unit Letter L of Section 27, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico. The disposal well will serve Targa's Eunice Gas Plant, located approximately five miles away. The pipeline from the Eunice Gas Plant ("Plant") to the disposal well has been permitted separately.

(3) The Oil Conservation Division ("Division") entered its appearance in this case to offer evidence relevant to conditions it asked the Commission to place upon the permit if granted. No other parties appeared to oppose the application, but comment was received from two parties opposing the application pursuant to 19.15.1.14(C) NMAC.

(4) Targa presented the testimony of Mr. Alberto Gutierrez, a hydrogeologist from Geolex, Inc. and Mr. Clark White, Vice President of Targa.

(5) Targa's witnesses testified to the following:

a. Targa engaged Geolex, Inc. to locate a suitable subsurface reservoir into which it could inject the waste water and acid gas. Mr. Alberto Gutierrez of Geolex reviewed the study conducted on behalf of Targa to find a suitable location for acid gas injection and concluded that the proposed injection site met the requisite reservoir criteria. Based on his stratigraphic studies of the formations in this area, Mr. Gutierrez concluded that the San Andres formation has excellent porosity development to the south of the Plant and other reservoir development characteristics that will enable Targa to successfully inject waste water and acid gas into this reservoir.

b. Targa proposes to increase the depth of the existing well from 4,550 feet and to modify the well's completion to reflect best practices in acid gas injection/salt water disposal ("AGI/SWD") construction. Targa also intends to inject non-hazardous wastewater, produced water, and treated acid gas (including hydrogen sulfide, carbon dioxide, and traces of methane, nitrogen, and hydrocarbons) from Targa's Plant. Injection would occur through perforations from approximately 4,250 to 4,950 feet into the San Andres formation. These waste streams would all be continuously mixed and kept under pressure so as to inject a "dense gas" or "liquid" phase.

c. Gauge, density, and sonar surveys have been run on the closest of four nearby Liquified Petroleum Gas ("LPG") storage wells, which were drilled to store "product" in the Salado ("salt") formation at depths from approximately 1,200 to 2,400 feet. Of those wells, the Skelly Gasoline Plant Well No. 4 (API No. 30-025-23853) was drilled to a depth of 2,075 feet, according to Division records, and is located 2471 feet from the South line and 1658 feet from the West line of Section 27, or 509 feet from the proposed acid gas injection well. The surveys on this well show the well has no remaining LPG "product" in the well and the well's enlarged radius (begun just below the 7-inch casing seat at 1,857 feet) extends a maximum of 60 feet in the direction of the proposed acid gas injection well.

d. None of the four LPG wells identified as being within ½ mile of this proposed injection well are being used anymore. All of those wells are or will be plugged in accordance with Division standards and requirements prior to commencement of injection of acid gas into the well that is the subject of this application.

e. The proposed injection volume is a maximum of 2,500 barrels per day of acid gas, coupled with produced water and non-hazardous waste water of up to 1,575 barrels per day; for a total injection volume of up to 4,075 barrels per day.

f. Targa proposes to implement a Division-approved remedial action for the Legacy Reserves Operating, LP's Langlie Mattix Penrose Sand Unit Well No. 252 (API No. 30-025-10499) to contend with the possibility of migration from the original plug set in that well from 3,692 feet to total depth of 4,066 feet by drilling out the current plug, including a calculated four feet of "lead wool" and re-plugging that interval consistent with current Division-approved procedures.

g. Targa further proposes that the order authorizing injection allow for continued operation until the later of (i) 30 years from the effective date of the order or (ii) until the maximum aggregate permitted injection volume of 44,651,812 barrels has been achieved.

h. Targa has published notice and furnished notice to all surface owners and all "affected parties" in the San Andres formation within a one-mile radius of the wellbore, and from the surface to the top of the San Andres formation and below the base of the San Andres formation to all "affected parties" within one mile of the proposed location as required by the Division and the Commission. Targa has also notified all appropriate governmental agencies and municipalities within a five mile radius including the City of Eunice.

i. Targa has prepared and filed a hydrogen sulfide contingency plan with the Division.

j. Targa operates an acid gas injection well in Crane County, Texas, which also injects water, hydrogen sulfide, and carbon dioxide.

k. The source of the hydrogen sulfide to be injected into this proposed well is approximately five miles away.

l. The proposal to recomplete the existing well to allow for acid gas injection will enable Targa to shut down the sulfur recovery unit at its main Eunice gas processing plant. The sulfur recovery unit is an air emission source.

m. The proposed acid gas injection well will enable Targa to discontinue releasing into the atmosphere approximately 1,226 tons per year of sulfur dioxide and 200 tons per year of carbon dioxide. Instead these gases will be injected underground.

(6) The Division presented the testimony of Mr. William V. Jones, a registered professional petroleum engineer employed by the Division's Engineering Bureau.

(7) Mr. Jones presented the following testimony regarding the Eunice Gas Plant SWD Well No. 1 and the relevant permitting history:

a. The Eunice Gas Plant SWD Well No. 1 was drilled for the purpose of disposal and permitted by Division Order SWD-29 on September 21, 1961, for salt water disposal into the upper San Andres formation through an open hole from 3,935 to 4,000 feet. The well was actually completed in 1961 as a disposal well into an open hole from 4,010 to 4,550 feet. A search of Division records found no logs for the disposal interval.

b. In 1974 in Order No. R-4936 issued in Case No. 5377 and in 1975 in Order No. R-5003 issued in Case Nos. 5403 and 5377, the Commission considered whether injection into the Queen or San Andres formations should be allowed to continue in wells located in Sections 13 through 36, Township 22 South, Range 37 East, and in Sections 1 through 12, Township 23 South, Range 37 East, because it appeared the injected water was not being contained in the formation in which it was placed. One of the wells the Commission considered was the Eunice Gas Plant Well No. 1. Ordering paragraph 11 on page 13 of Order No. R-5003 specifically allowed continued injection into the well, "until further order of the Commission, provided, however, that waters disposed of into said well shall be limited to normal gasoline plant water effluent, and said disposal shall not exceed an average of 1500 barrels of water per day during any one-month period". Order No. R-5003 required remedial cement work on numerous area wells in an attempt to stop the water flows and more frequent, witnessed Bradenhead testing.

c. In 1983, a pump-in injection test on the Eunice Gas Plant SWD Well No. 1 reached a rate of 10 barrels per minute into the open hole interval of 4,010 feet to 4,550 feet at a bottomhole pressure of 3000 psi without showing any apparent evidence of fracturing.

d. On May 30, 2000, the SWD-29 permit was amended to allow a packer setting of 3,814 feet and disposal of produced water, cooling tower water, and boiler blowdown water into the existing open hole from 4,010 to 4,550 feet.

e. Targa appeared before the Division in Case No. 13865 in 2007 requesting to utilize a proposed new well, to be placed approximately 330 feet from the existing Eunice Gas Plant SWD Well No. 1, for disposal of natural gas processing wastes from Targa's Eunice Gas Plant and South Eunice Compressor Station into the San Andres formation through perforations from 4,500 to 5,000 feet. The Division issued hearing Order No. R-12809 granting this relief in September 14, 2007. Order No. R-12809 required the existing Eunice Gas Plant SWD Well No. 1 to be properly plugged and abandoned. Order No. R-12809 also provided that the injection authority granted by the order would terminate in one year if the operator had not commenced injection operations pursuant to the order, unless the Division granted an extension.

f. In August of 2008, Targa petitioned the Division to extend the deadline to commence disposal and cited the following reasons: (i) additional time is needed to plug nearby wells required in the order and (ii) the location of this acid gas

injection well may be moved if approved by the Division in an upcoming hearing. Case No. 13865 was re-opened, and Division Order No. R-12809-B was issued on August 8, 2008. The order granted Targa's request and extended the deadline to commence disposal to September 14, 2009.

g. In February 2009, Targa administratively requested that the permissions granted in Division Order No. R-12809 be transferred from its proposed new well to the nearby existing Eunice Gas Plant SWD Well No. 1. Targa proposed equipping the well with a new cemented liner extending from surface to 4,450 feet, and proposed produced water and acid gas disposal into an open hole from 4,450 to 4,950 feet in the San Andres formation. The Division issued administrative Order SWD-1161 on February 23, 2009, granting Targa's request. Order SWD-1161 set a new maximum surface disposal pressure limit of 900 psi, required installation of a one-way subsurface safety valve in the tubing, and retained jurisdiction for entry of further orders. Order SWD-1161 also provided that the injection authority granted by the order would terminate in one year if the operator had not commenced injection operations, unless the Division granted an exception.

h. On August 12, 2010, after receiving no further request to extend the deadline to commence disposal, Mr. Daniel Sanchez as enforcement manager of the Division, informed Targa in writing that SWD-1161 and R-12809, as amended, had expired.

i. On November 9, 2010, Targa filed its current application for approval to inject into the Eunice Gas Plant SWD Well No. 1.

j. Throughout the life of the well, the monthly reported disposal rate and disposal pressures appear to have been inaccurate. The Division's records as to disposed volumes are therefore unreliable.

(8) Mr. Jones presented the following testimony regarding the area of review data relevant to Targa's application:

a. There are a large number of wells in the Area of Review for the Eunice Gas Plant SWD Well No. 1: within ½ mile there are three wells that penetrate the San Andres or at least some part of the San Andres; within one mile there are 25 such wells; and within two miles there are over 230 such wells. In contrast, the seven permitted acid gas injection wells in New Mexico to date have no wells or only one well within one mile penetrating the disposal interval. Targa's proposed Monument AGI Well No. 1 has 11 wells within one mile, but its disposal interval is the Devonian formation.

b. Three wells within one half mile of the subject well penetrate the San Andres. Two of the wells, the Santa Rita #002 and the Santa Rita #012, are located almost ½ mile from the subject well. They both appear to be cemented through the San Andres. The third well is the Langlie Mattix Penrose Sand Unit Well No. 252 (the LMPSU), which is located only 1,650 feet from the subject well. The LMPSU was drilled into the top of the San Andres and plugged back with cement and approximately four feet of lead wool.

c. Twenty-two wells between ½ mile and one mile from the subject well penetrate the San Andres. There are at least seven wells that penetrate the San Andres formation beyond ½ mile but within one mile of the subject well that still have portions of casing over the San Andres formation unprotected with cement. There are other wells within one mile that penetrate the San Andres formation that have only light-weight cement across the San Andres formation.

d. Wells within the one mile area of review that penetrated (drilled through) the San Andres were spudded as early as 1937.

e. Other than the subject well, there are two active San Andres disposal wells within one mile and five active San Andres disposal wells within two miles. Reported disposal rates for these five wells range from 135 to 1,900 barrels per day.

f. This is an active area for oil field operations. There are no active San Andres production wells within one mile, but there are 39 San Andres producing wells within two miles, most of them are located to the northwest. The best oil producer within two miles is within one mile of the subject well and is completed in the Abo formation. New wells are being planned, possibly to exploit the Abo formation or other depths below the San Andres formation.

g. There are 25 wells shallower than the top of the San Andres located within 1/2 mile and 94 such wells within one mile. These shallower wells include many targeting the Penrose Sands where waterflood projects are active – Order No. R-3247 allowed the Langlie Mattix Penrose Sand Unit Waterflood Project. This South Eunice area is rife with reported waterflows – mostly within the Salado formation, located above the San Andres formation. This area is the “waterflow” area in Order No. R-5003, requiring remedial cementing and more frequent, witnessed Bradenhead surveys.

h. According to the testimony of Hobbs District Supervisor Chris Williams at the 2007 permitting hearing for this acid gas injection project, and according to the available records, there are possible Ogallala and Santa Rosa fresh water intervals extending from depths of 50 feet below the surface down to the top of the Rustler anhydrite.

i. From the available data, a thief zone appears to have hampered primary cementing jobs within or just below the San Andres formation. In many cases, subsequent squeeze jobs were done pursuant to Order No. R-5003 to raise cement and isolate upper wellbores.

j. Many of these wells targeting other deeper formations were only cemented across these deeper targets. Most were subsequently squeezed after shallower (Bradenhead) water flows were encountered.

k. The *in situ* waters within the San Andres are recognized as corrosive. Many well problems caused by corrosion have occurred throughout the Permian Basin from un-cemented San Andres intervals.

l. The open-hole log for the Laura J. May #1, 30-025-26480, drilled in 1980 and located less than a mile from the subject well, shows the San Andres to be

relatively uniform with porosity hovering near seven percent. It is not possible to tell only from the available log if the San Andres has adequate porosity development for disposal within the rock matrix, and it is difficult to estimate at which interval the San Andres will preferably take disposed fluids.

(9) Mr. Jones presented the following testimony regarding the Division's concerns with Targa's application:

a. A large number of potential problems exist just outside the ½ mile radius. For example:

- There are a large number of wells beyond the ½ mile radius but within a two mile radius, that penetrate the San Andres or some part of the San Andres.
- A thief zone appears to have hampered the cementing within or just below the San Andres.
- There are seven wells located beyond the ½ mile radius but within a two mile radius that penetrate the San Andres that have portions of their casing within the San Andres that are unprotected with cement. Due to the old wells and poor records, there could be more than seven.
- There are additional wells within a 1-mile radius that penetrate the San Andres formation that have only light weight cement across the San Andres formation. The San Andres was not a target producing formation, and cement designs were adjusted accordingly.
- If the un-cemented wellbores are exposed to acid gas, the acid gas will accelerate corrosion and accelerate pipe failure. In addition, the *in situ* waters are corrosive, and displacement of those waters may speed up corrosion and highlight problems in old uncemented wellbores.
- The area is an active drilling area, and it is likely wells will be drilled to the Abo or other depths below the San Andres formation, possibly penetrating the disposal plume.

b. Because of the large number of potential problems that exist just outside the ½ mile radius, it is important to ensure that any portion of this plume does not extend past the ½ mile radius. Targa predicts that the plume will extend less than ¼ mile in 30 years of injection. However, that prediction is based on assumptions, such as uniform (plug like) displacement into 700 feet of open hole and 10 percent porosity.

c. Without logs on the subject well, we can't at this time assume the porosity of the interval in this well taking fluid is an "effective" 10 percent.

d. We also cannot assume plug-like displacement over 700 feet of interval. For example, a 1983 pump-in injection test on this well showed that this well

can accept fluids at a rate of 10 barrels per minute at a bottomhole pressure of 3000 psi, despite offset logs indicating relatively low porosity. This is consistent with the cementing records indicating thief zones. There may be a fracture or fractures, and the injected fluid will preferentially follow those fractures to the offsetting un-cemented wellbores. In fact, permeability in reservoirs is best characterized by a log-normal distribution. This is especially true in lower porosities. There will be some intervals in this open hole that will preferentially take the injected acid gas and will therefore travel much further in a shorter amount of time.

e. The Commission should require Targa to provide additional data that can be used to better calculate the radius of the plume and establish a time limit for the permit.

f. Depending on the existing casing in the Eunice Gas Plant SWD #1 well, the Division recommends that the well be completed to allow disposal between 4,850 feet and 4,400 feet, to give approximately a 100 foot vertical factor of safety to existing un-cemented intervals in Area of Review wells.

g. Targa proposes to inject a maximum of 4,075 barrels per day; Order R-5003 limits injection in the well to 1,500 barrels per day. The Commission will need to determine whether the concerns raised in R-5003 have been addressed, and determine whether its order in this case can supersede R-5003.

(10) Mr. Jones testified that the Division recommended the following:

a. Prior to injecting acid gas, Targa should be required to construct the well as follows, and complete the following tests:

1. Depth. A better practice would be to limit the permitted depth to dispose of acid gas to above 4,850 feet and below 4,250 feet, giving a 100 foot vertical factor of safety to existing un-cemented intervals at the bottom of the injection interval in Area of Review wells.

2. Logging. As no logs are available, Targa should be required to run open hole electric logs on this disposal interval, including porosity and resistivity logs.

3. Injection tubing. Targa should equip the injection tubing so as to keep the acid gases under pressure and in a less corrosive phase. The injection tubing should be coated or constructed to prevent or retard corrosion from a mixture of hydrogen sulfide, wastewater, and carbon dioxide.

4. Safety valve. Targa should install a one-way safety valve in the tubing below the level of the well head, to prevent backflow of disposed fluids.

5. Pressure gauges. Targa should be required to keep the tubing/casing annulus loaded with diesel or other corrosion inhibited fluid, and pressure gauges on the tubing and tubing/casing annulus. The readings from these meters and gauges should be remotely transmitted to Targa's plant site and this data should be recorded and stored for review by the Division inspectors. This is necessary to prevent and detect dangerous leaks. It will also help to determine the extent of the plume and the effects on the reservoir.

6. Meters. Targa should be required to install meters on the disposed water and on the disposed acid gas, and keep records of the volumes of water and acid gas injected.

7. Step Rate Test. Targa should be required to run a Step Rate Test using disposal water after the proposed open hole is completed for disposal and before acid gas disposal is commenced. The procedure for this test should be approved by the Division prior to the test and Division personnel should be given an opportunity to witness the test.

8. Injection Survey. Targa should be required to run a tracer and temperature injection survey on this well while injecting water (no acid gas) at a representative rate, which approximates the disposal rate, and the results of that survey should be submitted to the Division. This survey will help determine what intervals in the large open hole disposal interval will most readily accept water and therefore help in calculation of the plume's radius.

9. Mechanical Integrity Test. Targa must demonstrate to the Hobbs District Office that the well has passed a mechanical integrity test.

10. Hydrogen Sulfide Contingency Plan. Targa must obtain approval from the Division's Environmental Bureau for a Hydrogen Sulfide Contingency Plan that complies with 19.15.11 NMAC before injecting acid gas.

b. Once Targa has completed the well to conform to the requirements set out above, has completed the required tests, and has a hydrogen sulfide contingency plan approved by the Division's Environmental Bureau, it should be allowed to commence injection of acid gas, subject to the following additional requirements:

- Disposal volumes. The Commission should set a disposal volume limit. Order No. R-5003 limits the disposal volume for this well to 1,500 barrels per day, and the Commission must determine whether it should supersede that order and allow the volume Targa has requested in its application.
- Pressure limits. The initial orders should provide that Targa may inject at 0.3 psi per foot, or 1300 psi. If the results of the step rate test indicate that a higher injection pressure is acceptable, Targa may request

an increased pressure limit when it re-opens the case for a determination on the length of the permit term. Any future pressure increases on this well should be allowed only after notice to affected persons and hearing.

- Mechanical Integrity Tests. The annular pressure integrity of this well or MIT test should be done at least once every five years or more often as required by the Hobbs district office.

c. Targa should be required to perform the following remedial work on Legacy Reserves Operating, LP's ("Legacy") Langlie Mattix Penrose Sand Unit Well No. 252 (API No. 30-025-10499), which is located within the Area of Review: Enter the well and drill out existing plugs down to 4,073 feet and then plug back the well to 3,700 feet using cement retainer squeeze cementing or verified cement plugs, under direction of the Division's Hobbs district office.

d. Within one year of the effective date of the order, Targa should be required to move to re-open Case 14575 for a hearing to offer proof that it has completed and is operating the well in accordance with the requirements of the order, and to determine the time limit for the permit. If Targa does not file its motion within one year of the effective date of this order, its authority to inject under this order should terminate automatically. If the Commission does not issue an order addressing the time limit for injection authority under this order within two years, the authority granted under this order should terminate automatically.

(11) The Commission concludes that Targa's proposed disposal well should be approved with all the conditions and requirements detailed above by the Division. Acid gas disposal is allowed to begin after running the required logs and tests.

(12) The case should be re-opened by Targa within 12 months. At that time, all additional evidence should be considered and used by the Commission to establish a limiting lifetime to this disposal permit. If Targa does not re-open the case within 12 months, the permit should expire automatically. If the Commission does not enter an order within two years of the effective date of this order addressing the limiting life of this permit, the permit shall expire automatically.

IT IS THEREFORE ORDERED THAT:

A. Targa Midstream Services Limited Partnership as operator for Versado Gas Processors, LLC ("Targa") is hereby authorized to recomplete the Eunice Gas Plant SWD Well No. 1 (API No. 30-025-21497), which is located 2580 feet from the South line and 1200 feet from the West line, Unit Letter L of Section 27, Township 22 South, Range 37 East, NMPM, Lea County, New Mexico, as described below so as to permit the injection of oil field produced water, natural gas processing plant waste water and compressed acid gas (hydrogen sulfide and carbon dioxide) as commingled or separate streams into the San Andres formation, at an open hole depth interval from 4,250 feet to 4,850 feet below the surface.

B. The operator of the well (Applicant or any successor operator) shall take all steps necessary to ensure that the injected gas enters only the proposed injection interval and does not escape to other formations or onto the surface.

C. The operator shall complete the Eunice Gas Plant SWD Well #1 as follows:

- Depth. The operator shall complete the well with a disposal interval above 4,850 feet and below 4,250 feet.
- Logging. The operator shall run open hole electric logs on the disposal interval, including porosity and resistivity logs, and submit copies of the logs to the Division.
- Injection tubing. The operator shall equip the injection tubing so as to keep the acid gases under pressure and in a less corrosive phase. The injection tubing shall be coated or constructed to prevent or retard corrosion from a mixture of hydrogen sulfide, wastewater, and carbon dioxide.
- Packer. The packers shall be set within 100 feet above the casing shoe and the open hole interval.
- Safety valve. The operator shall install a one-way safety valve in the tubing below the level of the well head, to prevent backflow of disposed fluids.
- Pressure gauges. The operator shall keep the tubing/casing annulus loaded with diesel or other inhibited fluid, and install pressure gauges on the tubing and tubing/casing annulus. The readings from these meters and gauges shall be remotely transmitted to the operator's plant site and this data shall be recorded and stored for review by the Division inspectors.
- Meters. The operator shall install meters on the disposed water and on the disposed acid gas, and keep records of the volumes of water and acid gas injected.
- Step Rate Test. The operator shall run a step-rate test after the proposed open hole is completed for disposal and before acid gas disposal is commenced, and provide the results of the test to the Division. The operator shall run the test using an inert fluid such as produced water or waste water, and not with acid gas. The procedure for this test shall be approved by the Division prior to the test and Division personnel shall be given an opportunity to witness the test.
- Injection Survey. The operator shall run a tracer and temperature injection survey on this well as soon as practicable after the completion of the well and while injecting water (no acid gas) at a representative rate which approximates the disposal rate and supply the results of that survey to the Division.
- Mechanical Integrity Test. After installing injection tubing but prior to commencing injection operations, and at least once every five years thereafter, the operator shall pressure test the casing from the surface to the packer-setting depth to assure casing integrity. A mechanical integrity test is also required whenever the packer is re-set.
- Notice of Testing. The operator shall notify the Hobbs District Office of the Division of the time of the setting of the tubing and packer, and of any step

rate test or mechanical integrity test so that such operations can be witnessed or inspected.

- Hydrogen Sulfide Contingency Plan. Targa shall obtain approval from the Division's Environmental Bureau for a Hydrogen Sulfide Contingency Plan that complies with 19.15.11 NMAC before injecting acid gas.

D. Once the operator has completed the well to conform to the requirements set out above, has completed the required tests, and has a hydrogen sulfide contingency plan approved by the Division's Environmental Bureau, it shall be allowed to commence injection of acid gas, subject to the following additional requirements:

- Disposal volumes. The operator may inject at a maximum volume of 4,075 barrels per day. The injection volume limitation imposed by Order No. R-5003 is specifically superseded.
- Pressure limits. The operator shall inject at a pressure of no more than 1300 psi. If the results of the step-rate test indicate that a higher injection pressure is acceptable, the operator may request an increased pressure limit when it re-opens the case for a determination on the length of the permit term. Future pressure increases on this well shall be allowed only after notice to affected persons and hearing.
- Mechanical Integrity Tests. The annular pressure integrity of this well or MIT test shall be done at least once every five years or more often as required by the Hobbs district office. A mechanical integrity test is also required whenever the packer is re-set.

E. The operator shall perform the following remedial work on Legacy Reserves Operating, LP's ("Legacy") Langlie Mattix Penrose Sand Unit Well No. 252 (API No. 30-025-10499): Enter the well and drill out existing plugs down to 4,073 feet and then plug back the well to 3,700 feet using cement retainer squeeze cementing or verified cement plugs, under direction of the Hobbs district office.

F. Within one year of the effective date of this order, the operator shall move to re-open Case 14575 for a hearing to offer proof that it has completed the well and is operating the well in accord with the requirements of this order, to present the results of pressure transient testing to determine the extent of plume propagation and to determine the time limit for the permit. If the operator does not file its motion within one year of the effective date of this order, its authority to inject under this order shall terminate automatically.

G. If the Commission does not issue an order addressing the time limit for injection authority under this order within two years from the effective date of this order, the injection authority granted under this order shall terminate automatically.

H. When Case 14575 is re-opened for hearing, the operator shall be required to present the following:

- Proof that the well has been completed at the permitted depth, with the required tubing, safety valves, meters and pressure gauges in place.
- Proof that the operator obtained approval for its hydrogen sulfide contingency plan from the Division's Environmental Bureau.
- Proof that the operator has provided the Division with corrected reports of disposal volumes and disposal pressures for the well, or an explanation as to why that information is not available.
- Proof that the operator has completed the remedial work on the Legacy Reserves Operating LP Langlie Mattix Penrose Sand Unit Well No. 252.
- Results and data from the electric logs on the open hole interval.
- Results and data from the step rate test.
- Results and data from the tracer and temperature injection survey.
- Results of pressure transient testing to determine the extent of plume propagation.
- Readings from the meters and pressure gauges for disposal of water and acid gas.
- Results of the mechanical integrity test.
- The operator's calculation of the time it will take for the acid gas plume to reach ½ mile from the disposal well, incorporating the newly-acquired data.

I. When Case 14575 is re-opened, the Commission will impose a time/volume limit on the injection permit, based on the data collected. At a minimum, the time/volume limit shall be sufficient to ensure that injection will cease before the calculated, uniform radius plume reaches ½ mile from the disposal well. At that time, the operator shall be required to shut this well in and no further disposal allowed.

J. The injection authority granted by this order shall terminate one year after the effective date of this order if the operator has not commenced injection pursuant hereto, or if the operator has not filed a motion to re-open Case 14575 for a determination on the applicable time/volume limit for the order; provided, however, the Division Director, upon written request of the operator, may extend this time for good cause shown.

K. The injection authority granted by this order shall terminate two years after the effective date of this order if the Commission has not issued an order addressing the applicable time/volume limit for the injection authority.

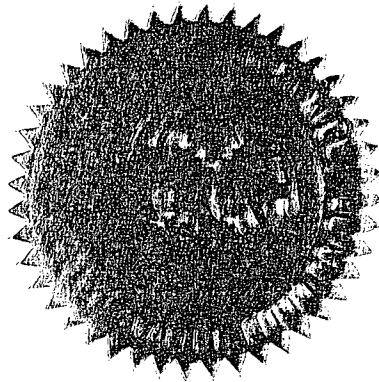
L. Compliance with this order does not relieve the operator of the obligation to comply with other applicable federal, state or local laws or rules, or to exercise due care for the protection of fresh water, public health and safety and the environment.

M. Jurisdiction is retained by the Commission for the entry of further orders as may be necessary for the prevention of waste or protection of correlative rights or upon failure of the operator to conduct operations (i) to protect fresh water or (ii)

consistent with the requirements in this order, whereupon the Commission may, after notice and hearing, terminate the injection authority granted herein.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



JAMI BAILEY, CPG, MEMBER

WILLIAM OLSON, MEMBER

MARK E. FESMIRE, P.E., CHAIR

SEAL