Appendix D: NMOCD Order and Filings for Recompleted Well

- Order 12809-C, 12/20/2010 •
- C-144 Closed-Loop Plan • •
- C-101 Application to Drill, 1/13/2011 ė
- C-102 Well Location, 9/16/2010 •
- C-103 Spud Report, 5/11/2011 •
- C-103 TD Report, 5/23/2011 •
- C-103 Casing, Cement, logging, 6/21/2011 ٠
- C-103 Step Test, 6/27/2011 ٠
- C-103 MIT and Chart, 6/29/2011 •
- •
- OCD e-mail approving Hydrogen Sulfide (H2S) Contingency Plan, dated August 11, 2011 State of New Mexico \$50,000 Blanket Plugging Bond

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.



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(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.

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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.

I. 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 sulfer 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.



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(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

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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.

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c. Twenty-two wells between $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 lightweight 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 Case No. 14575 Order No. R-12809-C Page 7 of 14

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

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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. <u>Depth.</u> 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. <u>Logging</u>. 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. <u>Injection tubing</u>. 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. <u>Safety valve</u>. Targa should install a one-way safety valve in the tubing below the level of the well head, to prevent backflow of disposed fluids.

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5. <u>Pressure gauges.</u> 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. <u>Meters.</u> 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. <u>Step Rate Test.</u> 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. <u>Injection Survey</u>. 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. <u>Mechanical Integrity Test</u>. Targa must demonstrate to the Hobbs District Office that the well has passed a mechanical integrity test.

10. <u>Hydrogen Sulfide Contingency Plan</u>. 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:

> • <u>Disposal volumes.</u> 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.

> • <u>Pressure limits</u>. 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

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> 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.

> • <u>Mechanical Integrity Tests</u>. 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 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.



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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:

• <u>Depth.</u> The operator shall complete the well with a disposal interval above 4,850 feet and below 4,250 feet.

• <u>Logging.</u> 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.

• <u>Injection tubing</u>. 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.

• <u>Packer</u>. The packers shall be set within 100 feet above the casing shoe and the open hole interval.

• <u>Safety valve</u>. 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.

• <u>Pressure gauges.</u> 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.

• <u>Meters.</u> 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.

• <u>Step Rate Test.</u> 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.

• <u>Injection Survey</u>. The operator shall run a tracer and temperature injection survey on this well as soon as practible 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.

• <u>Mechanical Integrity Test</u>. 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.

• <u>Notice of Testing</u>. 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

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

• <u>Hydrogen Sulfide Contingency Plan</u>. 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:

• <u>Disposal volumes.</u> 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.

• <u>Pressure limits</u>. 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.

• <u>Mechanical Integrity Tests</u>. 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 propogation 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 propogation.
- 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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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) Case No. 14575 Order No. R-12809-C Page 14 of 14

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

CPG, MEMBER JAMI BAIL EΥ

WILLIAM OLSON, MEMBER

MARK E. FESMIRE, P.E., CHAIR

SEAL

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1 W. Grand Avenue,	Artesia, NM	RECE	IVĒD		174		· · · · ·	ubmit to .		riate District Office
<u>Strict III</u> 000 Rio Brazos Road,	Aztec, NM 87	410	2011	Oil Cons	servation	Division	2		appropi	Tate District Office
istrict IV 220 S. St. Francis Dr.,	Santa Fe, NM	JAN 1 0 87505	2011	Santa	Fe, NM	87505			AM AM	IENDED REPORT
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·	J	I	Ą	dditional \	Well Infor	mation				
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¹⁶ Multiple		¹⁷ Proposed Dept	h	1 ¹⁸ Fon	mation		¹⁹ Contractor			¹⁰ Spud Date
ND		7820	12	tan Am	165	_ Key_	Energy			<u>}</u>
			²¹ Propo	sed Casing	o and Cer	nent Proor	am			
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	1		201	4		ιο'	17.50		<u> </u>	urtace
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<u>District I</u>			SECE	IVED	State of Ne	w Mexico			Form C-102
1625 N. French I	1625 N. French Dr., Hobbs, NM 68240 ³ Energy, Minerals & Natural Resources Department							F	Revised July 16, 2010
District II 1301 W. Grand /	District II 1301 W. Grand Avanue, Artesia, NM 88210 AN 18200L CONSERVATION DIVISION						Submit on	e copy to appropriate	
District []]				SUCD12	220 South St.	Francis Dr.			District Office
1000 Rio Brazos District IV	Rd., Aztec, I	NM 87410	HODD) (Santa Fe, N	IM 87505		🗆 A	MENDED REPORT
1220 S. St. Franc	ds Dr., Santa	a Fe, NM 87	7505		•	•			
			NELL LC	OCATIO	N AND ACF	REAGE DEDIC	CATION PL	AT	
30-02	API Numb	497	ŀ	2 Pool Cod		MTD' Shin	Pool Na	ING	
⁴ Property	Code				⁵ Property	Name	Circo		⁶ Well Number
2366	8	_ E	unice (las Pl	ant SWI)			1
⁷ OGRID	No.	_			* Operator	Name			^a Elevation
2465	0	larg	a mide	mante	Services L	imited Partne	rehip		3335
·)		¹⁰ Surface	Location	•		
UL or lot no.	Section	Township	Range	Lot idn	Feet from the	North/South line	Feet from the	East/West	line County
L	27	225	378		2580	South	1200	West	Lea
			¹¹ Bo	ttom Hol	e Location II	f Different Fro	m Surface		
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West	ine County
Dedicated Acre	o fniot ^{or} ia	r Infill 🛛 🖁	Consolidation	Code TOr	der No.				

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

	16			" OPERATOR CERTIFICATION
				I hereby certify that the information contained herein is true and complete to the
			ł	best of my knowledge and belief, and that this organization either owns a
				working interest or unleased mineral interest in the land including the proposed
				bottom hate location or has a right to drill this well at this location pursuant to
				a contract with an owner of such a mineral or working interest, or to a
				voluntary pooling agreement or a compulsory pooling order heretofore entered
				by the division
		· · ·		WABale 7 9-16-10
				Sgnature Date
				WA Baker II
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1	. ×			E-mail Address
4	· • • • • • • • • • • • • • • • • • • •			 180 IDV (DV OD OF DTIFICATION
1				"SURVEY OR CERTIFICATION
1	f - 1			I hereby certify that the well location shown on this plat was
1				plotted from field notes of actual surveys made by me or under
1	11			my supervision, and that the same is true and correct to the
1				best of my belief.
U.				
				 Dete of Design
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				Signature and Seel of Professional Surveyor:
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Submit I Copy To Appropriate District Office	State of New Mexico	Form C-103 October 13, 2009
District I - (575) 393-6161	Energy, Minerals and Natural Resources	WELL API NO
District II - (575) 748-1283		30-025-214977
811 S. First St., Artesia, NM 88210	OIL CONSERVATION DIVISION	5. Indicate Type of Lease
1000 Rio Brazos Rd., Aztec, NM 87418 201	1220 South St. Francis Dr.	STATE FEE
District IV - (505) 476-3460	Santa Fe, NM 87505	6. State Oil & Gas Lease No.
87505		
SUNDRY NOTICE	S AND REPORTS ON WELLS	7. Lease Name or Unit Agreement Name
(DO NOT USE THIS FORM FOR PROPOSAL	LS TO DRILL OR TO DEEPEN OR PLUG BACK TO A	E in A DL LOUD
PROPOSALS.)		LUNCE GOS FRANT JUD
1. Type of Well: Oil Well Ga	as Well 🛛 Other HCI	8. well Number
2. Name of Operator	1. 18	9. OGRID Number
3 Address of Operator	Aces, Ar	10 Pool name or Wildcat
1000 La isia on Quite t	1200 Marchine TX OLDAND SU21	Quint' Sin Antre
4 Well Location	1000, HOUSIDA, 1X 1/1008-3000	3003 3011 11 E-(3
Hnit Letter L : A	580 feet from the South line and I	200 fast from the (1) st line
Section 07	Township 02 & Bange 27 F	NMPM LCC County
	1 Flevation (Show whether DR RKR RT GR etc	
	2335 AL	
•		
12. Check Apr	propriate Box to Indicate Nature of Notice	Report or Other Data
		report of onior Dum
NOTICE OF INTE	ENTION TO: SUB	SEQUENT REPORT OF:
PERFORM REMEDIAL WORK 🗍 🛛 P	LUG AND ABANDON 🔲 🔰 REMEDIAL WOR	K 🗍 ALTERING CASING 🗌
TEMPORARILY ABANDON	CHANGE PLANS 🗌 COMMENCE DR	ILLING OPNS. 🔀 PAND A
	IULTIPLE COMPL	т јов 🛛 📋
	·····	
OTHER:		
13. Describe proposed or complete	d operations. (Clearly state all pertinent details, an	d give pertinent dates, including estimated dat
of starting any proposed work)	. SEE RULE 19.15.7.14 NMAC. For Multiple Co	mpletions: Attach wellbore diagram of
proposed completion or recomp	pletion.	
This well is being	deerand we sand on 5-1	7-2011 and dalled
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10m 4561 - 46	p (6.	
		•
Spud Date: 5-17- ONL	Rig Release Date:	
I hereby certify that the information above	ve is true and complete to the best of my knowledge	e and belief.
\mathcal{T}		
SIGNATURE Annal Jone	TITLE Kequiatory Hnalys	DATE <u>مَنْ وَنَّ</u> DATE
Type or wrint name Danies Tone	S E mail addama da la	Land Drown KI20 / on Ala
For State Use Only	-man address: approvercome	TIQUINGINI PHUNE: 100-600-4181
- or Grate Cat Only	HETTARLENNI SWAL	Hatah Com
APPROVED BY:	TITLE	DATE JUN 0 5 2011
Conditions of Approval (if any):		
	X.	
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	Submit Copy To Appropriate District State of New Mexico	Form C-103
\sim	District I – (575) 393-6161 Energy, Minerals and Natural Resources	October 13, 2009
	1625 N. French Dr., Hobbs, NM 88240 District II – (575) 748-1283 HOBBS OCD	WELL API NO. 30-025-21497
	811 S. First St., Artesia, NM 88210 OIL CONSERVATION DIVISION District III - (305) 334-6178 1220 South St. Francia Dr.	5. Indicate Type of Lease
	1220 South St. Francis Dr.	STATE FEE
	District IV – (505) 476-3460 Santa Fe, NM 1220 S. St. Francis Dr., Santa Fe, NM	6. State Oil & Gas Lease No.
	SUNDRY REGIEVES AND REPORTS ON WELLS	7. Lease Name or Unit Agreement Name
	(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH	Funing Que Phot SUD
	PROPOSALS.)	8. Well Number
	2. Name of Operator	9. OGRID Number
	3. Address of Operator	10. Pool name or Wildcat
	1000 Louisiana, Suite 4300, Houston, TX 17002.5036	SWD - San Andres
	4. Well Location	
	Unit Letter \sim : $\sqrt{380}$ feet from the <u>South</u> line and 10°	NMPM I county
	11. Elevation (Show whether DR. RKB. RT. GR. etc.)	
	3335 GR	
	12 Check Appropriate Box to Indicate Nature of Notice	Report or Other Data
	TEMPORARILY ABANDON CHANGE PLANS COMMENCE DRI	
	PULL OR ALTER CASING MULTIPLE COMPL CASING/CEMENT	JOB 🕅
		<u>D</u>
	 Describe proposed or completed operations. (Clearly state all pertinent details, and of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Com 	give pertinent dates, including estimated date pletions: Attach wellbore diagram of
	proposed completion or recompletion.	
	TD of 4850' was reached 5-18-11. Logs were run 5	-11-11 and 5 ou the
	51/2" czq was run 3-22-11 (see attached) and	set @ 4224 with the
	store tool @ 3883'. Rig was released on 5-23-1	ι.
	Siddle	
	Spud Date: Rig Release Date: 5-23-	11
-		
	I hereby certify that the information above is true and complete to the best of my knowledge	and belief.
		/
	SIGNATURE TOMES STOLES TITLE Kegulatory Mnoyst	DATE6-1-11
~	Type or print name <u>Unise Jones</u> E-mail address: Liones@Cambri	angent PHONE: 439-630-9181
	PETITIE AND PETITIE	JIN D B 2000
	APPROVED BY:	DATE DATE

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Cambrian Management Daily Cost Report

Cambrian Management, Ltd. Casing and Cementing Report

Well Name: Eunice Gas Plant AGI # 1		Date:		5/22/2011
County: Lea Si	tate: New Mexico	De	pth:	4224.69
Supervisor: David Rodriguez		Cement Co	mpany	Halliburton
RKB-GL: 16'				
Description			Length	Top @
5-1/2 Weatherford Float Shoe (P-110)			1.6	5 4224.69
1-joint of 5-1/2 SJ-2 Flush jt casing (J-55)			41.7	4182.99
5-1/2 Weatherford Float Collar (P-110)			1.70	0 4181.29
1-joint of 5-1/2 SJ-2 Flush joint Allloy Casi	ing		17.8	2 4163.47
6-joints of 5-1/2 SJ-2 Flush joint casing (J-	-55)		235.64	4 3927.83
1-joint of 5-1/2-SJ-2 x 5-1/2-LTC xover join	nt (J-55)		42.5	3885.33
1-5-1/2 P-110 Stage Tool 8-rd			2.02	2 3883.31
92-5-1/2 LTC joints (J-55)			3881.69	5 1.65
		l l		
				1
1				
	Total cas	ing run	4224.69	9
	Liner top below RK	B	14.30)
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	Casing landed at		4238,99	5
	-			
Centralizers type: Weatherford At:				
4206-4187-4145-4107-4076-4134-3993-3	951-3908		· · · · · · · · · · · · · · · · · · ·	
Reciprocate: Yes No X Rotate	Yes No X			
Remarks:				··
Spacer				
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Spacer: Description Pumped 40-bbls of FE-2 water	n		Weight (pp	g) Rate (BPM)
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Note: for second stage - use a second sheet

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Submit I Copy To Appropriate District	State of New Mexico	Form C-103
Office District 1 – (575) 393-6161	Energy, Minerals and Natural Resources	October 13, 2009
N. French Dr., Hobbs, NM 88240		WELL API NO. 30-025-21497
S. First SL, Artesia, NM 88210	OIL CONSERVATION DIVISION	5. Indicate Type of Lease
<u>District III</u> – (505) 334-6178 1000 Rio Brazos Rd., Aztec, NM 87410	1220 South St. Francis Dr.	STATE FEE
District IV - (505) 476-3460 1220 S. St. Francis Dr., Santa Fe, NM	Santa Fe, NM 87505	6. State Oil & Gas Lease No.
87505 SUNDRY NO	TICES AND REPORTS ON WELLS	7 Lease Name or Unit Agreement Name
(DO NOT USE THIS FORM FOR PROP DIFFERENT RESERVOIR. USE "APPI	OSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A LICATION FOR PERMIT" (FORM C-101) FOR SUCH	Eunice Gas Plant SWD
PROPOSALS.)	Gas Well 🗍 Other Acid Gas Injection 🕅	8. Well Number #1
2. Name of Operator		9. OGRID Number
Targa Midstream Services, LP		24650
3. Address of Operator 1000 Louisiana, Suite 4300, House	ston, TX 77002-5036	10. Pool name or Wildcat SWD: San Andres
4. Well Location		
Unit LetterL	_:2580feet from theSouth line and	1_1200feet from theWestline
Section 27	Township 22S Range 37E	NMPM Lea County
	11. Elevation (Show whether DR, RKB, RT, GR, 3335 GR	etc.)
12. Check	Appropriate Box to Indicate Nature of Noti	ce. Report or Other Data
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Attachement #1





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Sundry Notices and Reports on Wells C-103 Attachment No. 2 June 22, 2011

Drilling and completion activities, including the setting of the packer and running of the injection tubing, have been completed on this well. Testing will be starting about June 29, 2011 to evaluate the well's injection capabilities. Following is the anticipated testing program that is meant to satisfy the requirements set out in Order Number R-12809-C. Please advise of your approval of this program or what changes need to be made.

Mechanical Integrity Test

A mechanical integrity test will be run to pressure test the casing from the surface to the packer per OCD rules. Verbal notification will be given to the Division's Hobbs office to allow witnessing if desired.

Step Rate Test

The Step Rate Test will be run to determine injection performance at various injection rates. The written procedure for the test is included below and the rig-up diagram will be submitted to the OCD at least 24 hours before starting the test. This step rate test procedure contains the following information:

- 1. A diagram of the mechanical configuration of the recompleted well.
- 2. A description of the previous injection test in the SWD well.
- 3. The well has not had any fracture treatments and the ISIP is Opsi.
- 4. C-115's showing past injection volumes and pressure history are on file with the NMOCD.

Downhole pressure gauges will be used to measure bottom hole pressures at injection rates greater than 1 bpm. Starting pump rates and pressures will be lower than the current rates and pressures (if the well is currently injecting) and there will be at least 3 steps below the 0.2 psi/ft gradient and 3 steps above the break-over point. Rate changes will be 0.5 bpm or smaller unless the OCD witness determines that bigger rate changes are necessary due to small incremental increases in pressure. Each step will be at least 15 minutes in duration unless otherwise determined by the OCD. Step duration must not be changed during the test.

According to historical records contained in Order No. R-12809-C in 1983, a pump-in injection test on the original Eunice Gas Plant SWD Well No. 1 reached a rate of 10 bpm into the open hole interval of 4,010 ft to 4,550 ft at a bottom hole pressure of 3,000 psi without showing any apparent evidence of fracturing.

The Step Rate Test design will take into account the current Order's maximum surface injection pressure limitation of 1,300 psi (equivalent to a fracture pressure gradient of 0.3







		Time		
Step	Rate (bpm)	(min)	Bbls	Cum
1	1.00	20	20	20
2	1.50	20	30	50
3	2.00	20	40	90
4	2.50	20	50	140
5	3.00	20	60	200
6	3.50	20	70	270
7	4.00	20	80	350
8	4.50	20	90	440
9	5.00	20	100	540
		180	540	

psi/ft) as well as the plant's ultimate need to dispose of approximately 4,075 bpd (2.8 bpm) of TAG and waste water. Accordingly, the following rate schedule is proposed:

3.0 hrs

If the well reacts similarly to the SWD well's test in 1983, then an obvious breakover point will probably not be reached by the time the 9th Step is reached at 5.0 bpm. In other words, if the injection pressure at this point is below 1,300 psi, Targa will have no need to amend their order to raise the surface injection pressure limitation. However, if the injection pressure exceeds 1,300 psi (or if the injection pressure at 3.0 bpm is greater than 1,300 psi), and no breakover is witnessed, Targa may use the data collected to prepare a request to NMOCD for approval of a higher surface injection pressure limitation, pursuant to paragraph D of Order No. R-12809-C.

Verbal notice will be given to the Division's Hobbs office 24-48 hours prior to initiating the test to allow witnessing if desired.

Transient (Falloff) Testing / Temperature Survey

This test will immediately follow the Step Rate Test.

Targa has designed an AGI system that will inject a maximum of approximately 2,500 bpd of (dense phase) acid gas, coupled with produced water and non-hazardous waste water of up to 1,575 bpd; for a total injection volume of up to 4,075 bpd (2.8 bbl/min).

The following graph uses assumed well properties and shows the sensitivity to formation permeability. In the base case, the expected time for the pressure transient to travel $\frac{1}{2}$ mile is approximately 150 hours (6 days). If the permeability encountered is closer to 5 md, the corresponding time required for a transient to reach a radius of investigation of $\frac{1}{2}$



mile would be approximately 11 days. Once the logs and core have been analyzed, the most appropriate duration for the injection test will be determined.



The proposed Falloff testing procedure encompassing the upper limits of the injection rate will be followed by a falloff period sufficient to test for any formation boundaries up to a minimum of ½ mile from the wellbore. The pressure data will be captured in downhole pressure gauge "bombs" designed to record pressure data. The proposed injection test will proceed as follows:

- Position the downhole gauges at the bottom of the injection interval if possible (4,825 ft)
- Begin waste water injection at 1.5 bpm. Inject for 2 hours. 180 bbls total.
- Increase injection rate to 3.0 bpm. Inject for 2 hours. 360 bbls (540 bbls cumulative total)
- Shut in for Falloff test for 150 hours (6 days).
- At end of 150 hours, pull out of hole with pressure bombs.
- Analyze pressure for transient pressures.
- Use data from tracer/temperature survey and transient testing for reservoir simulation and enhanced prediction of area affected by injection over 30 years.
- Provide results to NMOCD.

Injection Survey

This test will follow the Transient (Falloff) Test as soon as practical. Notice will be given to the Division's Hobbs office to allow witnessing if desired.





Order R-12809-C instructs the Operator to run a tracer and temperature injection survey on this well as soon as practical after 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.

Targa will run this Injection Profile log to satisfy the requirements of the Order. The injection profile provides an analogy of injection fluid movement down the well bore and into the formation. The injection profile log also gives a good indication of the mechanical integrity of the well, including possible fluid channeling away from the well bore.

The service company will inject a radioactive (RA) material like Iodine 131 into the disposal stream of the well and measure the relative amounts of absorption each layer of the formation contributes to the overall injection. Several passes are usually required to develop a profile of the injection interval. A temperature probe on the bottom of the tool will help to correlate the various RA slug measurements, and an optional production logging "spinner" tool can measure the velocity changes of the injected fluid over the injection interval.

Sundry Notices and Reports on Wells

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C-103

Attachement No. 3

June 22, 2011



Eunice Gas Plant SWD #1 Wellhead

s	ubmit 1 Copy To Appropriate District State of New Mexico)	Form C-103
C L	District 1 – (575) 393-6161 Energy, Minerals and Natural R	esources.	October 13, 2009
Ī	625 N French Dr., Hobbs, NM 8824 OBBS OCU		WELL API NO.
	S First St., Artesia, NM 88210 OIL CONSERVATION DIV	/ISION	5. Indicate Type of Lease
	Autor Binardo Rid, Aztec, NM 87410	Dr.	STATE FEE 🔀 🧹
<u></u>	District IV – (505) 476-3460 Santa Fe, INIVI 87505 220 S. St. Francis Dr. Santa Fe, INIVI 87505		6. State Oil & Gas Lease No.
_8	7505 RECEIVED		
	SUNDRY NOTICES AND REPORTS ON WELLS DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BA DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUC PROPOSALS)	CK TO A CH	7. Lease Name or Unit Agreement Name Eunice Gas Plant SWD
1	. Type of Well: Oil Well 🗌 Gas Well 🗌 Other Acid Gas Injection	Ø	8. Well Number # 1
2	. Name of Operator	-	9. OGRID Number
	Address of Operator		24650 V
1	000 Louisiana, Suite 4300, Houston, TX 77002-5036		SWD: San Andres
4	. Well Location		,
	Unit Letter L : 2580 feet from the South	line and 120	00 feet from the West line
	Section 27 Township 22S Rang	ge 37E	NMPM Lea County
	11. Elevation (Show whether DR, RKB,	, RT, GR, etc.)	
要		<u> </u>	
	12. Check Appropriate Box to Indicate Nature	of Notice, F	Report or Other Data
	NOTICE OF INTENTION TO:	SUBS	SEQUENT REPORT OF:
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	of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For proposed completion or recompletion.	Multiple Com	pletions: Attach wellbore diagram of
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10	Attachment No. 2 – Test Procedu	ure	
	Attachment No. 3 – Rig –up Diag	gram	
Te	sting scheduled to start about June 30, 2011 per attachment No. 2. Please at	dvise with cond	currence with procedure
10.			
Spi	Id Date: Rig Release Date:		
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I he	ereby certify that the information above is true and complete to the best of m	ny knowledge a	and belief.
SIC	SNATURE Denusc Jones	/ Analyst	DATE06/22/2011
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Attachement #1



15 10 3/4 300 300 sxs Surface Hole Size: Inter. csg Set @ Cement w/ Circ: 8 3/4 7" 20# 4010 1750 sxs Surface

API No:

30-025-21497

5 1/2" 17# J-5
4258
310
1059' by CBL



Sundry Notices and Reports on Wells C-103 Attachment No. 2 June 22, 2011

Drilling and completion activities, including the setting of the packer and running of the injection tubing, have been completed on this well. Testing will be starting about June 29, 2011 to evaluate the well's injection capabilities. Following is the anticipated testing program that is meant to satisfy the requirements set out in Order Number R-12809-C. Please advise of your approval of this program or what changes need to be made.

Mechanical Integrity Test

A mechanical integrity test will be run to pressure test the casing from the surface to the packer per OCD rules. Verbal notification will be given to the Division's Hobbs office to allow witnessing if desired.

Step Rate Test

The Step Rate Test will be run to determine injection performance at various injection rates. The written procedure for the test is included below and the rig-up diagram will be submitted to the OCD at least 24 hours before starting the test. This step rate test procedure contains the following information:

- 1. A diagram of the mechanical configuration of the recompleted well.
- 2. A description of the previous injection test in the SWD well.
- 3. The well has not had any fracture treatments and the ISIP is Opsi.
- 4. C-115's showing past injection volumes and pressure history are on file with the NMOCD.

Downhole pressure gauges will be used to measure bottom hole pressures at injection rates greater than 1 bpm. Starting pump rates and pressures will be lower than the current rates and pressures (if the well is currently injecting) and there will be at least 3 steps below the 0.2 psi/ft gradient and 3 steps above the break-over point. Rate changes will be 0.5 bpm or smaller unless the OCD witness determines that bigger rate changes are necessary due to small incremental increases in pressure. Each step will be at least 15 minutes in duration unless otherwise determined by the OCD. Step duration must not be changed during the test.

According to historical records contained in Order No. R-12809-C in 1983, a pump-in injection test on the original Eunice Gas Plant SWD Well No. 1 reached a rate of 10 bpm into the open hole interval of 4,010 ft to 4,550 ft at a bottom hole pressure of 3,000 psi without showing any apparent evidence of fracturing.

The Step Rate Test design will take into account the current Order's maximum surface injection pressure limitation of 1,300 psi (equivalent to a fracture pressure gradient of 0.3



psi/ft) as well as the plant's ultimate need to dispose of approximately 4,075 bpd (2.8 bpm) of TAG and waste water. Accordingly, the following rate schedule is proposed:

Step	Rate (bom)	Time (min)	Bbls	Cum
		()		
1	1.00	20	20	20
2	1.50	20	30	50
3	2.00	20	40	90
4	2.50	20	50	140
5	3.00	20	60	200
6	3.50	20	- 70	270
7	4.00	20	80	350
8	4.50	20	90	440
9	5.00	20	100	540
	<u></u>	180	540	

. 3.0 hrs

If the well reacts similarly to the SWD well's test in 1983, then an obvious breakover point will probably not be reached by the time the 9th Step is reached at 5.0 bpm. In other words, if the injection pressure at this point is below 1,300 psi, Targa will have no need to amend their order to raise the surface injection pressure limitation. However, if the injection pressure exceeds 1,300 psi (or if the injection pressure at 3.0 bpm is greater than 1,300 psi), and no breakover is witnessed, Targa may use the data collected to prepare a request to NMOCD for approval of a higher surface injection pressure limitation, pursuant to paragraph D of Order No. R-12809-C.

Verbal notice will be given to the Division's Hobbs office 24-48 hours prior to initiating the test to allow witnessing if desired.

Transient (Falloff) Testing / Temperature Survey

This test will immediately follow the Step Rate Test.

Targa has designed an AGI system that will inject a maximum of approximately 2,500 bpd of (dense phase) acid gas, coupled with produced water and non-hazardous waste water of up to 1,575 bpd; for a total injection volume of up to 4,075 bpd (2.8 bbl/min).

The following graph uses assumed well properties and shows the sensitivity to formation permeability. In the base case, the expected time for the pressure transient to travel $\frac{1}{2}$ mile is approximately 150 hours (6 days). If the permeability encountered is closer to 5 md, the corresponding time required for a transient to reach a radius of investigation of $\frac{1}{2}$





mile would be approximately 11 days. Once the logs and core have been analyzed, the most appropriate duration for the injection test will be determined.



The proposed Falloff testing procedure encompassing the upper limits of the injection rate will be followed by a falloff period sufficient to test for any formation boundaries up to a minimum of ½ mile from the wellbore. The pressure data will be captured in downhole pressure gauge "bombs" designed to record pressure data. The proposed injection test will proceed as follows:

- Position the downhole gauges at the bottom of the injection interval if possible (4,825 ft)
- Begin waste water injection at 1.5 bpm. Inject for 2 hours. 180 bbls total.
- Increase injection rate to 3.0 bpm. Inject for 2 hours. 360 bbls (540 bbls cumulative total)
- Shut in for Falloff test for 150 hours (6 days).
- At end of 150 hours, pull out of hole with pressure bombs.
- Analyze pressure for transient pressures.
- Use data from tracer/temperature survey and transient testing for reservoir simulation and enhanced prediction of area affected by injection over 30 years.
- Provide results to NMOCD.

Injection Survey

This test will follow the Transient (Falloff) Test as soon as practical. Notice will be given to the Division's Hobbs office to allow witnessing if desired.

Order R-12809-C instructs the Operator to run a tracer and temperature injection survey on this well as soon as practical after 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.

Targa will run this Injection Profile log to satisfy the requirements of the Order. The injection profile provides an analogy of injection fluid movement down the well bore and into the formation. The injection profile log also gives a good indication of the mechanical integrity of the well, including possible fluid channeling away from the well bore.

The service company will inject a radioactive (RA) material like Iodine 131 into the disposal stream of the well and measure the relative amounts of absorption each layer of the formation contributes to the overall injection. Several passes are usually required to develop a profile of the injection interval. A temperature probe on the bottom of the tool will help to correlate the various RA slug measurements, and an optional production logging "spinner" tool can measure the velocity changes of the injected fluid over the injection interval.

Sundry Notices and Reports on Wells

C-103

Attachement No. 3

1

June 22, 2011



Eunice Gas Plant SWD #1 Wellhead

Submit I Copy To Appropriate District State of New	w Mexico	Form C-103			
District I Energy, Minerals and	Natural Resources	October 13, 2009			
1625 N French Dr., Hobbs, NM 88240	WELL API NO.				
W Grand Ave, Artesia, NM 88210 OIL CONSERVAT	FION DIVISION	30-025-21497			
Inet III 1220 South St.	. Francis Dr.	5. Indicate Type of Lease			
Distant IV Santa Fe, NM 87410 IN 2 2 2011 Santa Fe, N	IM 87505	6 State Oil & Gag Lease No			
1220 S St Francis Dr., Santa Fe, NM 87505		6. State Off & Gas Lease No.			
SUNDRY NOT COMPANY NOT COMPANY SUNDRY NOT USE THIS FORM FOR PROPERTY OF THE POPULATION	ELLS	7. Lease Name or Unit Agreement Name			
DIFFERENT RESERVOIR USE "APPLICATION FOR PERMIT" (FORM C-	101) FOR SUCH	Eurice Cas Plant SW/D			
PROPOSALS.)		Eunice Gas Plant SWD			
1. Type of Well: Oil Well 🔲 Gas Well 🗌 Other Acid G	Gas Injection 🛛	8. Well Number #1			
2. Name of Operator		9. OGRID Number			
Targa Midstream Services, LP		24650			
3. Address of Operator		10. Pool name or Wildcat			
1000 Louisiana, Suite 4300, Houston, TX 77002-5036	· · · · · · · · · · · · · · · · · · ·	SWD: San Andres			
4. Well Location					
Unit Letter_L_: 2580 feet from the South_	line and120	00feet from theWestline			
Section 27 Township 22S	Range 37E	NMPM County Lea			
11. Elevation (Show whethe	er DR, RKB, RT, GR, etc.,				
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Production String Liner	Surface String Prot. String	Conine Booned		Bore Run Number Br	Witnessed By	Location Decorded By	Time Logger on Botto	Time Well Ready	Max. Recorded Temp.	Denethy / Viecnethy	Open Hole Size	Top Log Interval	Bottom Logged Interva	Depth Uniter	Run Number	Date	Company Well Field County State	TA EL SV LE NE	RGA M JNICE (VD. SAI A EW ME)	IIDS1 GAS I N AN (ICO	REAM PLANT DRES	SERV	/ICES). #1	, LP	
7" 5.5"	370	2		ehole Record t From	N		3	p .					8				Permanent Datum Log Measured Fro Dnlling Measured I	SE		Location:	County L	Field S	Well E	Company T	SERVICES
N/A 15.5#	TVQUEL			To Size	IR. D. GONZALES		12:00 P.M. TRUCK # 17	ROA	NA	NIA NIA		SURFACE	4315	4833	ONE	06-07-11	m GROUND LEV m K.B. 16' ABOV From KELLY BUSH	C 27 TWP 225 RC	2580' FSL & 1200' I	API #:	EA	WD. SAN ANDRE	UNICE GAS PLA	ARGA MIDSTRE	GAM DEP
SURFACE SURFACE	go			Tubing Record Weight From							-						EL Elevation 3335' E PERM DATUM NG	3E 37E	FWL	30-025-21497	State NEW	S.	NT SWD. #1	AM SERVICES,	IMA-RAY / C TH CONTR
4010' 4258' V		ere >	>>>	П													K.B. 3351' D.F. 3350' G.L. 3335'	Flowstinn	NA	Other Services	MEXICO			F	Ϋ́Υ
All ir correc costs	iterpre tness , dam	etatio of ar ages	ns are ny inte , or ex Thes	e opini irpreta opense se inte	ons tion is in pre	base , and curre tatior	d on we s d or is are	infe hall sust als	rence not, ainec o sut	es f exc d by ojec	from cept y an ct to	in t yor ou	ectri the ne n ir ge	cal cas esu nei	or e o Itin ral t	oth f gi g fi terr	ter measure ross or willf rom any inte ms and con	erpr ditio	nts and egligen etation ens set o	we c ce or made out ir	annot our p by ar our c	and d art, be ly of o urrent	lo not iabli our off Price	guarant e or resp icers, ag Schedu	tee the accuracy or consible for any loss, gents or employees. Je
	RECEIVED		JUN 2 2 2011	HOBBS OCD		T DU	HIS	E L(SP	DG AC	W	AS DN		CO UT DA				ATED T SPECT 05-19-11	O RA	HALL L DE	.IBU	JRTO			obbs In 22 Recéi	OCD , VED
						ST A										4	IN	Ç	SE	С	, T		70		

ASEMICESY

Database File: Dataset Pathname: Presentation Format: Dataset Creation: Charted by:

targamidstream.db DEPTHCONT/well/run1/pass6 cntcnts Tue Jun 07 13:01:31 2011 by Log Std Casedhole 10081 Depth in Feet scaled 1:240

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			Calibration	Report	
	Database File:	targamidstream.db			
	Dataset Pathname:	DEPTHCONT/well/r	un1/pass6		
	Dataset Creation:	Tue Jun 07 13:01:3	1 2011 by Log Std Case	edhole 10081	
			Gamma Ray Cali	bration Report	``````````````````````````````````````
	Serial Nur	nber:	pr100332		
	Tool Mode	¥:	Probe275dig		
	Performed	j;	Fri Apr 29 08:4	12:29 2011	
.	Calibrator	Value:	229.0	GAPI	
	Backgrout	nd Reading:	58.2	cps	
	Calibrator	Reading:	295.0	cps	
	Sensitivity		0.7000	GAPI/cps	

Company Well Field	TARGA MIDSTREAM EUNICE GAS PLANT SWD. SAN ANDRES	SERVICES SWD. #1	, LP	
County	LEA	State	NEW MEXICO	
		GAMI DEP	MA-RAY / CCL TH CONTROL	







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	Submit To Approp Two Copies <u>District I</u> 1625 N French Dr	J nate Distri	CI Office	BS ØC	State of New Mexico CD Energy, Minerals and Natural Resources					esources	1. WEL	Form C-105 July 17, 2008				
	W Grand Av	enue, Arte:	sia, NM 88210 NM 874	20	2011	Oil 122	l Conserva 20 South S Santa Fe	tion E t. Frai VM 8'	Divisio ncis E 7505	on Dr.	30-025-2 2. Type of 3 State O	21497 f Lease TATE	FEE Is Lease No	: [] FED/	INDIAN	
	WELL (4 Reason for fil COMPLET	ION REP SURE AT	PORT (Fill in TTACHMEN at to the C-144	boxes t	in box	DMPL	for State and Fe ough #9, #15 Da rdance with 19.1	e wells o ate Rig F	T ANE only) Released K NMA	D LOG and #32 and/o C)	5 Lease N Eunice Gas 6. Well Nu	ame or Plant S Imber	Unit Agree SWD 1.	ement Name		
	7. Type of Comp NEW 8. Name of Opera Targa Midstream 10. Address of O	pletion. WELL [ator Services, perator Suite 4300	_ WORKOV	ER 🕅	DEEP	ENING			IFFERE	NT RESERVO	DIR OTHE 9 OGRID 24650 11 Pool na: SWD San	me or V	Wildcat	•] .		
	1000 Louisiana, a	Suite 4500		~ //00/	2-3030					<u></u>	SWD. Sall			<u> </u>	6,20	
	12.Location	Unit Ltr	Section		Towns	ship	Range	Lot		Feet from the	e N/S Line -	Fe	et from the	E/W Line	County	Å
┟	BH:	- <u>L</u>	27		225		37E		,	2580	South	12	00	West	Lea	×
╞	13. Date Spudded	 1 14. D	ate T.D. Reac	hed	15.1	Date Rig	Released	<u>l</u>						7 Elevations	(DF and RKE	3,
	05/13/2011 18 Total Measur	05/18 ed Depth	/2011 of Well	<u>.</u>	05/2	3/2011 Plug Bac	k Measured Dep	oth	06/	13/2011 Was Directio	onal Survey Mad	de?	R 21 · Typ	T, GR, etc) e Electric an	3345' GR d Other Logs	Run
}	4850' 22 Producing Int	erval(s), o	of this comple	tion - T	4850 op, Bo)' ttom, Na	me		No		<u>.</u>	Ţ	DSN-SI), Res, Calip	er, XMI, GR/	CBL
-	4258 to 4850	San	Andres		·	CASI	NCDEC	onn	(D am)				<u> </u>		· · ·	
ŀ	23 CASING SI	ZE	WEIGH	LB /F	T.	CASI	DEPTH SET		(кер но	LE SIZE	CEMENT	'ING RI	ECORD	AMOU	INT PULLED	
Ţ	10 3/4"		: 32	7 #		<u> </u>	300' ·			15"	300 :	sx (Ci	rc)		`	
$\left(\right)$	<u> </u>		<u>··· · 2</u> ()# <u>.</u> 7#		<u>.</u>	<u>· 4010' ,</u>	. – – –	· ·	<u>8 ¼"</u>	. 1750	SXS (C	coc @	1050')		
Ì	J 12		··· · · · · · · · · · ·				4230			0 74	510	379 (1		1059)		
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╞	24. SIZE [.]	TOP	· · · · · · ·	BOT	том	. LINE	ER RECORD	ENT IS	CREEN	2	25 NZE		NG REC	ORD	CKER SET	<u>s</u>
		1.0.								2	2 7/8"	4	219'	41	90'	
╞	26 Perforation	record (in	nterval size a	nd num	her)					D SHOT F	RACTURE (NT SOLU	FEZE ETC	·	<u> </u>
		1000/11 (DEPTH	NTERVAL	AMOUNT AND KIND MATERIAL USED					
	Open note comple	tion				· · ·	•	4	1258'-4	850'	50000ga	1 15%	HCl w/	2000 # гос	ck salt	
								· -		<u> </u>						
Ī	28							PROI	DUC	FION				<u></u>		
	Date First Product 7/14/2011	tion	P	roductio GI (Dis	on Metl sposal \	hod <i>(Flo</i> n Well)	wing, gas lift, pi	mping -	Size and	l type pump)	Well Stat Disposing	tus <i>(Pro</i> g	d or Shut-	ın)		(
	Date of Test	Hours	Tested	Chok	ce Size		Prod'n For Test Period)ıl - Bbl	G	Gas - MCF		/ater - Bbl	Ga	s - Oil Ratio	,
Ī	Flow Tubing Press.	Casing	g Pressure	Calci Hour	ulated 2 Rate	24-	Oil - Bbl	d	Gas -	MCF	Water - Bbl.		Oil Grav	vity - API - (Corr.)	
ŀ	29. Disposition of	Gas (Sol	d, used for fue	l, vente	d, etc)		•		· ·		I`	- <u></u>	Test Witnes	ssed By	· · · ·	
-	31. List Attachme	nts .	;				······			·····		1	·	· · · · ·	····	
ļ	32 If a temnoron	nit was .	ised at the we	1 attack	1 a nlət	with the		emnora	rv nit N	IA (Closed Lo	- , mn)		•		· • · · -	
	33. If an on-site b	urial was	used at the we	ll, repo	rt the e	xact loca	ation of the on-si	te burial				<u>.</u>	;,	<u> </u>	· ·	
$\left(\right)$	nereby certif	v that th	A ne informat	ion sh	' own o	n both	Latitud	e <u>·</u> form is	true o	nd complet	Longi	of mu	knowled	loe and he	NAD 1921	/ :
	Signative T					P	rinted	nise "	The	па сотриен в тил-	Rea stata	ني شري م	nowied	ise unu De		
	E-mail Addres	s Au	ones@	so Cairi	bri	n anm	ame cei	113C.	JUNC	· itte	raviaio	ny 79	יסיאַסו	Da		
L		<u></u>	EG	7	7-7	6-	701	•••	· · · · · · · · · · · · · · · · · · ·	SWI	D-1161		R_	1280	q · · ·	

INSTRUCTIONS

form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or ined well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

	Southeaste	rn New Mexico	Northy	western New Mexico
T. Anhy	1138	T. Canyon	T. Ojo Alamo	T. Penn A"
T: Salt	1226	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt	2611	T. Atoka	T. Fruitland	T. Penn, "C"
T. Yates	2661	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers		T. Devonian	T. Cliff House	T. Leadville
T. Queen	2880	T. Silurian	T. Menefee	T. Madison
T. Grayburg	3416	T. Montoya	T. Point Lookout	T. Elbert
T. San Andres	3962	T. Simpson	T. Mancos	T. McCracken
T. Glorieta		T. McKee	T. Gallup	T. Ignacio Otzte
T. Paddoćk		T. Ellenburger	Base Greenhorn	T.Granite
T. Blinebry	•	T. Gr. Wash	T. Dakota	
T.Tubb		T. Delaware Sand	T. Morrison)
T. Drinkard		T. Bone Springs	T.Todilto	
T. Abo		T.	T. Entrada	
T. Wolfcamp		Τ.	T. Wingate	
T. Penn		Т	T. Chinle	
T. Cisco (Bough	1 C)	<u>T.</u>	T. Permian	

OIL OR GAS SANDS OR ZONES

, .	, fromNA – SWDto	No. 3, fromtoto
2,	, from	No. 4, fromtoto

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	То	Thickness In Feet	Lithology	From	То	Thickness In Feet	Lithology
			MIT Test previously submitted As attachment to C-103. Logs previously submitted as Attachments to a C-103.				
			Step rate, transient (Fall off) Test and injection profile Test will be submitted separately With C-103.				
			, · · ·				
						-	

Submit 1 Copy To Appropriate District	State of New Mexico	J	Foi	rm C-103
Office	Energy Minerals and Natural R	Resources	Octo	ber 13, 2009
1625 N. French Dr., Hobbs, NM 88240		Γ	WELL API NO.	
District 11 - (575) 748-1283	OIL CONSERVATION DI		30-025-21497	
1 S. First St., Artesia, NM 88210 District III – (505) 334-6178	- 2011220 South St Francis	Dr .	5. Indicate Type of Lease	~ / I
1000 Rio Brazos Rd., Aztec, NM 87410	0 5 LUWZZO SOUTH St. Francis		STATE FEE	K
District IV – (505) 476-3460 1220 S. St Francis Dr., Santa Fe, NM 87505	Santa FC, INIVI 67303		o. State Uil & Gas Lease No.	
SUNDRY NOTICE	SAND REPORTS ON WELLS	<u> </u>	7. Lease Name or Unit Agreeme	ent Name
(DO NOT USE THIS FORM FOR PROPOSAL	S TO DRILL OR TO DEEPEN OR PLUG BA	ACK TO A		
DIFFERENT RESERVOIR, USE "APPLICAT PROPOSALS)	ION FOR PERMIT" (FORM C-101) FOR SU		Eunice Gas Plant SWD	
1. Type of Well: Oil Well 🔲 Ga	s Well 📋 Other - Acid Gas Injectio	on	8. Well Number 1	
2. Name of Operator	/		9. OGRID Number /	
Targa Midstream Services, LP	1		24650	
3. Address of Operator			10. Pool name or Wildcat	
1000 Louisiana, Suite 4300, Houston,	TX 77,002-5036		SWD: San Andres /	
4. Well Location				
Unit Letter L: _2	580feet from theSouth	line and1200	feet from theWest	line
Section 27	Township 22S Rang	ge <u>37E</u>	NMPM Lea Coun	ty -
	1. Elevation (Show whether DR, RKB	B, RT, GR, etc.)	建筑市场 名建筑建立建立	
	·			
. 12. Check App	propriate Box to Indicate Nature	e of Notice, R	eport or Other Data	
		CLIDE		
		OUDOI MEDIAI WORK		
	ļ			
ÓTHER:		HER:	Ran Initial MIT	
 Describe proposed or complete of starting any proposed work). proposed completion or recompletion Initial MIT was run. Witnessed and sign 	ed by OCD representative.	r Multiple Comp	letions: Attach wellbore diagran	n of
Packer @ 4203'.				
Ŭ				
Spud Date:	Rig Release Date:			
	L			
		<u></u>		
I hereby certify that the information above	ve is true and complete to the best of i	my knowledge a	nd belief.	
	-			
		A 1 1	·	
SIGNATURE Lewis Jone	TITLE Kequlata	my Analyst	DATE	
Type or print name Denise Jon	es E-mail address: _djo	ones@cambrianm	igmt.com_ PHONE: _432-620-9	181
or State Use Only	Λ			
PPROVED BY		ina	DATE 7-1-	ni
Conditions of Approval if anyly	IIILE_TAT	T MAR	DATE	UI_
Conditions of Approver (It ally).				
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From: Jones, Brad A., EMNRD [mailto:brad.a.jones@state.nm.us] Sent: Thursday, August 11, 2011 5:08 PM To: Wrangham, Calvin W. Ubject: RE: Eunice Plan

The Oil Conservation Division has completed the review of the Targa Eunice Gas Plant and AGI Pipeline/Well site Hydrogen Sulfide (H2S) Contingency Plan, dated August 11, 2011, and has determined it to be adequate. Targa Midstream Services, LLC has submitted a H2S contingency plan that demonstrates compliance with the applicable provisions of 19.15.11 NMAC. Targa Midstream Services, LLC shall implement the H2S Contingency Plan immediately and provide copies of the plan to the appropriate parties identified on the distribution list provided in Appendix B.

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Thank you for your cooperation in resolving the H2S contingency plan. The OCD appreciates all of the time and effort of you and your staff in making the appropriate revisions to the plan. If there are any questions regarding this matter, please do not hesitate to contact me at (505) 476-3487 or <u>brad.a.jones@state.nm.us</u>.

Brad A. Jones Environmental Engineer Environmental Bureau NM Oil Conservation Division 1220 S. St. Francis Drive Santa Fe, New Mexico 87505 E-mail: <u>brad.a.jones@state.nm.us</u> Office: (505) 476-3487 Fax: (505) 476-3462

FORM O & O B-B Adopted 6-17-77 Revised 1-1-03

STATE OF NEW MEXICO

\$50,000 BLANKET PLUGGING BOND

BOND NO. 6407032

File with the OIL CONSERVATION DIVISION, 1220 South St. Francis, Santa Fe, New Mexico 87505

KNOW ALL MEN BY THESE PRESENTS;

That <u>Targa Midstream Services Limited Partnership</u>______, (an individual) (a general partnership) (a corporation, limited liability company or limited partnership organized in the State of <u>Delaware</u>, and authorized to do business in the State of New Mexico), as PRINCIPAL, and <u>Safeco Insurance Company of America</u>______, a corporation organized and existing under the laws of the State of <u>Washington</u>______ and authorized to do business in the State of New Mexico, as SURBTY, are firmly bound unto the State of New Mexico for the use and benefit of the Oil Conservation Division of the Energy, Minerals and Natural Resources Department (or successor agency) (the DIVISION) pursuant to NMSA 1978, Section 70-2-14, as amended, in the sum of Fifty Thousand Dollars (\$50,000) for the payment of which the PRINCIPAL and SURETY hereby bind themselves and their successors, jointly and severally, firmly by these presents.

The conditions of this obligation are such that:

WHEREAS, the PRINCIPAL has commenced or may commence the drilling of a well or wells to prospect for and/or produce oil or gas, carbon dioxide gas, helium gas or brine minerals on privately owned or state owned lands within the State of New Mexico, or does own or operate, or may acquire, own or operate such a well or such wells, the identification and location of said wells being expressly waived by both PRINCIPAL and SURETY.

NOW, THEREFORE, if the PRINCIPAL and SURETY or either of them or their successors or assigns, or any of them, shall cause all of said wells to be properly plugged and abandoned when dry or when no longer productive or useful for other beneficial purpose, in accordance with the rules and orders of the of DIVISION, including but not limited to Rules 101 [19.15.3.101 NMAC] and 202 [19.15.4.202 NMAC], as such rules now exist or may hereafter be amended;

THEN AND IN THAT EVENT, this obligation shall be null and void; otherwise, and in default of complete compliance with any and all of said obligations, the same shall remain in full force and effect.

PROVIDED HOWEVER, that 30 days after receipt by the DIVISION of written notice of cancellation from the SURETY, the obligation of the SURETY shall terminate as to wells acquired, drilled or started, or of which PRINCIPAL assumes operation, after said 30-day period, but shall continue in effect, notwithstanding said notice, as to wells theretofore acquired, drilled, started or operated.

Targa Midstream Services Limited Partnership PRINCIPAL

1000 Louisiana, Suite 4300 Houston, Texas 77002

Title

Address Signature M. X ion

If PRINCIPAL is a corporation, affix corporate seal here,

Safeco Insurance Company of America SURETY 1600 North Collins Blvd., Wuite 3000 Richardson, Texas

Address Attorney - In-Fact Janie Cermono

Corporate surety affix corporate seal heal.

Form O & G B-B	
ACKNOWLEDGMENT FORM FOR INDIVIDUAL	
STATE OF)	
county of)	
I his matriment was acknowledged before ine on, 20 by (Name of Individual)	
Notary Public	
SEAL.	
My Commission Expires	
ACKNOWLEDGMENT FORM FOR PARTNERSHIP, CORPORATION OR LIMITED LIBAILITY CO	MPAN
STATE OF $/ (2xa_3)$	
COUNTY OF Name	
This instrument was acknowledged before me on 13th, 2007 by Clark White	
BB VP + Region Manager of Targa Midstream Services Limita	<u>d Par</u>
(Capacity, e.g., partner, pretident, manipus, ma	
My Commission Expires Pebruary 12, 2010 Notary Public	
My Commission Expires	
ACKNOWLEDGMENT FORM FOR CORPORATE SURETY	
STATE OF <u>TEXAS</u>)	
COUNTY OF <u>HARRIS</u>)	
This instrument was soknowledged before me on <u>13th</u> , 2007 by Janie Cermeno	•
(Name of Attorney in fact) as Attorney-in-Fact for <u>Safeco Insurance Company of America</u> .	
SHERY SKINNER	
SEAL STATE OF TEXAS	
July 22, 2007 July 22, 2007 July 22, 2007	
My Commission Expires	
Corporate surety attach power of attorney	
· · · · ·	
APPROVED BY:	
OIL CONSERVATION DIVISION OF NEW MEXICO	
By	
Date	
•	

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· · · · · · · · · · · · · · · · · · ·		
	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Bond No. 6407032
SAFECO	POWER OF ATTORNEY	SAFECO INSURANCE COMPANY OF AMERICA GENERAL INSURANCE COMPANY OF AMERICA HOME OFFICE: SAFECO PLAZA SEATTLE, WASHINGTON 98185
		No. 6485
KNOW ALL BY THESE PRESENTS: That SAFECO INSURANCE COMPANY OF AMERIC	CA and GENERAL INSURANCE COMPANY OF A	MERICA, each a Washington comparison, does each berehv
appoint ***PHYLLIS RAMIREZ; JANIE CERMENO; PHILIP N. Houston, Texas************************************	BAIR; VICIE COLEMAN; JIMMYE LANGFORD; M	ILDRED L. MASSEY; ERIC S. FBIGHL; JOYCE A. JOHNSON;
• •		
its true and lawful attorney(s)-in-fact, with full author issued in the course of its business, and to bind the re-	ly lo execule on its behalf fidelity and surely bonds spective company thereby.	or undertakings and other documents of a similar character
IN WITNESS WHEREOF, SAFECO INSURANCE C	COMPANY OF AMERICA and GENERAL INSUR	ANCE COMPANY OF AMERICA have each executed and
	this _27th	ay of November . 2002 .
conecia	. k	Ante Mcgarice
CHRISTINE MEAD, SECRETARY		MIKE MCGAVICK, PRESIDENT
	CERTIFICATE	
Exiract fro a	m lhe By-Laws of SAFECO INSURANCE COMPAN Ind of GENERAL INSURANCE COMPANY OF AM	iy of America Erica:
purpose by the onicer in charge of surely operations, a recute on behalf of the company fidelity and surely strument making or evidencing such appointment, undertaking of the company, the seal, or a facsimile to be necessary to the validity of any such instrument or u Extract from a Resolution	the signatures may be affixed by facsimile. On a bonds and other documents of similar character is the signatures may be affixed by facsimile. On neteol, may be impressed or affixed or in any other indertaking."	Sued by the company in the course of its business On any any instrument conferring such authority or on any bond or manner reproduced; provided, however, that the seal shall not CE COMPANY OF AMERICA
• and of GEN	ERAL INSURANCE COMPANY OF AMERICA add	pted July 28, 1970.
<ul> <li>(i) The provisions of Article V, Section 13 of the intervence of a section 13 of the intervence of a section 13 of the intervence of the power-of-attorney appointme (iii) Certifying that said power-of-attorney appoint the signature of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by facsimilated approximation of the certifying officer may be by f</li></ul>	he By-Laws, and nl, executed pursuant thereto, and intrant is in full force and effect. le, and the seel of the Company may be a facsimile	Ihereof."
I, Christine Mead, Secretary of SAFECO INSURANC the foregoing extracts of the By-Laws and of a Resolu and correct, and that both the By-Laws, the Resolution	E COMPANY OF AMERICA and of GENERAL IN tion of the Board of Directors of these corporations and the Power of Attorney are still in full force and e	SURANCE COMPANY OF AMERICA, do hereby certify that , and of a Power of Attomey issued pursuant thereto, are true iffect.
IN WITNESS WHEREOF, I have bereunlo set my han	d and affixed the facsimile seal of said corporation	
	this13th i	lay of <u>February</u> , 2007
		_
	•	æ
SEAL STATE OF WASHINGT	PORATE SAL	CHRISTINE MEAD, SECRETARY
S-0974/SAEF 2/01		A registered trademark of SAFECO Corporation



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# SURETY RIDER

Liberty Mutual Surety 1001 4th Avenue, Suite 1700 Seattle, WA 98154

To be attached to and form a part of	
Bond No. 6407032	
Type of Bond: Blanket Plugging Bond	
dated	· ·
effective February 13, 2007 (MONTH-DAY-YEAR)	
cxccutcd by Targa Midstream Services Limited Partnership (PRINCIPAL)	, as Principal,
and by Safeco Insurance Company of America	, as Surety,
in favor of the State of New Mexico (OBLIGEE)	
in consideration of the mutual agreements herein contained the Principal and the Sur the name of the Principal	ety hereby consent to changing
From: Targa Midstream Services Limited Partnership	
To: Targa Midstream Services LLC	
Nothing herein contained shall vary, alter or extend any provision or condition of thi	s bond except as herein expressly stated.
This rider is effective October 5, 2011 (MONTH-DAY-YEAR)	
Signed and Sealed October 5, 2011 (MONTH-DAY-YEAR)	
Targa Midstream Services LLC (PRINCIPAL)	
By: (PRINCIPAL) Alopean	CORPORATE IN CORPORATE
Safeco Insurance Company of America	
By Maria Commons	TOPP
(ATTORNEY-IN-FACT) Janie Cermeno	



POWER OF ATTORNEY Safeco Insurance Company of America General Insurance Company of America 1001 4th Avenue Suite 1700 Seattle, WA 98154

KNOW ALL BY THESE PRESENTS:

6485 Nn

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

***PHILIP N. BAIR; JANIE CERMENO; ERIC S. FEIGHL; JOYCE A. JOHNSON; JIMMYE LANGFORD; PHYLLIS 

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this	21st	day of	March ,	2009
Duxter &. fayy			Amiholajewski	
avtor D. Long. Socrat		Tim	oothy A. Mikolajaweki Vico Proeldon	

Dexter R. Legg, Secretar

othy A. Mikolajewski, Vice President CERTIFICATE

Extract from the By-Laws of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA:

"Article V, Section 13. - FIDELITY AND SURETY BONDS ... the President, any Vice President, the Secretary, and any Assistant Vice President appointed for that purpose by the officer in charge of surety operations, shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surely bonds and other documents of similar character issued by the company in the course of its business... On any instrument making or evidencing such appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the company, the seal, or a facsimile thereof, may be impressed or affixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

> Extract from a Resolution of the Board of Directors of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA adopted July 28, 1970.

"On any certificate executed by the Secretary or an assistant secretary of the Company setting out,

- (ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and
- (iii) Certifying that said power-of-attorney appointment is in full force and effect,

the signature of the certifying officer may be by facsimile, and the seal of the Company may be a facsimile thereof."

I, Dexter R. Legg , Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation



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