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October 5, 2011

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Ms. Florene Davidson, Commission Clerk  
Oil Conservation Commission  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: In the Matter of the Hearing Called by the Oil Conservation Division  
For the Purpose of Considering Application of Targa Midstream Services,  
Limited Partnership to Amend Order No. R-13052  
Case No. 14161

Dear Florene:

With this letter, I am forwarding to you an original and six (6) copies of Targa Midstream Services LLC's Proposed Final Order with Proposed Findings of Fact and Conclusions of Law.

Please feel free to raise any questions you may have.

Sincerely,



William C. Scott

WCS/ndm

Enclosures

Cc: Gabrielle Gerholt (w/encls.)  
James Bruce (w/encls.)

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

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IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING APPLICATION OF  
TARGA MIDSTREAM SERVICES,  
LIMITED PARTNERSHIP TO AMEND  
ORDER NO. R-13052

CASE NO. 14161

**TARGA MIDSTREAM SERVICES LLC'S  
PROPOSED FINAL ORDER WITH  
PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

Targa Midstream Services Limited Partnership n/k/a Targa Midstream Services, LLC ("Targa") hereby submits its Proposed Final Order with Proposed Findings of Fact and Conclusions of Law as follows:

This case came on for hearing at 9:00 a.m. on September 22, 2011, at Santa Fe, New Mexico, before the New Mexico Oil Conservation Commission ("Commission") on the Application of Targa Midstream Services, Limited Partnership to Amend Order No. R-13052, and the Commission, having considered the testimony, the exhibits, and the record, on this \_\_\_ day of October, 2011:

**[PROPOSED] FINDS THAT:**

- (1) Due public notice has been given to all operators of wells within a one-mile radius of the wellbore of the proposed Monument AGI well. *See* Transcript p. 43, line 7-15, p.45, lines 18-25, p. 46, lines 1-6; Targa Exs. 9, 10A, 10B.
- (2) This case was heard on September 22, 2011 before the full Commission.
- (3) Momentum Operating Company, Inc. ("Momentum") and Apache Corporation ("Apache") appeared at the September 22 hearing through counsel and questioned witnesses and presented exhibits.
- (4) The Oil Conservation Division did not oppose Targa's application.
- (5) No other person or entity entered an appearance or otherwise opposed Targa's application.

**Background**

(6) Paragraph 2 of Order No. R-13052, entered on November 18, 2008, provides, in pertinent part, that: "Prior to any injection, the NMGSAU Well No. 285 (API 30-025-12481)

operated by Apache Corporation, shall be re-entered to 9,755 feet and re-plugged back to the Grayburg-San Andres producing interval with placement of new cement plugs above and below the equivalent Devonian/Fusselman injection interval.”

(7) The NMGSAU Well No. 285 is located more than 2,900 feet northwest of the Monument AGI Well No. 1. Transcript p. 26, lines 1 – 3.

### Issues

(8) The applicant, Targa Midstream Services Limited Partnership n/k/a Targa Midstream Services, LLC (“Targa”), seeks an order amending the Oil Conservation Division’s November 18, 2008 Order No. R-13052 to (1) delete the requirement to re-enter and re-plug the NMGSAU Well No. 285 (API 30-025-12481) and (2) retain the Graham State NCT-F Well No. 7 (API 30-025-12482) as an active saltwater disposal well into the San Andres formation per Oil Conservation Division Order Nos. SWD-561 and SWD-561A.

(9) Apache and Momentum opposed Targa’s application because Apache and Momentum claimed that there is a regional trend from northwest to southeast, that the radius of injection from the Monument AGI No. 1 Well after 30 years could reach the NMGSAU Well No. 285, and development in the Devonian might be adversely impacted.

### Request to Delete Re-Entry and Re-Plugging Requirement

(10) To perform the re-entry and related work required under Order No. R-13052, ¶ 2, Targa contracted with Apache, the owner of the NMGSAU Well No. 285. Transcript p. 10, lines 1-6.

(11) Between February 24, 2011 and May 19, 2011, Apache, as contractor for Targa, made repeated efforts to re-enter the NMGSAU Well No. 285. All of those efforts, however, proved unsuccessful. During May, 2011, Apache utilized a gyroscope and directional tools in an effort to find the original wellbore and re-enter the well. Transcript p. 12, lines 12-25; p. 13, lines 1-15. Those efforts also proved unsuccessful. *Id.*

(12) Bobby Lee Smith, who Apache offered and the Commission accepted as an expert drilling engineer, testified that Apache made repeated efforts to find and drill out the NMGSAU Well No. 285 and was never confident that they were following the original wellbore. Transcript p. 94, lines 1 – 10.

(13) Targa and Apache consulted with other drilling experts including Cambrian and Scientific Drilling concerning other options for re-entering the NMGSAU Well No. 285. Transcript p. 14, lines 3 – 25; p. 15, lines 1 – 7. No one was able to provide an alternative that would provide a reasonable confidence of being able to re-enter the well. Transcript p. 14, line 1-25; p. 15, lines 1-7.

(14) Bobby Lee Smith testified that there was no guarantee that continued efforts to relocate and re-enter the well bore of the NMGASU Well No. 285 would be successful. Transcript p. 94, lines 23 – 25; p. 95, lines 1 – 3.

(15) Based upon the repeated, but unsuccessful, efforts to re-enter the NMGSAU Well No. 285, it is unlikely that further efforts to re-enter the well would be successful. Transcript p. 23, lines 5-25.

(16) Targa has incurred in excess of \$1,200,000 in efforts to re-enter the NMGSAU Well No. 285. Transcript p. 15, lines 8-21.

(17) Examination of the well records for the NMGSAU Well No. 285 demonstrates that, shortly after the well was drilled by the drilling rig, plugs were set at 10,333 to 9,900 feet, 9,800 to 9,755 feet, 6,350 to 6,305 feet, 5,700 to 5,655 feet, and 4,050 to 3,700 feet and are of good quality. Transcript p. 21, lines 24 – 25; p. 22, lines 1 – 20; Targa Ex. 2.

(18) Mike Pierce, who was accepted by the Commission as an expert geologist, testified that, based on his examination of the well data for the Monument AGI No. 1 Well and other data, material injected into the Monument AGI No. 1 Well likely would not migrate to the NMGSAU Well No. 285. Mr. Pierce testified that the well logs for the Monument AGI No. 1 Well demonstrate that there are no resistive fractures, faults, or micro-faults and that the drilling induced fractures follow a NE to SW orientation. Transcript p. 26, lines 4 – 25; p. 27, lines 1 – 21, Targa Ex. 3. He testified that those logs further establish that the average dip and the natural fractures follow a NE to SW orientation, which is cross-gradient to the NMGSAU Well No. 285. *Id.*

(19) Robert Steven Johnson, who Apache offered and the Commission accepted as an expert geologist, testified that he agreed that the well logs for the Monument AGI No. 1 Well demonstrate that the natural fractures of the overall interval go from northeast to southwest. Transcript p. 62, lines 3 – 6.

(20) Mr. Pierce further testified that he reviewed the open hole logs for the Monument AGI Well No. 1 as well as other wells and determined porosity thickness and reservoir porosity for the Monument AGI Well No. 1 injection zone as well as a radius of injection after 30 years of injection into that well. Mr. Pierce testified that, based on his analysis of those materials, the reservoir thickness is 318 feet and the reservoir porosity is 7.87 percent. Transcript p. 28, lines 2 – 21; Targa Ex. 11. The calculated radius of injection after 30 years of injection of a maximum of 5,000 barrels per day was 1,981 feet. Transcript p. 30, line 2 – 25, p. 31, lines 1 – 25; p. 32, lines 1 – 25; Targa Exs. 4A & 11. Mr. Pierce testified that the radius of injection of 1981 feet is well short of the 2980 foot distance from the Monument well to the NMGSAU Well No. 285 Well. Transcript p. 32, lines 22 – 25. Mr. Pierce testified that the radius of injection also likely would not impact the NMGSAU Well No. 285 because the injected materials follow the natural fractures in a northeast-southwest direction, which is cross gradient from the NMGASU Well No. 285. Transcript p. 32, lines 14 – 21.

(21) Targa has agreed to limit injection into the Monument AGI Well No. 1 to a total of 5,000 barrels per day, of which a maximum of 1,400 barrels (3.38 mmcf/d) would be acid gas. Transcript p. 30, lines 9 – 15.

(22) John Edward Nelson, who Apache offered and the Commission accepted as an expert reservoir engineer, testified to calculations of the radius of injection for the Monument

AGI Well No. 1. He testified that he had not reviewed the well logs or well data for the Monument AGI Well No. 1 in preparing his calculations. Transcript p.80, lines 16 – 19. Instead, Mr. Nelson testified that for one set of his calculations he assumed a reservoir porosity of 6 percent and a reservoir thickness of 50 feet and for another set of calculations he assumed a reservoir porosity of 7.87 percent and a reservoir thickness of 50 feet. Transcript p. 76, lines 7 – 9; p. 77, lines 14 – 20; p. 78, lines 21 – 25; p. 79, lines 1 -3. Based on those assumptions, Mr. Nelson’s calculations resulted in a larger radius of injection than the radius Mr. Pierce had calculated based on actual well log data.

(23) Michael James Donovan, who Momentum Operating Company, Inc. offered and the Commission accepted as an expert geologist, testified that he reviewed the open hole log for the Monument AGI Well No. 1 for the first time on the day of the hearing and that he disagreed with Mr. Pierce’s interpretation of that log and that he would calculate a radius of injection on 34 foot reservoir thickness. Transcript p. 107, lines 7 – 25; p. 108, lines 1 – 7; p. 111, lines 1 – 13.

(24) Mr. Pierce testified that Mr. Donovan’s interpretation did not conform to standard industry practice in the Permian Basin and that Mr. Donovan’s analysis ignored that Mr. Pierce’s analysis was based not just on the Monument well log but on a comparison of that log to logs for other wells in the vicinity of the Monument well. Transcript p. 118, lines 17 – 25; p. 119, lines 1 – 25; p. 120, lines 1 – 12.

(25) Mr. Pierce also testified that he examined all wells within a one-mile radius of the NMGSAU Well No. 285 to determine whether any well bores within that one-mile radius could potentially be impacted by injected material from the Monument AGI No. 1 Well. Transcript p. 34, lines 3 - 23. Mr. Pierce identified 6 wells within that one-mile radius having depths between 6,000 feet and 8,200 feet. *Id.*; Targa Exs. 5, 6 & 7. Mr. Pierce testified that he reviewed the well files for each of those 6 wells and that those files reveal that all 6 wells are have good casing and good cement. Transcript pp. 37, line 1 through 42, line 21. Mr. Pierce testified that, given that those wells are well-cased and well-cemented and that each of those 6 wells are a substantial distance from the NMGSAU Well No. 285, it is unlikely that that those wells could be impacted in the unlikely event of future communication between the Monument AGI No.1 and NMGSAU No. 285 wells. Transcript p. 35 – 42.

(26) Mr. Pierce testified that he has reviewed OCD records and that there is no production from the Devonian in the immediate vicinity of the Monument AGI No. 1 Well, and that the areas was tested with drill stem tests in the 1950s and 1960s which did not show any producible hydrocarbons. Transcript p. 44, lines 18 – 25.

(27) Robert Steven Johnson testified that he could not say that there are commercial hydrocarbons in the Devonian in the vicinity of the Monument AGI Well No. 1 or event that the Devonian in the area is “prospective.” Instead, he testified that “we don’t know.” Transcript p. 64, lines 22 – 25.

#### Request to Retain the Graham State NCT-F Well as an Active SWD Well

(28) Targa’s application also requests authority to keep the Graham State NCT-F Well No. 7 (API 30-025-12482) as an active saltwater disposal well into the San Andres formation per

Division Order Nos. SWD-561 and SWD-561-A for back up water disposal from the plant in the event the Monument AGI well is down. Targa's First Amended Application at ¶ 7. No acid gas would be injected into the Graham State NCT-F Well No. 7.

(29) No party opposed the request to keep the Graham State NCT-F Well No. 7 (API 30-025-12482) as an active saltwater disposal well into the San Andres formation per Division Order Nos. SWD-561 and SWD-561-A.

**[PROPOSED] AND CONCLUDES THAT:**

- A. The Commission has jurisdiction over the subject matter of this case and the parties hereto.
- B. The claims Apache Corporation and Momentum Operating Company, Inc. raised are speculative and are not supported by the testimony or record evidence.
- C. Amending Order No. R-13052 as requested by Targa will prevent waste and protect correlative rights.
- D. The Application of Targa Midstream Services, LLC, f/k/a Targa Midstream Services, Limited Partnership, to Amend Order No. R-13052 is well taken and should be granted.

**[PROPOSED] IT IS THEREFORE ORDERED THAT:**

- (1) Order No. R-13052 is hereby amended as follows:
  - a. Ordering Paragraph 2 of Order No. R-13052 (which had required, among other things, that, prior to any injection, the NMGSAU Well No. 285 (API No. 30-025-12481) operated by Apache Corporation be re-entered to 9,755 feet and re-plugged back to the Grayburg-San Andres producing interval with placement of new cement plugs above and below the equivalent Devonian/Fusselman injection interval) is deleted in its entirety and Targa is relieved of any requirement to perform or complete the work described in that paragraph;
  - b. Injection into the Monument AGI Well No.1 is limited to a maximum of 5,000 barrels of injectate per day, with a maximum of 3.38 mmcf/d (equivalent to 1,400 barrels) of acid gas per day;
  - c. The Graham State NCT-F Well No. 7 (API No. 30-025-12482) shall continue to operate as an active saltwater disposal well into the San Andres formation operated in accordance with Oil Conservation Division Order Nos. SWD-561 and SWD-561-A. No acid gas shall be injected into the Graham State NCT-F Well No. 7 (API No. 30-025-12482) at any time.
- (2) Except as otherwise expressly amended herein, Order No. R-13052 shall remain in full force and effect.

(3) Jurisdiction of this case is retained for the entry of such further orders as the Commission may deem necessary.

MODRALL, SPERLING, ROEHL, HARRIS &  
SISK, P.A.



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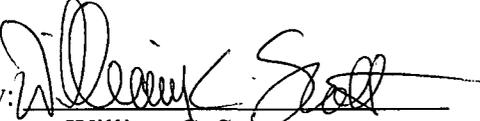
**CERTIFICATE OF SERVICE**

WE HEREBY CERTIFY that a true and correct copy of the foregoing Targa Midstream Services, LLC's Proposed Final Order with Proposed Findings of Fact and Conclusions of Law was served by fax, electronic mail and regular mail on this 5<sup>th</sup> day of October, 2011 to:

Gabrielle Gerholt  
Oil Conservation Division  
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MODRALL, SPERLING, ROEHL,  
HARRIS & SISK, P.A.

By:   
William C. Scott