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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

EXHIBIT INDEX

Exhibit A	Self-Affirmed Statement of Nick C. McClelland
A-1	Application & Proposed Notice of Hearing
A-2	C-108
A-3	Notice of Hearing Letter and Associated Green Cards
A-4	Affidavit of Publication
Exhibit B	Self-Affirmed Statement of John Worrall
Exhibit C	Self-Affirmed Statement of Mike Hanagan
C-1	Production Decline Curve

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

SELF-AFFIRMED STATEMENT OF NICK C. MCCLELLAND

- 1. I am the Land Manager at Manzano LLC ("Manzano"). I am over 18 years of age, have personal knowledge of the matters addressed herein, and am competent to provide this Self-Affirmed Statement. I have previously testified before the New Mexico Oil Conservation Division ("Division"), and my qualifications as an expert in petroleum land matters were accepted and made a matter of record.
- 2. I am familiar with the Application in this case and with the land matters pertaining to this Application. Copies of the application and proposed notice are attached as Exhibit A-1.
- 3. Manzano's Application seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector.
- 4. Manzano operates the following described wells within or near the Project Area currently producing from the Jenkins San Andres Pool:
 - a. Sodbuster 21 Fee #4H (API 30-025-43704) horizontally drilled from a surface hole location at 200 FSL, 1650 FWL in Section 21 to a bottom hole location at 335 FNL, 1630 FWL in Section 21;

MANZANO LLC

- b. Rag Mama 30-19 Fee #1H (API 30-025-44067) horizontally drilled from a surface hole location at 25 FSL, 528 FEL in Section 30 to a bottom hole location at 2303 FSL, 394 FEL in Section 19; and
- c. Vince BGH No. 1H (API No. 30-025-37104) ("Vince") vertically drilled at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 5. The wells were initially drilled as producers within the San Andres formation.
- 6. The perforated interval of the Rag Mama 30-19 Fee #1 is 5,250' to 12,123'; the perforated interval of the Sodbuster 21 Fee #4H is 5,150' to 9,330'; and the perforated interval of the Vince BGH No. 1H is 4840' to 4850'.
- 7. The Vince well currently produces 2 BOPD and 31 BWPD and is deemed uneconomic. Therefore, Manzano proposes to convert the well from a producer into an injection well to provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well. Converting the well from a producer to an injector will also attempt to eliminate flaring.
- 8. Manzano plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H at depths of 4840' to 4850' within the San Andres formation.
- 9. Accordingly, Manzano proposes the unitized interval be defined as the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation at depths of 4840' to 4850' as defined on the Manzano Vince BGH #1 well log provided on page 24 of Form C-108.
- 10. Exhibit A-2 includes a copy of Manzano's Application for Authorization to Inject ("Form C-108"). I am generally familiar with the land matters addressed in the Form C-108.
- 11. Page 32 of Form C-108 contains a land map of the Project Area that identifies surface and mineral ownership interests entitled to notice within the area of review and includes applicable lease numbers. There are no other operators within a ½ mile area of review radius.

- 12. Page 12 of Form C-108 is an area of review map of the Project Area that depicts the producing wells and other wells within the ½ mile radius areas of review that penetrate the proposed injection zone. Pages 13-18 of Form C-108 provide detailed well information for the wells within the areas of review.
- 13. Manzano conducted a diligent, good-faith effort to identify the correct addresses of persons entitled to notice and has complied with the Division's notice requirements.
- 14. Notice of the Division's hearing was provided to all affected parties at least 20 days prior to the hearing date. A sample of the hearing notice letter and the associated return receipts are attached as Exhibit A-3.
- 15. Notice of the hearing was also published more than ten business days prior to the hearing date. The affidavit of publication is attached as Exhibit A-4.
- 16. The exhibits referenced above were either prepared by me or under my supervision or were compiled from company business records.
- 17. In my opinion, the granting of Manzano's application would serve the interests of conservation, the prevention of waste, and the protection of correlative rights.
- I understand this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 17 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Nick C. McClelland

1//19/21 Date

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

22357

APPLICATION

In accordance with NMAC 19.15.27.8, Manzano LLC ("Applicant") (OGRID No. 231429) files this application with the Oil Conservation Division for an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector. In support of its application, Applicant states:

- 1. Applicant operates the following described wells within or near the Project Area:
- the Sodbuster 21 Fee #4H (API 30-025-43704) with a surface hole location at 200 FSL, 1650 FWL of Section 21 and a bottom hole location at 330 FNL, 1650 FWL of Section 21;
- the Rag Mama 30-19 Fee #1 (API 30-025-44067) with a surface hole location at 25 FSL,
 528 FEL of Section 30 and a bottom hole location at 2303 FSL, 394 FEL of Section 19; and
- The Vince BGH No. 1H (API No. 30-025-37104) located at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 2. The wells are currently producing from the Jenkins San Andres Pool (Pool No. 33950).
- 3. Applicant proposes to convert its Vince BGH No. 1H well from a producer into an injection well for pressure maintenance operations. Applicant plans to inject produced gas from the

MANZANO LLC

Case No. 22357

Exhibit A-1

Released to Imaging: 11/2/2021 4:20:32 PM Released to Imaging: 12/2/2021 7:06:11 AM Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H. Applicant does not anticipate compatibility issues.

- 4. The injection interval of the Vince BGH No. 1H is 4840 feet to 4850 feet.
- 5. Injection will provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well and will also reduce flaring.
- 6. The expected average injection rate of produced gas into the Vince BGH No. 1H is 150 MCFGPD. The expected maximum injection rate is 1,000 MCFGPD to provide Manzano the option to inject more gas as the GOR increases or if Manzano drills additional wells in the Jenkins San Andres Pool.
- 7. The expected average injection pressure of produced gas into the Vince BGH No. 1H is 500 psi and the proposed maximum injection pressure is 950 psi.
- 8. Applicant's proposed pressure maintenance project can be conducted in a safe and responsible manner without causing waste, impairing correlative rights or endangering fresh water, public health or the environment.
- 9. Approval of this application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.
 - 10. A copy of the applicable C-108 is attached as Exhibit A.

WHEREFORE, Applicant requests this application be set for hearing on December 2, 2021, and after notice and hearing, the Division enter an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the San Andres formation in the Project Area; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producer to an injector.

Respectfully submitted,

HINKLE SHANOR LLP

/s/ Dana S. Hardy

Dana S. Hardy
Michael Rodriguez
P.O. Box 2068
Santa Fe, NM 87504-2068
Phone: (505) 982-4554
Facsimile: (505) 982-8623
dhardy@hinklelawfirm.com
mrodriguez@hinklelawfirm.com
Counsel for Manzano LLC

Application of Manzano LLC for Approval of a Pressure Maintenance Project and Authorization to Inject, Lea County, New Mexico. Applicant seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producer to an injector. Applicant operates the following described wells within or near the Project Area:

- the Sodbuster 21 Fee #4H (API 30-025-43704) with a surface hole location at 200 FSL, 1650 FWL of Section 21 and a bottom hole location at 330 FNL, 1650 FWL of Section 21;
- the Rag Mama 30-19 Fee #1 (API 30-025-44067) with a surface hole location at 25 FSL, 528 FEL of Section 30 and a bottom hole location at 2303 FSL, 394 FEL of Section 19; and
- The Vince BGH No. 1H (API No. 30-025-37104) located at 1980 FSL, 150 FEL (Unit J) of Section 30.

The wells are currently producing from the Jenkins San Andres Pool (Pool No. 33950). Applicant proposes to convert its Vince BGH No. 1H well from a producer into an injection well for pressure maintenance operations. Applicant plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H. Applicant does not anticipate compatibility issues. The injection interval of the Vince BGH No. 1H is 4840 feet to 4850 feet. Injection will provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well and will also reduce flaring. The expected average injection rate of produced gas into the Vince BGH No. 1H is 150 MCFGPD. The expected maximum injection rate is 1,000 MCFGPD to provide Manzano the option to inject more gas as the GOR increases or if Manzano drills additional wells in the Jenkins San Andres Pool. The expected average injection pressure of produced gas into the Vince BGH No. 1H is 500 psi and the proposed maximum injection pressure is 950 psi. Applicant's proposed pressure maintenance project can be conducted in a safe and responsible manner without causing waste, impairing correlative rights or endangering fresh water, public health or the environment. The wells are located approximately 18.1 miles north of Tatum, New Mexico.

				Revised March 23, 2017
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JOHN WORRALL			9/28/2021 Date	
Print or Type Name		<u> </u>		MANZANO LLC
	10		575-623-1996 EXT. 3 Phone Number	02 Case No. 22357 Exhibit A-2
Signature Signature		4	JWORRALL@MAN e-mail Address	NZANOENERGY.C
U		1		



September 28, 2021

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505

New Mexico Oil Conservation Division 1625 N. French Drive Hobbs, NM 88240

RE: Gas Injection Application Manzano, LLC Vince BGH #1

Manzano, LLC hereby submits an application to convert the Vince BGH #1 to a gas injection well. Accordingly, please find enclosed an original and one copy of our application Form C-108 with attachments. A third copy has been sent to the Division Office in Hobbs. A Legal Notice of our application has been filed with the Hobbs Sun newspaper.

Should you have any questions regarding our application, I can be reached at 575-623-1996 ext. 302 or 575-420-5853 cell. Thank you for your assistance in handling our application.

Sincerely,

John Worrall

On behalf of Manzano, LLC

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, New Mexico 87505 FORM C-108 Revised June 10, 2003

APPLICATION FOR AUTHORIZATION TO INJECT

I.	PURPOSE: Secondary Recovery X Pressure Maintenance Disposal Storage Application qualifies for administrative approval? X Yes No
II.	OPERATOR: MANZANO, LLC
	ADDRESS: P.O. BOX 1737, ROSWELL, NM 88202-1737
	CONTACT PARTY: JOHN WORRALL PHONE: 575-623-1996
III.	WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? Yes X No If yes, give the Division order number authorizing the project:
V.	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and, If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
*VIII.	Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
*X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
*XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
	NAME: JOHN WORRALL TITLE: MANAGER
	SIGNATURE: DATE: 9/27/21
*	E-MAIL ADDRESS: JWORRALL@MANZANOENERGY.COM If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal:

Side 2

III. WELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
 - (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
 - (2) Each easing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
 - (3) A description of the tubing to be used including its size, lining material, and setting depth.
 - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well.

 Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.
 - (1) The name of the injection formation and, if applicable, the field or pool name.
 - (2) The injection interval and whether it is perforated or open-hole.
 - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
 - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
 - (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

Answers to FORM C-108. Application of Manzano, LLC to inject gas into the VINCE BGH #1.

- III. The well data for the proposed injection well is attached along with the current and proposed wellbore diagram.
- V. Attached is the Area of Review map identifying six total wells within the ½ mile radius of the Injection well including the injection well, one producing oil well, and four plugged and abandoned wells.
- VI. The table of well data shows casing and cement information, the perforated intervals, and the plugging and abandonment information. Wellbore diagrams are attached for the five wells within the Area of Review.
- VIII. 1. Manzano, LLC proposes to inject an average of 150 MCFGPD into the well. The maximum daily rate requested is 1000 MCFGPD to give Manzano the option to inject more gas as the GOR increases or if Manzano drills additional wells in the Jenkins San Andres pool.
- 2. The system is closed. There are two source wells and one injection well, all in the same reservoir, the San Andres P-1 dolomite.
- 3. The proposed average injection pressure is 500 psi, the proposed maximum injection pressure is 950 psi.
- 4. Source Wells: The gas to be injected is produced in the only two active wells in the Jenkins San Andres pool. It will be injected into the same zone in the injection well. There should no compatibility issues. These two source wells currently produce 59 BOPD, 129 MCFGPD, and 1068 BWPD.
- a. Manzano, LLC Rag Mama 30 19 Fee #1 (API 30-025-37104) located at 25 FSL, 528 FEL Sec. 30-T9S-R35E.
- b. Manzano, LLC Sodbuster 21 Fee #4H (API 30-025-43704) located at 200 FSL, 1650 FWL Sec. 21-T9S-R35E.
- 5. Gas analyses from the two source wells are attached.
- VIII. Geologic Information of the Injection zone: See the attached log section cross section. The gas will be injected into the San Andres P-1 dolomite in existing perforations at 4840 to 4850 feet in the Vince BGH #1. This well will be converted from an existing oil producer to a gas injector for the purpose of maintaining reservoir pressure, to allow for more oil to be produced from the reservoir. The well currently produces 2 BOPD and 31 BWPD and is uneconomic. Reservoir: The San Andres formation is present from 4000 to 5460 feet in this well. The interval from 4810 to 4900 is known as the P-1 dolomite, which is a fine crystalline dolomite with 4% to 12% porosity, and 20 to 100 ohm-m of resistivity. The interval has up to 100 feet of porosity greater than 6% (See attached isopach map). Oil and gas is stratigraphically trapped where this

reservoir pinches out northward into anhydrite. The zone is also overlain by anhydrite, and underlain by a tight limestone.

Water Aquifer: The water aquifer in the area are the Ogalalla red beds. Attached is a map ("Figure 4") from Atkins Engineering of Roswell showing the top of the aquifer is present at 4025 feet above sea level. The Vince BGH #1 well has a drill floor elevation of 4183 feet, which means water is found in the red beds at 158 feet. Atkins Engineering indicates there is approximately 25 feet of water in this area

IX. No additional stimulation is planned. The zone has already been acidized with 41,000 gallons of 15% NEFE acid.

X. Logs of this well are attached.

XI. There are no water wells within one mile of the proposed injection well. Attached is a map from Atkins Engineering ("Figure 3") which identifies the nearest water wells, all of which are located 2.5 to 3 miles from the injection well.

XIII. An Affidavit is attached.

XIV. Attached is a Land Map showing that there are no other operators within the ½ mile Area of Review radius. A copy of the application has been sent by certified mail to the surface owner, C J. Kinsolving. A receipt is attached.

Attached is the Legal Notice filed with the Hobbs News Sun.

Other Attachments to this application:

Injection Well Data Sheet

Injection Well Current Wellbore Diagram

Injection Well Proposed Wellbore Diagram

Area of Review Map

Table of Well Data

Wellbore Diagrams of other five wells within the Area of review

Gas Analysis – Manzano, LLC Rag Mama 30 19 Fee #1H

Gas Analysis – Manzano, LLC Sodbuster 21 Fee #4H

Log Cross Section of the P-1 Dolomite

Net Porosity Isopach Map of the P-1 Dolomite

Map of Top of Water in the Ogallala Red Beds from Atkins Engineering

Location Map of Fresh Water Wells from Atkins Engineering

Land Map

Affidavit

Legal Notice in the Hobbs News Sun

Proof of Notice to the Surface Owner Charles Kinsolving

Proof of Notice to the Bureau of Land Management Carlsbad Office

Statement on Seismicity Analysis

VIII. 1. Manzano proposes to inject an average of 150 Mcfgpd into the Vince BGH #1. The maximum proposed rate is 1000 MCFGPD.

- 2. The system is closed.
- 3. The average proposed injection pressure is 500 psi. The maximum proposed pressure is 950 psi. A 10 day shut in test on the Vince, revealed the current bottomhole pressure is 378 psi. The original bottomhole pressure is calculated as 1697 psi.
- 4. Gas will be sourced by the Sodbuster 21 #4H and the Rag Mama 30 19 Fee #1H wells. These wells currently produce 59 BOPD, 129 MCFGPD and 1068 BWPD.

INJECTION WELL DATA SHEET

Side 1		INJECTION WELL DATA SI	HEET		
OPERATOR: MANZ	ZANO, LLC			-	
WELL NAME & NUM	BER: VINCE BGH #1				
WELL LOCATION: _		J	30	T9S	R35E
	FOOTAGE LOCATION	UNIT LETTER	SECTION	TOWNSHIP	RANGE
<u>WELL</u> (SEE ATTACH	<i>BORE SCHEMATIC</i> (ED)		WELL CO Surface C	NSTRUCTION DA Casing	<u>TA</u>
		Hole Size:	17 1/2"	Casing Size:	13 3/8"
		Cemented with:	426 sx.	or 975	ft³
		Top of Cement: _	SURFACE	Method Determine	ed:CIRC.
			Intermediate	e Casing	
	·	Hole Size:1	2 1/4"	Casing Size: 9	5/8"
		Cemented with: _	1103 sx.	or25	f ³
		Top of Cement: _	SURFACE	Method Determine	ed: CIRC.
			Production	Casing	
		Hole Size:	8 3/4"	Casing Size:	5 1/2"
		Cemented with:	1420 sx.	or 3200	ft³
		Top of Cement: _	3645	Method Determine	ed: <u>CALC.</u>
		Total Depth:	12650		
			Injection I	nterval	
		4	.840 feet	to4850	(PERFS)

(Perforated or Open Hole; indicate which)

INJECTION WELL DATA SHEET

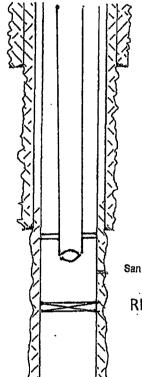
Tubi	ing Size:	2 7/8"	Lining Materia	l:		
Тур	e of Packer: ARRO	WSET 1-X				
Pack	cer Setting Depth:	4750	 			
Oth	er Type of Tubing/	Casing Seal (if appl	icable):			
			Additional Data			
1.	Is this a new well	drilled for injection	?	Yes _	X	_No
	If no, for what pur	rpose was the well o	originally drilled?			
	DEVONIAN (OIL WELL				
2.	Name of the Injec	tion Formation:	SAN ANDRES			
			JENKINS SAN AN	DRES	! !	
	Has the well ever intervals and give SET CIBP AT 126	been perforated in a plugging detail, i.e. 20. 20 CMT ON TOI	my other zone(s)? List sacks of cement or plu	t all su ug(s) u 34-125	ch per ised. <u>1</u> 92 SET	I. DEVONIAN UPHOLE CCIBP AT 12500 30' CM
5.			or gas zones underlying DRES IS PRODUCTI			
	FORMERLY PR	ODUCED, NOW I	NACTIVE IN AREA,	TOP I	S 9738	3, DEVONIAN(TOP OF
	12650) PRODUC	ES IN SECTION 2	0.			

9

CURRENT WELLBORE DIAGRAM PROPOSED INJECTION WELL

Well Name: Vince	BGH No. 1 Field	d:wildcat	.,
	L& 1750' FEL Sec. 30-9S-35E	E_Lea-Co_NM	Size/Wt/G
GL: 4165! Zero	o:AGL:	KB:418	13 3/8" 48#1
Spud Date:4/25/	5Complete	on Date:	9 5/8" 36& 4
Comments:	-	<u> </u>	7" 26# J55, I
·			<u>·</u>

Casing Program							
Size/Wt/Grade/Conn	Depth Set						
13 3/8" 48# H40	426'						
9 5/8" 36& 40 # J55	4149'						
7" 26# J55, L80, HCP110	12650'						
	·						



13 3/8" csg @ 426'. Cmtd w/ 440 sx. Cmt circ.

TOC 3645' by calc.

9 5/8" csg @ 4149'. Cmld w/ 1303 sx. Cmt circ.

San Andres perfs 4840'-50'

RBP at 4921

Aloka perfs 11607-21' & 11655-64' SQUEEZED

Woodford Sand perfs 12534-12592'

7" csg @ 12650'. Cmtd 1st stg w/ 165 sx. Cmtd 2nd stg w/ 2090 sx.

Devonian open hole.

SKETCH NOT TO SCALE

DATE: 09/20/2021...

TD 12860

CIBP@12500'+35'cin

CIBP@12620'+20'cm

PROPOSED WELLBORE DIAGRAM PROPOSED INJECTION WELL

Well Name: Vince BGH No. 1 Field: Wildcat	Casing Progr	am
Location: 1980' FSL & 1750' FEL Sec. 30-9S-35E Lea Co, NM	Size/Wt/Grade/Conn	Depth Set
GL: _4165! Zero:AGL: KB: _4183'	13 3/8" 48# H40	426'
Spud Date: Completion Date:	9 5/8" 36& 40 # J55	4149'
Comments:	7" 26# J55, L80, HCP110	12650'
	·	·
		1

San

13 3/8" csg @ 426'. Cmtd w/ 440 sx. Cmt circ.

TOC 3645' by calc.

9 5/8" csg @ 4149'. Cmld w/ 1303 sx. Cmt circ.

San Andres perfs 4840'-50'

PROPOSED INJECTION

RBP at 4921

Use Existing Perfs at 4840 to 4850 feet Set Arrowset 1-X packer at 4750 feet. 2 7/8" tubing to 4800 feet.

Atoka per/s 11607-21' & 11655-64' SQUEEZED

Woodford Sand perfs 12534-12592

7" csg @ 12650', Cmld 1st slg w/ 165 sx. Cmld 2nd slg w/ 2090 sx.

Devonian open hole.

SKETCH NOT TO SCALE

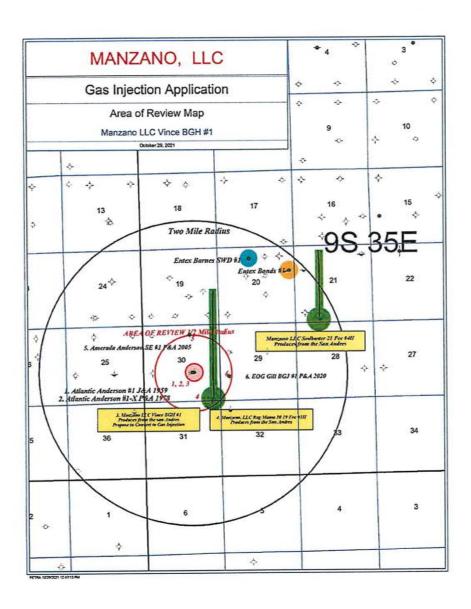
DATE: 09/20/2021 ...

TD 12860

CIBP@12500'+35'cm

CIBP@12620'+20'cm

Received by OCD: 12/1/2021 4:33:09 PM



Manzano is applying to inject gas produced from the Manzano Sodbuster 21 Fee #4H and Manzano Rag Mama 30 19 Fee #1H wells into the Vince BGH #1 well. All three wells are currently perforated in the same P-1 dolomite reservoir. The two source wells currently produce a total of 59 BOPD, 129 MCFGPD and 1068 BWPD. Produced water is disposed in the Entex Barnes SWD #1 well. Gas is currently flared due to a lack of a pipeline. The proposed injection well, currently produces 2 BOPD and 31 BWPD and is deemed uneconomic. The purpose of this application is to comply with the new flare rule, while preventing waste, and recovering more oil from the reservoir by increasing the reservoir pressure.

Received by OCD: 12/1/2021 4:33:09 PM

TABLE OF WELL DATA

			_	ā	5	6
WELL ID#	1	2	3	4 30-025-44067	30-025-20488	30-025-37103
API NUMBER	30-025-02666	30-025-02667	30-025-37104		AMERADA PETROLEUM	EOG RESOURCES
OPERATOR	ATLANTIC REFINING CO	ATLANTIC REFINING CO	MANZANO, LLC	MANZANO, LLC RAG MAMA 30-19 FEE	ANDERSON SE	GILL BGJ
LEASE NAME	ANDERSON	ANDERSON .	VINCE BGH	1H	1	1
WELL#	1	1-X	1	OiL	OIL WELL	OIL WELL
WELLTYPE	DRY HOLE	OIL	OIL		P&A	P&A
STATUS	P&A	P&A	ACTIVE	ACTIVE	660 FNL, 1980 FEL	1650 FSL, 660 FWL
FOOTAGES	1980 FSL, 1980 FEL	1980 FSL, 1880 FEL	1980 FSL, 1750 FEL	25 FSL, 528 FEL	C 1300 FEL	L
SURFC UNIT	J	J	j	P	30	29
SECTION	30	30	30	30	95	9S
TOWNSHIP	9\$	95	9S	9S	35E	35E
RANGE	35E	35E	35E	35E	1/15/1963	8/1/2005
SPUD DATE	2/1/1959	3/1/1959	4/25/2005	11/30/2017	12,690	12,670
TRUE VERTICAL DEPTH	4752	10025	12,655	4847	12,690	12,670
MEASURED DEPTH	4752	10025	12,655	12,160	17 1/2"	17 1/2"
Ist STRING HOLE SIZE	17 1/2"	17 1/2"	17 1/2"	12 1/4"	13 3/8"	13 3/8"
CASING SIZE	13 3/8"	13 3/8"	13 3/8"	8 5/8"	400	420
SET AT	436	408	426	2268	500	440
SX CMT	375	375	240	950	SURFACE	SURFACE
CMT TO	SURFACE	SURFACE	SURFACE	SURFACE CIRCULATED	CIRCULATED	CIRCULATED
HOW MEASURED	CIRCULATED	CIRCULATED	CIRCULATED	CIRCULATED	CIRCOLATED	CINCOD II LD
			40.4 (41)	7 7/8"	11"	12 1/4"
2ND STRING HOLE SIZE	12 1/4"	12 1/4"	12 1/4"	7.7/6 5.5°	8 5/8"	9 5/8"
CASING SIZE	9 5/8"	9 5/8"	9 5/8"	12160	4315	4170
SET AT	4350	4333	4145 1103	2100	1400	1575
SX CMT	1600	1500	SURFACE	SURFACE	2417	SURFACE
CMT TO	1475	1350	CIRCULATED	CIRCULATED	TEMP. SURVEY	CIRCULATED
HOW MEASURED	TEMP. SURVEY	TEMP. SURVEY	URCULATED	GREODIED		
CTDING U.O. F. 517F	NONE	7 7/8"	8 3/4"	NONE	7 7/8"	8 3/4"
3RD STRING HOLE SIZE	NONE	5 1/2" ·	5 1/2"	NONE	7" 0 TO 9952	5 1/2"
CASING SIZE	NONE	5050	12650	NONE	5 1/2' 9952 TO 12688	12660
SET AT	NONE	325	1420	NONE	800	3400
SX CMT	NONE	NONE	3645	NONE	7833	3670
CMT TO	NONE	NONE	CALCULATED	NONE	TEMP. SURVEY	CALCULATED
HOW MEASURED	NORL					
CURRENT COMPLETION, MD	NONE	NONE	4840 TO 4850	5250 TO 12123	NONE	NONE
CURRENT COMPLETION, TVD	JUNKED &ABANDONED	NONE	4840 TO 4850	4847 TO 4804	NONE	NONE
PRIOR COMPLETION DEPTHS	NONE	4846 to 4866 (San Andres)	12534 TO 12592	NONE	4771 to 4901	11603 TO 11877
PRIOR COMPLETION DEPTHS			11607 TO 11664		9737 TO 9755	
PRIOR COMPLETION DEPTHS					12634 TO 12655	
P&A INFORMATION	SET RETAINER AT 4151	250 sxs CMT 10025 to 9347			CIBP set at 12,584	SET CIBP AT 12615
	SQUEEZED 200 SXS INTO	75 sxs cmt 5200 to 5050	WELLBORE		Retainer set at 8175 ft	30 SXS CMT 12377 TO 12615
	PARTED CASING AT 4245	30 sxs cmt plug 4620 to 4880	DIAGRAM		Perf at 4300 and 4985,	55 SXS CMT 11934 TO 11487
	5 SXS ON RETAINER	shot off 9 5/8" csg at 630 feet	ATTACHED		Sqzd 120 sxs 4300-4985	25 SXS CMT 10056 TO 9853
	CUT OFF WELLHEAD	35s sxs CMT 646 to 608			50 SXS CMT 4200 TO 4090	30 SXS CMT 7786 TO 7542 25 SXS CMT 5521 TO 5268
	WELD PLATE ON TOP	5 sxs CMT, TOC at 485			60 SXS CMT 2260 TO 2058	
		50 sxs cmt TOC at 385			60 SXS CMT 525 TO 378	40 SXS CMT 4282 TO 3877
		50 sxs CMT TOC at 340		•	45 SXS CMT 60 TO SURF	25 SXS CMT 2887 TO 2634
		CUT OFF WELLHEAD				25 SXS CMT 523 TO 270
		WELD PLATE ON TOP				40 SXS CMT 270 TO SURF CUT OFF WELLHEAD
		12/05/1973 Ist time			c la c lanne	4/16/2020
P&A DATE	3/5/1959	8/7/1978	ACTIVE WELL	ACTIVE WELL	6/16/2005	-1 TO 2020

				S				
				EOG RESOURCES			Prospect:	JENKINS
		Well	Vame:	GILL BGJ #1			TD (MD/TVD):	12670
<u>ra</u>		Co	ounty:	LEA			Elevation: 4175 (KB)	
General				NEW MEXICO		La	atitude & longitude:	
99		API Nu	mber:	30-025-37103		Section	on-Township-Range	29-T9S-R35E
							Surface Location:	1650 Fsl, 660 Fel
						Bot	ttom Hole Location:	Same
DIRECT	IONS:							
FORM	ATION	PEI	RFS	Casing Profile	Hole	Casing Specificaltons		
TOMM	111011			Gosmig. Tomic	Size		P&A 4/16/2020. Cut	P&A INFORMATION off Wellhead
							40 sxs 270 to surfac	e
					17 1/2	13 3/8" set at 420	25 sxs 523 to 270	
						15 5/6 501 41 420		
							25 sxs 2887 to 2634	
		-						
							40 sxs 4282 to 3877	
					12 1/4"	9 5/8" set at 4170.		
						CMT with 1575 sxs to surf.		
					Υ	*******************		
				E 1			25 sxs 5521 to 5268	
	-							8
							30 sxs 7786 to 7542	
	_						1	
-								
							25 sxs 10056 to 985	2
		19					25 \$85 10050 to 585	3
444	oka	11603	11877				55 sxs 11934 to 114	86
	,,,,	11003	110//		1			
					8 3/4"	5 1/2" to 12660.		
						Cmt with 3400 sxs TOC 3670 calculated.		
Devoni	an (OH)	12650	12670		TD 126	70	30 sxs 12377 to 126 CIBP at 12615	15
		092 3	0.00		000			
				50,828 BO, 1,968 MCFG and 8				
Ŋ	It prod	duced 1611 BO, 136,796 MCFG and 180 BW from Atoka perforations.						
nent	It was	plugge	d and a	bandoned in 2020.				
Comments								
0								
	-							

									<u> </u>	
			AMERADA PETROLEUM				Prospect:	JENKINS		
Well Name:		Name:	ANDERSON SE #1			TD (MD/TVD)		12690		
ā		Co	ounty:	LEA			Elevation:		4187 (KB)	
. e		3	State:	NEW MEXICO			La	titude & longitude:		
General	7.4			30-025-20488			Section-Township-Range 30-T9S-R35E			
Ĭ				30 023 20 100				Surface Location:		
ŀ							Rot	tom Hole Location:		
DIDECT	ONC.						ВОС	tom note Location.	Journe	
DIRECTI	ioivs:									
FORMA	ATION	PEF	RFS	Casing Profile	Hole Size	Cas	ing Specificaitons		P&A INFORMATION	
		-			5,20			P&A 6/16/2005. Cut	off Wellhead	
				103/12				45 sxs 60 to surface 60 sxs 525 to 378		
					17 1/2"	1 13 3/8"	set at 400			
						10		9.1		
								60 sxs 2260 to 2058		
			_					1		
								50 sxs 4200 to 4090		
							7	30 585 4200 to 4030		
		3			11"		set at 4315. 0 sxs TOC at 2417			
San An	dene	4771	4901		\ 					
JULIAL	lutes	4//1	4501							
							2 Perf 4300 and			
					4		5 and pump sxs cement			
				1 🔳			eeze behind 7".			
				- 1						
						-				
									-TF	
								Retainer set at 8175	etainer set at 8175 ft	
Ciso	co	9737	9755							
				1						
				4		-				
					1				-	
		l			7.7/8"	Ran 7" t	0 9922	7		
		-	-	4	1.00	5 1/2" 9	922 to TD	CIBP at 12504		
13565000							th 800 sxs 333 calculated.	Perf		
Devo	nian	12634	12655			_				
	This w	ell prod	uced 1	0,189 BO, 4,1728 MCFG and 5	583,704	BW froi	n the Devonian.			
	It proc	luced 61	51.189	BO, 1,016,582 MCFG and 451	.416 BW	from C	isco perforations.			
nts			~		,	,				
Comments	Last, i	produc	ced 459	9 BO from the San Andres.						
S	It was	plugge	d and c	abandoned in 2005.				<u> </u>		
1000										

		Company:	Atlantic Refining		03.00		Prospect:	Jenkins		
		Well Name:	Anderson #1				TD (MD/TVD):	4752		
ral		County:	Lea				Elevation:	4175 (DF)		
General		State:	New Mexico			Lat	itude & longitude:			
g		API Number:	30-025-02666		Sec	tior	n-Township-Range	30-T9S-R35E		
	9.						Surface Location:	1980 FSL, 1980 FEL		
						3ott	om Hole Location:	1980 FSL, 1980 FEL		
Form	ation	Depth	Casing Profile	Hole Size	Casing Specificaltons			P&Δ Info		
Comments		MD TVD	T T apted after intermediate casing	17 1/2 12 1/4 Surv. 7 7/8"	Set 13 3/8 at 426 feet. Cement with 426 sxs Set 9 5/8" at 4350 feet. Cement with 1500 sxs TOC at 1475 by Temp. J&A 4752 ft TD		Junked and abando	50/12/50/00 PUP/IS		

					8			-	_		_	T			_	- 2		T	3				_
				lantic Refining							-					ospect	_					-	
	Well Name: Anderson #1-X								TD (MD/TVD)											-			
ra La		unty:										-			W 40.7 PM	1-2-2-1	vation		(DF)			_	
General		State:												La	titude	& lon	gitude	2:					
g	API Nu	mber:	30-02	5-026	67								- 1	Section	on-Tov	vnship	-Rang	e 30-T.	9S-R35E				
															Surf	ace Lo	cation	: 1980	FSL, 18	80 FEL			
														Bot	tom H	ole Lo	cation	: 1980	FSL, 18	80 FEL			
DIREC	TIONS:				-					Hole	1	0645 33	9271 - 3		T -								
ZOI	NE of Dep	oth			Casing	Profile	e			Size		Casing Sp	ecificai	tons				P&A	Info.				
PE	PERFS								17 1/2 Set 13 : Cement				with 375 sxs										
San	San Andres 4846 4866		4866					12 1/4 Set 9 5 Cerner TOC at Set 50 Ran 5/5 to 505			ent with 19 at 1350 by 0 sxs at 50 /12" casin 50 feet.	5/8" at 4333 feet. It with 1500 sxs 1350 by Temp. Surv. Sxs at 5050 to 5200 ft 12" casing liner 4272 0 feet. It with 325 sxs			30s sxs 4620 to 4880								
															0				550				
																							da i
				Ш																			
								Į.															
											250	sxs plug	1002	5 to 93	47								
										77/8"		10,025 C)							
8	Well produced	11,35	2 BO 7	454 N	1CFG ar	d 227	69 BL	N fon	Sai					T			T		T				
	It was original	ly pluge	ged ar	nd aba	ndoned	12/0	5/197	73.															
	It was reenter	ed in 1	973 bu	it oper	ator co	uld no	t tie	onto S	5/8	3" casi	ng stu	b and w	s repl	ugged	8/7/19	78 as s	hown.						
							1 1	1 1			1			1		1				1	1	1	1
		-	HH	++		+	+	+	+	-	+	_	1	+	-	_	_	_	_	+	+	-	1

			Marie Labora						_		12.0	ST 457		
		Company: Manzano, LLC							_		Prospect:	THE RESERVE TO SERVE THE PROPERTY OF THE PERSON OF THE PER		
_	Well Name: Rag Mama 30-19 Fee #1H County: Lea						1H					12160'MD/4850'TVD		
General												4159' GL & 4180' KB (21'KB)		
ien	State: New Mexico API Number: 30-025-44067						_		_	esso Plan	103.393294/33.498036			
o	-	AFINU	mber.	30-025-44	4067					Section	n-Township-Range			
	_		_									25' FSL & 528' FEL-Sec 30-9s-35e		
										sroads turn west or		2310' FSL & 400' FEL-Sec 19-9s-35e d, Go west on CR170 for 3 miles & n		
Form	ation	-	oth		Casing Prof	ìle		Hole	Cas	ing Specificaitons		Wiles		
ALCO SECTION		MD	TVD	- 110	1	m		Size	2000		0'-3500': MW 8.4-10	Mud Program 0+, Vis 30-32, WL 15		
100	Top Rustler 2240 224 8 5/8"Casing @ 2275'		2240					12 1/4*		/4"Ulterra U616S " 32#/ft J-55 LTC to 2275'	Cement w/750sx 35:65:6 (12.9ppg/1.87cfs/10.11gps) + 200sx "C" (14.8ppg/1.33cfs/6.33gps)			
Qu	Yates 2760 2760 Queen 3470 3470 San Andres 4040 4040		3470			77/8" 77,		'8" Ulterra U616M	2275'-KOP @ 4200': MW 10+, Vis 28-32, WL n/c Cement 5 1/2" w/1100sx 50:50:10 C (11.00ppg/2.816 1000sx 50:50:2 C (14.5ppg/1.22cfs)					
1000	OP.	4265 4265 5.1		- C-05%	8" Ulterra U616M ' 20.0# L80 BTC to Surface	KOP- EOL @: MW 10+, Vis 30-32, WL n/c Curve: 4265'-5170' (905')								
Top Po	oy Zone	4880	4770					e la s	70 758					
					6	(NEVER)				*	-10			
End of	f Curve	5170	4840				100			TVENTON TO THE TOTAL PROPERTY.	A STATE OF THE STA			
End of	lateral	12160	4805								5137444			
	-samel	11100	7003	-			RAL	SELECTION OF	100,000,000	8" Ulterra U616M	TD Lat	eral @ 12160'MD/4805'TVD		
							LATERAL	7 7/8"	5.5	' 20.0# L80 BTC to Surface	Lateral: 5180' - 12180'MD (6990')			
ents														
Comments														
S														
	1													



Certificate of Analysis Number: 6030-21070001-001A

Artesia Laboratory 200 E Main St. Artesia, NM 88210 Phone 575-746-3481

July 01, 2021

Manzano Energy Manzano Energy 300 W 2nd St Roswell, NM 88201

Station Name: Rag Mamma Heater Station Number: Heater treater Station Location: Manzano Sample Point: Heater Ball Valve

Instrument: 6030_GC6 (Inficon GC-3000 Micro)

Last Inst. Cal.: 06/28/2021 0:00 AM Analyzed:

07/01/2021 10:35:01 by EJR

Sampled By: Sample Of: Sample Date:

Cameron Rivera

Gas Spot 06/30/2021 09:30 Sample Conditions: 20 psig Ambient: 70 °F

Effective Date: Method: Cylinder No:

06/30/2021 09:30 GPA-2261M

5030-00488

Analytical Data

Components U	n-normalized Mol %	Mol. %	Wt. %	GPM at 14.696 psia		
Hydrogen Sulfide	0.000	2.10000	2.716		GPM TOTAL C2+	5.858
Nitrogen	4.465	4.45505	4.735		GPM TOTAL C3+	3.496
Methane	60,630	60.49464	36.823		GPM TOTAL iC5+	1.054
Carbon Dioxide	13.129	13.09975	21.874			
Ethane	8.833	8.81352	10.055	2.362		
Propane	5.586	5.57395	9.326	1.539		
Iso-butane	0.829	0.82725	1.824	0.271		
n-Butane	2.005	2.00043	4.412	0.632		
Iso-pentane	0.693	0.69106	1.892	0.253		
n-Pentane	0.667	0.66571	1.822	0.242		
Hexanes Plus	1.282	1.27864	4.521	0.559		
	98.119	100.00000	100.000	5.858		
Calculated Physical Pro	perties	Total		C6+		
Relative Density Real Gas	S	0.9138	1	3.2176		
Calculated Molecular Wei		26.36	i	93.19		
Compressibility Factor	_	0.9955	i	•		
GPA 2172 Calculation:						
Calculated Gross BTU p	er ft³ @ 14.696 ¡	osla & 60°F				
Real Gas Dry BTU		1138	;	5129		
Water Sat. Gas Base BTL	J	1118	1	5040		
Ideal, Gross HV - Dry at 1	4.696 psla	1132.7	•	5129,2		
Ideal, Gross HV - Wet	•	1112.7	,	5039.7		
Comments: H2S Field C	Content 2.1 %					

Data reviewed by: Eric Ramirez, Analyst

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

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Page 18f 1



Certificate of Analysis Number: 6030-21070001-003A

Artesia Laboratory 200 E Main St. Artesia, NM 88210 Phone 575-746-3481

Manzano Energy Manzano Energy 300 W 2nd St Roswell, NM 88201

Station Name: Sodbuster Heater Station Number: Heater Treater Station Location: Manzano

Sample Point: Heater Ball Valve Instrument: 6030_GC6 (Inficon GC-3000 Micro)

Last Inst. Cal.: 06/28/2021 0:00 AM

07/01/2021 11:34:42 by EJR Analyzed:

Sampled By: Sample Of: Sample Date:

Cameron Rivera Spot Gas 06/30/2021 09:15

July 01, 2021

Effective Date: Method:

Cylinder No:

Sample Conditions: 20 psig Ambient: 70 °F 06/30/2021 09:15

GPA-2261M

1111-002209

Analytical Data

Components	Un-normalized Mol %	Mol. %	Wt. %	GPM at 14.696 psia		
Hydrogen Sulfide	0.000	2,40000	2.991		GPM TOTAL C2+	5.431
Nitrogen	7.990	8.17264	8.371		GPM TOTAL C3+	3.311
Methane	54.324	55.56411	32.591		GPM TOTAL IC5+	1.185
Carbon Dioxide	15.374	15.72463	25.302			
Ethane	7.736	7.91305	8.700	2.120		
Propane	4.769	4.87800	7.865	1.346		
lso-butane	0.670	0.68499	1.456	0.225		
n-Butane	1.716	1.75559	3.731	0.555		
Iso-pentane	0.559	0.57135	1.507	0.209		
n-Pentane	0.600	0.61360	1.619	0.223		
Hexanes Plus	1.684	1.72204	5.867	0.753		
	95.422	100.00000	100.000	5.431		
Calculated Physical I	Properties	Total		C6+	· · ·	
Relative Density Real	Gas	0.9482	!	3.2176		
Calculated Molecular \	<i>N</i> eight	27.35	į	93.19		
Compressibility Factor	•	0.9956	i			
GPA 2172 Calculation	n:					
Calculated Gross BT	U per ft ³ @ 14.696 p	sia & 60°F				
Real Gas Dry BTU		1059)	5129		
Water Sat. Gas Base I	BTU	1041		5040		
Ideal, Gross HV - Dry	at 14.696 psia	1054.6	;	5129.2		
Ideal, Gross HV - Wet	,	1036.0)	5039.7		
Comments: H2S Fie	ld Content 2.4 %					

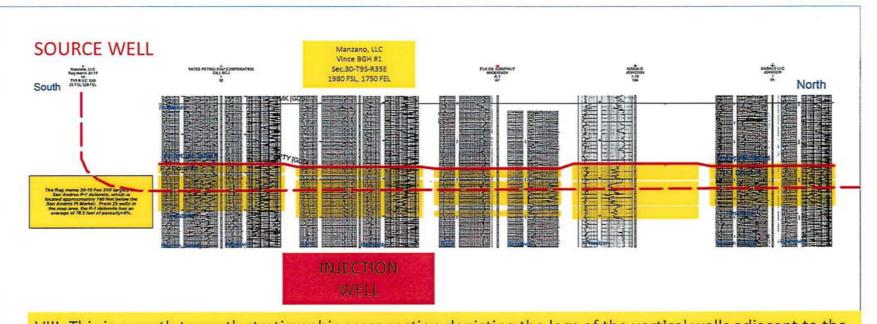
Data reviewed by: Eric Ramirez, Analyst

Quality Assurance:

The above analyses are performed in accordance with ASTM, UOP, GPA guidelines for quality assurance, unless otherwise stated.

Powered By SURECHEM

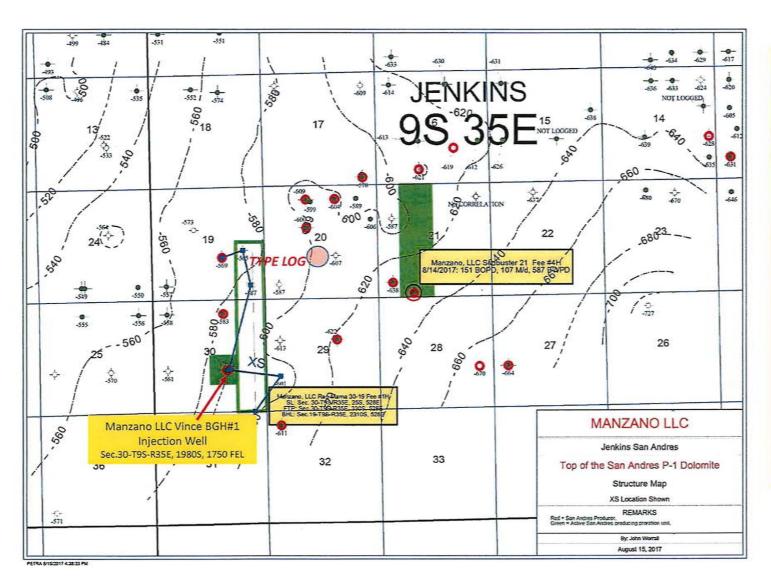
Page Pof 1



VIII. This is a south to north stratigraphic cross section depicting the logs of the vertical wells adjacent to the Rag Mama 30 19#1H lateral. The location of these wells is shown on the P-1 dolomite isopach and structure map. The gas will be injected into the San Andres P-1 dolomite in existing perforations at 4840 to 4850 feet in the Manzano LLC Vince BGH#1. The well will be converted to injection; it currently produces 2 BOPD and 31 BWPD. The San Andres formation is present from 4000 to 5460 feet in this well. Shown on this cross section is the San Andres Pi Marker, a regional volcanic ash bed which is the datum for the cross section. The P-1 dolomite (yellow) is a fine crystalline dolomite reservoir, with typically 4 to 12% porosity, and 20 to 100 ohm-m of resistivity. The interval can exhibit up to 100 feet of porosity> 6% (see isopach map). Oil and gas is stratigraphically trapped where this reservoir pinches out northward into anhydrite. The zone is also overlain by anhydrite, and underlain by tight limestone.

Received by OCD: 12/1/2021 4:33:09 PM

Received by OCD: 12/1/2021 4:33:09 PM



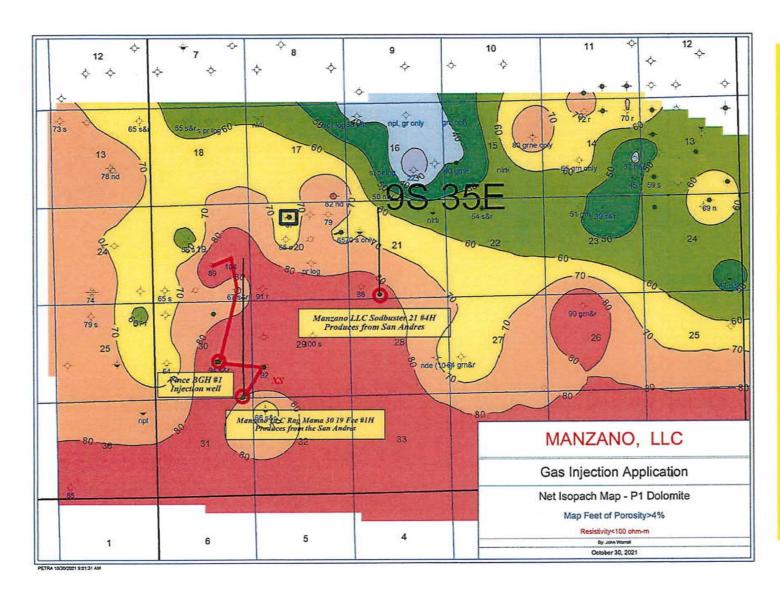
VIII. GEOLOGY

This is a structure map on top of the P-1 dolomite showing the reservoir is relatively flat with only 40 feet of east dip per mile (a half degree slope).

Wells in red have historically produced oil or gas from this reservoir, or exhibit shows. Currently, Manzano produces oil from the two horizontal wells and the Vince #1. The other red wells have been plugged and abandoned.

The location of the cross section is shown on this map.

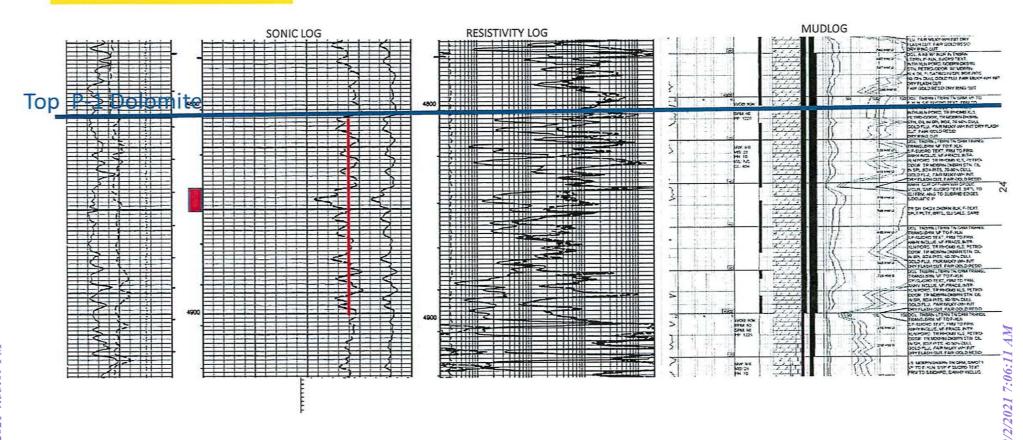
Received by OCD: 12/1/2021 4:33:09 PM

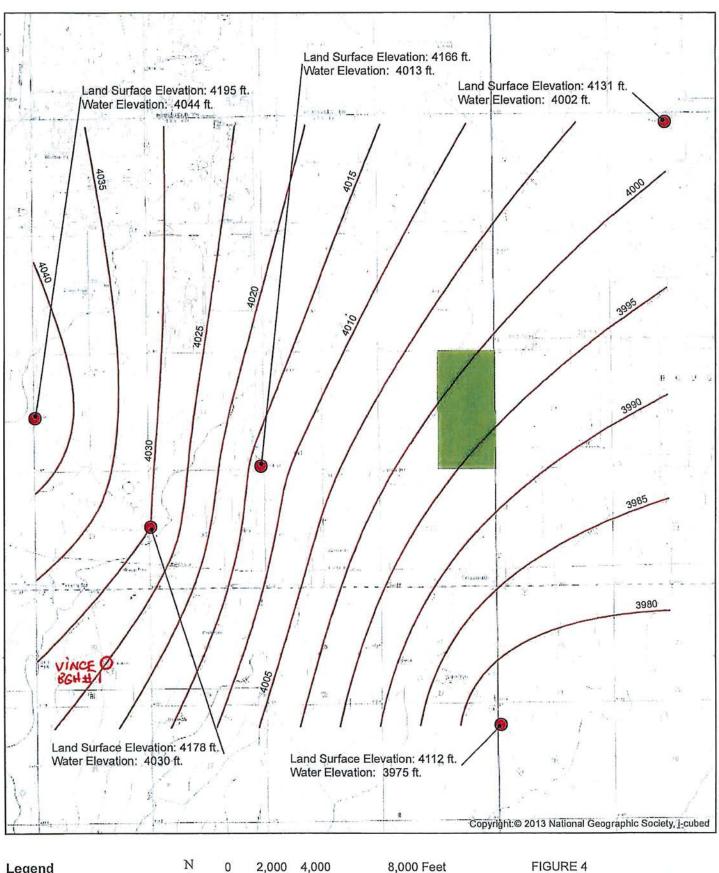


This is a net isopach of the P-1 dolomite showing feet of porosity >4% and/or resistivity log showing < 100 ohm-m. It shows the P-1 dolomite has up to 100 feet of reservoir. Northward the zone is present but porosity grades into tight anhydrite and anhydrite filled dolomite, which sets up the stratigraphic trap.

The cross section location is shown along with the injection well and the two source wells.

X. Log Data of the Manzano Vince BGH #1 located in Section 30-T9S-R35E, 1980 Fsl, 1750 Fel. Injection will be through existing perforations at 4840 to 50 feet. Logs show the pay is a dolomite with good porosity and resistivity from 4810 to 4900 ft.





Legend

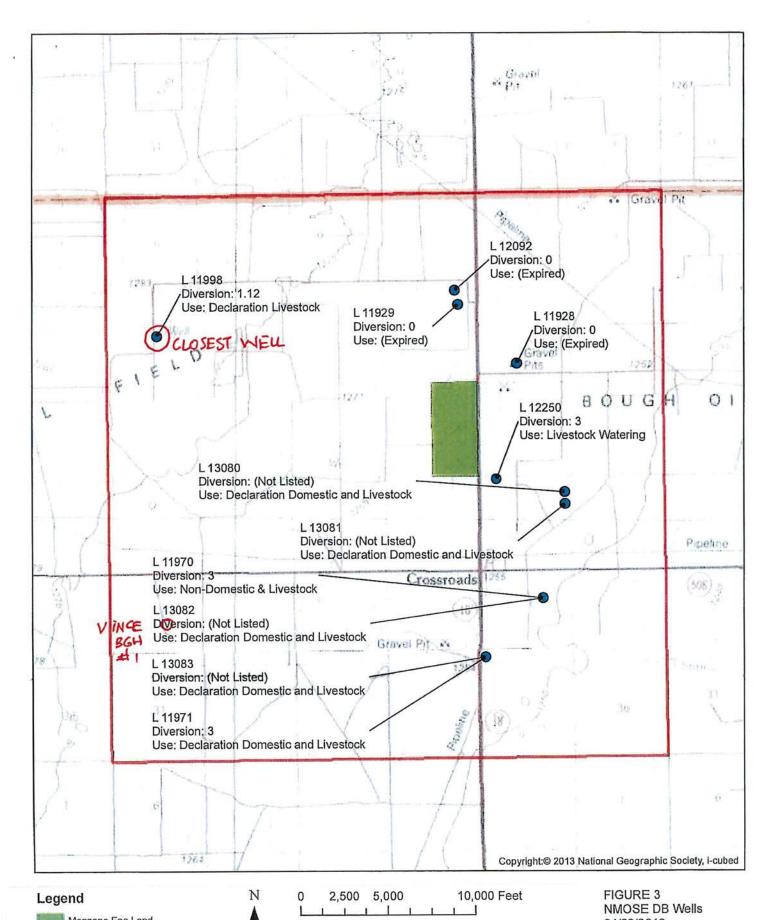
Manzano Fee Land WaterLevels

NMOSE Well-Schedule Wells

2,000 4,000 1 inch = 4,000 feet

Water Elevation from 1996 NMOSE Well-Schedule Records 04/22/2016





Manzano Fee Land

NMOSE DB Wells

Township 9S Range 35 E N.M.P.M.

1 inch = 5,000 feet
26

LEGAL NOTICE October 1, 2021

Manzano, LLC of P.O. Box 1737 Roswell, NM has filed an application with the New Mexico Oil Conservation Division to inject gas into the Manzano, LLC Vince BGH #1 well for the purpose of reservoir pressure maintenance. The well is located at Section 30-T9S-R35E, 1980 from south line. and 1750 from east line in Lea County, New Mexico. Gas will be injected in the San Andres dolomite at 4840 to 4850 feet at maximum rate of 1000 MCFGPD a n d a maximum pressure of 950 psi. Interested parties may file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. within 15 days. Should you have any questions please contact John Worrall at Manzano, LLC at 575-623-1996 ext. 302.

#36902

Advertising Invoice

Hobbs Daily News-Sun

201 N Thorp P. O. Box 850 Hobbs, NM 88241

Phone: 575-393-2123 Fax: 575-397-0610

URL: www.hobbsnews.com

KEN BARBIE MANZANO OIL CORPORATION

P.O. BOX 2107

ROSWELL, NM 88202-2107

01101555 Cust#: Ad #:

00259095

Phone:

(575)623-1996

Date:

09/29/2021

Salesperson: HA Ad Taker:

Kayla

Sort Line:

36902 BGH#1

Class:

671

Description	Start	Stop	Ins.	Cost/Day	Amount
AFF2 Affidavits (Legals)					6.25
BOLD bold					1.00
07 07 Daily News-Sun	10/1/2021	10/1/2021	1	32.67	32.67

Ad Text:

LEGAL NOTICE October 1, 2021

Manzano, LLC of P.O. Box 1737 Roswell, NM has filed an application with the New Mexico Oil Conservation Division to inject gas into the Manzano, LLC Vince BGH #1 well for the purpose of reservoir pressure maintenance. The well is located at Section 30-T9S-R35E, 1980 from south line, and 1750 from east line in Lea County, New Mexico. Gas will be injected in the San Andres dolomite at 4840 to 4850 feet at maximum rate of 1000 MCFGPD and a maximum pressure of 950 psi. Interested parties may file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis

Payment Reference:

Total: 39.92 Tax: 2.72 Net: 42.64 0.00 Prepaid: **Total Due** 42.64

LEGAL NOTICE

Manzano, LLC of P.O. Box 1737 Roswell, NM has filed an application with the New Mexico Oil Conservation Division to inject gas into the Manzano, LLC Vince BGH #1 well for the purpose of reservoir pressure maintenance. The well is located at Section 30-T9S-R35E, 1980 from south line, and 1750 from east line in Lea County, New Mexico. Gas will be injected in the San Andres dolomite at 4840 to 4850 feet at maximum rate of 1000 MCFGPD and a maximum pressure of 950 psi. Interested parties may file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, New Mexico 87505, within 15 days. Should you have any questions please contact John Worrall at Manzano, LLC at 575-623-1996 ext. 302.



October 25, 2021

New Mexico Oil Conservation Division Attention: Dylan Rose-Coss Geological and Engineering Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Ladies and Gentlemen,

RE: Application to Inject Gas into the Manzano, LLC Vince BGH State #1

The following statement is sent regarding the need for <u>Seismicity Analysis</u> for the proposed injection of gas into the caption well.

The injection gas will be placed back into the San Andres formation from which it comes. The maximum proposed injection pressure is 950 PSI, which will be in perforations from 4840 to 4850 feet in the Vince BGH State #1. This maximum pressure is only a .196 PSI/ft pressure gradient, which is well below the normal pressure gradient for the formation of .35 psi/ft, and way below the expected .9 to 1.0 psi/ft frac gradient for the formation. Second, the zone of injection is 8000 feet above the Precambrian Basement in this area. For both of these reasons, there is no need for an analysis of the potential for induced seismic activity in this area. Should you have any questions, regarding this issue or statement, please advise.

Sincerely,

John G. Worrall

Geologist

Form C-108 Item XII.

Manzano, LLC Vince BGH #1

AFFIDAVIT

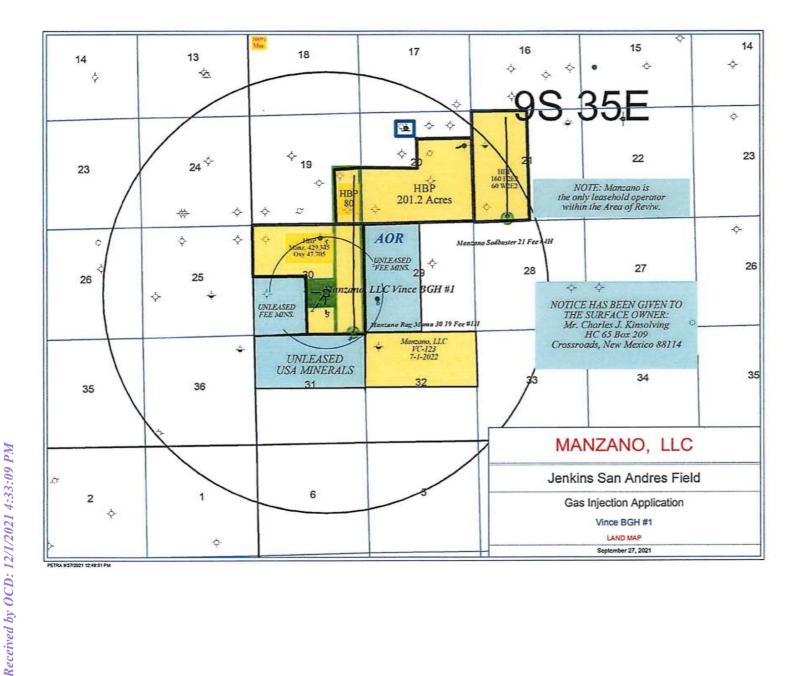
Manzano, LLC has examined the geological and engineering data associated with the proposed injection well and find no evidence of open faults or other hydrologic connections between the injection zone and good sources of drinking water.

Sincerely,

John Worrall

Partner

Manzano, LLC



showing lease ownership of Manzano, LLC in yellow. Manzano, LLC is the only operator within the Area of Review. The surface owner of the Vince location, Charles Kinsolving, has been given notice, as has the Bureau of Land Management who owns unleased minerals in the N/2 of Section 31. See attached.



October 25, 2021

Bureau of Land Management 620 E. Greene Street Carlsbad, NM 88220

To whom it may concern:

Attached for your notice is a copy of the permit filed with the New Mexico Oil Conservation Division, located at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. The Bureau of Land Management manages unleased minerals within the area of interest. In this application, Manzano, LLC is proposing to reinject gas at 4840 to 4850 feet in the San Andres formation in the Vince BGH #1, located at 1980 FSL, 1750 FEL, in Section 30 of T9S-R35E. Should you have any questions, please contact me or Mike Hanagan at 575-623-1996. Thank you.

Sincerely,

John Worrall

On behalf of Manzano, LLC

SENDER: COMPLETE THIS SECTION COMPLETE THIS SECTION ON DELIVERY Complete items 1, 2, and 3. A. Signature Print your name and address on the reverse ☐ Agent so that we can return the card to you. ☐ Addressee Attach this card to the back of the mailpiece, C. Date of Delivery or on the front if space permits. 1. Article Addressed to: D. Is delivery address different from Item 1? If YES, enter delivery address below: 620 E. Greene St. Caylshad, NM 88220 Service Type ☐ Priority Mall Express® Octivities Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail Restricted Delivery Registered Mali™ Registered Mali Restricted Delivery Return Receipt for Merchandise 9590 9402 5491 9249 9341 08 ☐ Collect on Delivery ☐ Collect on Delivery Restricted Delivery 2. Article Number (Transfer from service label) ☐ Signature Confirmation™ ☐ Signature Confirmation 7020 1290 0001 1523 8184 PS Form 3811, July 2015 PSN 7530-02-008-9053



September 28, 2021

Mr. Charles J. Kinsolving HC 65 Box 209 Crossroads, NM 88114

Mr. Kinsolving,

U.S. Postal Service

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Extra Services & Fees (check box, add fee as appropriate)

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Return Receipt (electronic)

Adult Signature Required

Adult Signature Required

Adult Signature Restricted Delivery \$

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Silest and Adv. No., or PO Box Ma.

City, Siate, ZiP+48

City, Siate, ZiP+48

See Reverse for Instruction

Attached for your notice is a copy of the permit filed with the New Mexico Oil Conservation Division, located at 1220 South St. Francis Drive, Santa Fe, New Mexico 87505. In this application, Manzano, LLC is proposing to reinject gas at 4840 to 4850 feet in the San Andres formation in the Vince BGH #1, located at 1980 FSL, 1750 FEL, in Section 30 of T9S-R35E, on surface lands owned by you. Should you have any questions, please contact me or Mike Hanagan at 575-623-1996. Thank you.

Sincerely,

John Worrall

On behalf of Manzano, LLC

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

SELF-AFFIRMED STATEMENT OF NICK C. MCCLELLAND

- 1. I am the Land Manager at Manzano LLC ("Manzano"). I am over 18 years of age, have personal knowledge of the matters addressed herein, and am competent to provide this Self-Affirmed Statement. I have previously testified before the New Mexico Oil Conservation Division ("Division"), and my qualifications as an expert in petroleum land matters were accepted and made a matter of record.
- 2. I am familiar with the Application in this case and with the land matters pertaining to this Application. Copies of the application and proposed notice are attached as Exhibit A-1.
- 3. Manzano's Application seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector.
- 4. Manzano operates the following described wells within or near the Project Area currently producing from the Jenkins San Andres Pool:
 - a. Sodbuster 21 Fee #4H (API 30-025-43704) horizontally drilled from a surface hole location at 200 FSL, 1650 FWL in Section 21 to a bottom hole location at 335 FNL, 1630 FWL in Section 21;

- b. Rag Mama 30-19 Fee #1H (API 30-025-44067) horizontally drilled from a surface hole location at 25 FSL, 528 FEL in Section 30 to a bottom hole location at 2303 FSL, 394 FEL in Section 19; and
- c. Vince BGH No. 1H (API No. 30-025-37104) ("Vince") vertically drilled at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 5. The wells were initially drilled as producers within the San Andres formation.
- 6. The perforated interval of the Rag Mama 30-19 Fee #1 is 5,250' to 12,123'; the perforated interval of the Sodbuster 21 Fee #4H is 5,150' to 9,330'; and the perforated interval of the Vince BGH No. 1H is 4840' to 4850'.
- 7. The Vince well currently produces 2 BOPD and 31 BWPD and is deemed uneconomic. Therefore, Manzano proposes to convert the well from a producer into an injection well to provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well. Converting the well from a producer to an injector will also attempt to eliminate flaring.
- 8. Manzano plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H at depths of 4840' to 4850' within the San Andres formation.
- 9. Accordingly, Manzano proposes the unitized interval be defined as the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation at depths of 4840° to 4850° as defined on the Manzano Vince BGH #1 well log provided on page 24 of Form C-108.
- 10. Exhibit A-2 includes a copy of Manzano's Application for Authorization to Inject ("Form C-108"). I am generally familiar with the land matters addressed in the Form C-108.
- 11. Page 32 of Form C-108 contains a land map of the Project Area that identifies surface and mineral ownership interests entitled to notice within the area of review and includes applicable lease numbers. There are no other operators within a ½ mile area of review radius.

- 12. Page 12 of Form C-108 is an area of review map of the Project Area that depicts the producing wells and other wells within the ½ mile radius areas of review that penetrate the proposed injection zone. Pages 13-18 of Form C-108 provide detailed well information for the wells within the areas of review.
- 13. Manzano conducted a diligent, good-faith effort to identify the correct addresses of persons entitled to notice and has complied with the Division's notice requirements.
- 14. Notice of the Division's hearing was provided to all affected parties at least 20 days prior to the hearing date. A sample of the hearing notice letter and the associated return receipts are attached as **Exhibit A-3**.
- 15. Notice of the hearing was also published more than ten business days prior to the hearing date. The affidavit of publication is attached as Exhibit A-4.
- 16. The exhibits referenced above were either prepared by me or under my supervision or were compiled from company business records.
- 17. In my opinion, the granting of Manzano's application would serve the interests of conservation, the prevention of waste, and the protection of correlative rights.
- I understand this Self-Affirmed Statement will be used as written testimony in this case.

 I affirm that my testimony in paragraphs 1 through 17 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Nick C. McClelland

1//19/21 Date

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

SELF-AFFIRMED STATEMENT OF JOHN WORRALL

- 1. I am employed by Manzano LLC ("Manzano") as a geologist and am over 18 years of age and competent to provide this Self-Affirmed Statement. I have personal knowledge of the matters addressed herein. I am familiar with the Application in this case and with the geology matters pertaining to this Application. I have previously testified before the New Mexico Oil Conservation Division ("Division"), and my credentials as an expert in petroleum geology matters were accepted and made a matter of record.
- 2. Manzano's Application seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector.
- 3. Manzano operates the following described wells within or near the Project Area currently producing from the Jenkins San Andres Pool:

- a. Sodbuster 21 Fee #4H (API 30-025-43704) horizontally drilled from a surface hole location at 200 FSL, 1650 FWL in Section 21 to a bottom hole location at 330 FNL, 1650 FWL in Section 21;
- b. Rag Mama 30-19 Fee #1 (API 30-025-44067) horizontally drilled from a surface hole location at 25 FSL, 528 FEL in Section 30 to a bottom hole location at 2303 FSL, 394 FEL in Section 19; and
- c. Vince BGH No. 1H (API No. 30-025-37104) ("Vince") vertically drilled at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 4. The perforated interval of the Rag Mama 30-19 Fee #1 is from 5,250' to 12,123'; the perforated interval of the Sodbuster 21 Fee #4H is from 5150 to 9,330; and the perforated interval of the Vince BGH No. 1H is 4840' to 4850'.
- 5. The Vince well currently produces 2 BOPD and 31 BWPD and is deemed uneconomic. Therefore, Manzano proposes to convert the well from a producer into an injection well to provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well. Conversion of the well will also allow Manzano to attempt to eliminate flaring.
- 6. Manzano plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Marna 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H at depths of 4840' to 4850' within the San Andres formation.
- 7. Accordingly, Manzano proposes the unitized interval be defined as the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation at depths of 4840' to 4850' as defined on the Manzano Vince BGH #1 well log provided on page 24 of Form C-108.
 - 8. The injection interval of the Vince BGH No. 1H well ("Vince") is 4840' to 4850'.

- 9. The productive zone immediately overlying the proposed injection interval is the San Andres formation with its top being at an approximate depth of 4000' TVD.
- 10. Page 22 of Form C-108 contains a structure map of the Project Area. The map shows the structural contours near the top of the P-1 dolomite within the San Andres formation. The map demonstrates the reservoir is relatively flat with a 40 feet of east dip per mile (a half degree slope).
- 11. Page 23 of Form C-108 contains an isopach map of the P-1 Dolomite interval within the San Andres formation. The San Andres formation is present from 4000 to 5460' within the Vince well. The interval from 4810 to 4900' is known as the P-1 dolomite which is a fine crystalline dolomite with 4% to 12% porosity and 20 to 100 ohm-m of resistivity. The interval has up to 100' of porosity greater than 6%. Oil and gas is stratigraphically trapped where this reservoir pinches out northward into anhydrite. The zone is also overlain by anhydrite and underlain by a tight limestone.
- 12. Page 21 of Form C-108 contains a cross-section of the target injection interval. The cross-sections demonstrate the injection interval is consistent and continuous across the formation underlying the Project Area. The cross-section also shows all lands within the proposed unit contain porous reservoir rock, and therefore, all lands within the proposed unit appear capable of contributing additional secondary recovery reserves.
- 13. From geologic studies performed over this area, the Project Area is well suited for pressure maintenance operations and the entire Project Area should continue to contribute enhanced recovery reserves.
- 14. There are no faults or other geologic impediments that would impede the efficiency of the Project.

- 15. Manzano's pressure maintenance project can be conducted in a safe and responsible manner without causing waste, impairing correlative rights or endangering fresh water, public health or the environment.
- 16. There are no water wells within one (1) mile of the proposed injection well. Page 26 of Form C-108 shows the nearest water wells are located 2.5 to 3.0 miles from the Vince well.
- 17. The water aquifer in the Project Area is the Ogalalla Red Beds. Page 25 of Form C-108 contains a map from Atkins Engineering of Roswell indicating the top of water is present at 4025' above sea level below the Vince well. This well has a drill floor elevation of 4183' where water is found at 158'. The map indicates there is approximately 25' of water in this area.
- 18. With respect to compatibility, the source of the gas to be injected will be produced gas from the Sodbuster 21 Fee #4H and Rag Mama 30-19 Fee #1 wells drilled within or near the Project area. Gas analyses for the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 are provided on pages 19 and 20 of Form C-108 and show the two source wells produce a typical San Andres formation gas the BTU content is 1059 to 1138 with nitrogen (4.4 to 8.1 Mole %), CO2 (13.1to15.3mole%) and H2S (2.1 to 2.4 mole %).
- 19. I do not expect any compatibility issues to arise from the proposed injection operations.
- 20. I have examined the available geological and engineering data and have found no evidence of open faults or hydrological connection between the proposed injection interval and any underground sources of drinking water.
- 21. Based on my professional training and experience, it is my opinion that the proposed injection operations will not impair any hydrocarbon-bearing zones. It is also my opinion

that injection fluids will be confined to the injection interval as a result of the stratigraphic confining layers above and below the injection zone.

- 22. In my opinion, the granting of Manzano's application would serve the interests of conservation, the prevention of waste, and the protection of correlative rights.
- 23. The exhibits referenced above were either prepared by me or under my supervision or were compiled from company business records.
- 24. I understand this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 23 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

John Worrall

11-22-202



HINKLE SHANOR LLP

ATTORNEYS AT LAW
PO BOX 2068
SANTA FE, NEW MEXICO 87504
505-982-4554 (FAX) 505-982-8623

WRITER:

Dana S. Hardy, Partner dhardy@hinklelawfirm.com

November 5, 2021

VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED

TO ALL INTERESTED PARTIES SUBJECT TO NOTICE

Re: Case No. 22357 - Application of Manzano LLC for Approval of a Pressure Maintenance Project and Authorization to Inject, Lea County, New Mexico.

To whom it may concern:

This letter is to advise you that the enclosed application was filed with the New Mexico Oil Conservation Division. The hearing will be conducted on **December 2, 2021** beginning at 8:15 a.m.

During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. To participate in the electronic hearing, see the instructions posted on the OCD Hearings website: https://www.emnrd.nm.gov/ocd/hearing-info/. You are not required to attend this hearing, but as an owner of an interest that may be affected by this application, you may appear and present testimony. Failure to appear at that time and become a party of record will preclude you from challenging the matter at a later date.

Pursuant to Division Rule 19.15.4.13.B, a party who intends to present evidence at the hearing shall file a pre-hearing statement and serve copies on other parties, or the attorneys of parties who are represented by counsel, at least four business days in advance of a scheduled hearing, but in no event later than 5:00 p.m. mountain time, on the Thursday preceding the scheduled hearing date. The statement must be filed at the Division's Santa Fe office or submitted through the OCD E-Permitting system (https://www.apps.emnrd.state.nm.us/ocd/ocdpermitting/) and should include: the names of the parties and their attorneys, a concise statement of the case, the names of all witnesses the party will call to testify at the hearing, the approximate time the party will need to present its case, and identification of any procedural matters that are to be resolved prior to the hearing.

Please do not hesitate to contact me if you have any questions about this matter.

Sincerely,

/s/ Dana S. Hardy

Dana S. Hardy

Enclosure

MANZANO LLC

Case No. 22357

Exhibit A-3

PO BOX 10

ROSWELL, NEW MEXICO 88202

575-622-6510

(FAX) 575-623-9332

Released to Imaging: 12/2/2021 7:06:11 AM

PO BOX 2068 SANTA FE, NEW MEXICO 87504 505-982-4554 (FAX) 505-982-8623 7601 JEFFERSON ST NE • SUITE 180 ALBUQUERQUE, NEW MEXICO 87109 505-858-8320 (FAX) 505-858-8321

5300,000,50,0535 M2G 2400 VIUL 1788, m303 29
9690 9402 5760 0003 2656 40 2. Article Number (Transfer from service label)
7. Article Addressed to: Maxine E. Barber and Tom Barber 223 N. Pine Grove Street Wichita, KS 67212-5168
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John H. Breedlove, Jr. 1407 W. Cuthbert Ave.	D. Is delivery address different from If YES, enter delivery address b	nitem 1? ☐ Yes pelow: ☐ No
Midland, TX 79701		





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'n	S Total Postage and Fees
7020	\$ Sent To Dolores Davis, SSP Street an P.O. Box 239 Monument, NM 88265
	Cliy, Stati
	PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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9590 9402 5760 0003 2672 00 2. Article Number (Transfer from service label) 2450 0002 1364 8158	3. Service Type Adult Signature Adult Signature Restricted Delivery Certified Mail® Certified Mail Restricted Delivery Collect on Delivery Insured Mail Insured Mail Restricted Delivery (over \$500)	□ Priority Mail Express® □ Registered Mail™ □ Registered Mail Restricted Delivery □ Return Receipt for Merchandise □ Signature Confirmation Restricted Delivery
PS Form 3811, July 2015 PSN 7530-02-000-9053		Domestic Return Receipt



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1. Article Addressed to: Devon Energy Production Co., LP Attn: Land Department 333 W. Sheridan Avenue Oklahoma City, OK 73102	D. Is delivery address different from If YES, enter delivery address be	
9590 9402 5760 0003 2657 25 2. Article Number (Transfer from service label) 7020 2450 0002 1364 8516	☐ Adult Signature ☐ Adult Signature Restricted Delivery ☐ Contified Mail® ☐ Certified Mail Restricted Delivery ☐ Collect on Delivery ☐ Collect on Delivery	Priority-Mail Express® ☐ Registered Mail™ ☐ Registered Mail Restricted Delivery ☐ Return Receipt for Merchandise ☐ Signature Confirmation™ ☐ Signature Confirmation Restricted Delivery
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Scott Alan Frost, SSP 22428 Holsey Acres Road Indiahoma, OK 73552	If YES, enter delivery address	below: ☐ No
9590 9402 5760 0003 2673 23	Service Type Adult Signature Adult Signature Restricted Delivery Sertified Mail® Certified Mail Restricted Delivery Collect on Delivery	☐ Priority Mall Express®☐ Registered Mall™☐ Registered Mall Restricted Delivery☐ Return Receipt for Merchandise
2. Article Number (Transfer from service label) 20 2450 0002 1364 8271	☐ Collect on Delivery Restricted Delivery ☐ Insured Mail ☐ Insured Mail Restricted Delivery (over \$500)	☐ Signature Confirmation™ ☐ Signature Confirmation Restricted Delivery
PS Form 3811, July 2015 PSN 7530-02-000-9053	i i	Domestic Return Receipt





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IJ	Total Postage and Fees
עחקחע	Sent To Clark A. Glenn, SSP Street and Apt. P.O. Box 692 Tatum, NM 88267
	City, State, Zif
	PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON I	DELIVERY
 Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature M. A. A. A. A. A. A. A. A. B. Received by (Printed Name)	☐ Agent ☐ Addressee C. Date of Delivery
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PS Form 3811, July 2015 PSN 7530-02-000-9053	AND A THE PARTY OF	Domestic Return Receipt





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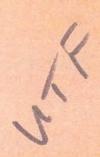
Don Glenn, SSP Street an 170 Kensington Drive Fort Collins, CO 80525

CERTIFIED MAIL® RECEIPT

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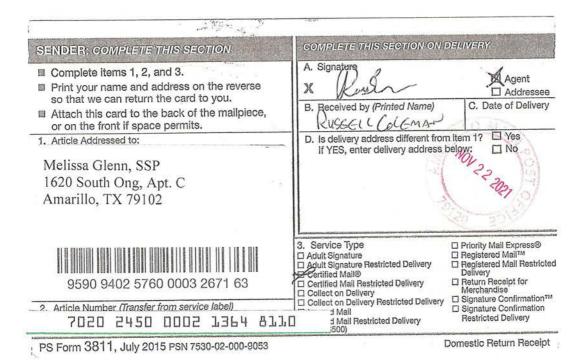
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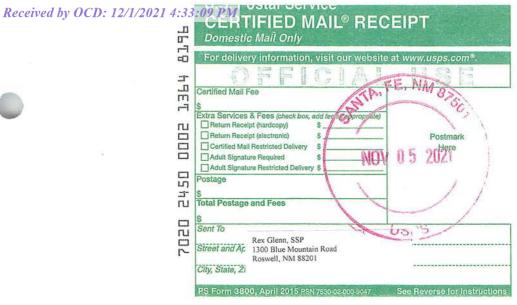
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Marilyn K. Glenn, SSP 6865 Bennell Drive Reynoldsburg, OH 43068	D. Is delivery address different from If YES, enter delivery address	
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William E. Glenn, Jr., SSP 1001 West Alameda Roswell, NM 88201	pelow: TNo
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705	Laura Hand, MSU Street and Ap P.O. Box 717 Spearman, TX 79081 City, State, Zi
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9590 9402 5760 0003 2673 47 2 Article Number (Transfer from service label) 7020 2450 0002 1364 8295	3. Service Type □ Adult Signature □ Adult Signature Restricted Delivery □ Certified Mail® □ Collect on Delivery □ Collect on Delivery □ Insured Mail □ Insured Mail □ Insured Mail Restricted Delivery (over \$500) □ Priority Mail Express® □ Registered Mail™ □ Registered Mail Testricted Delivery □ Return Receipt for Merchandise □ Signature Confirmation™ □ Signature Confirmation Restricted Delivery
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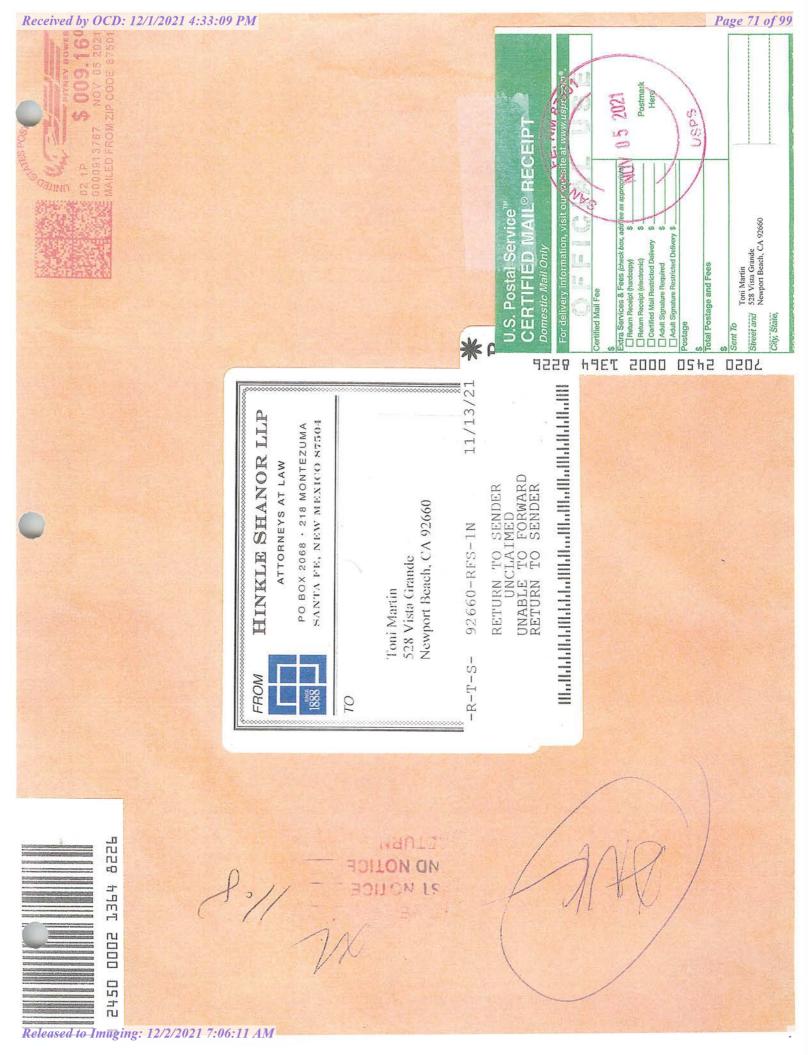
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205	Sent To Glenda King, MSU Street and A 49 East Canyonview Drive Ransom Canyon, TX 79366 City, State, PS Form 3800, April 2015 PSN 7550-92-900-9047. See Reverse for Instructions

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HINKLE SHANOR LLP

ATTORNEYS AT LAW

PO BOX 2068 · 218 MONTEZUMA SANTA FE, NEW MEXICO 87504

TO

Amanda McCasland 016 Lafayette Drive NE Albuquerque, NM 87107

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RETURN TO SENDER INSUFFICIENT ADDRESS UNABLE TO FORWARD RETURN TO SENDER

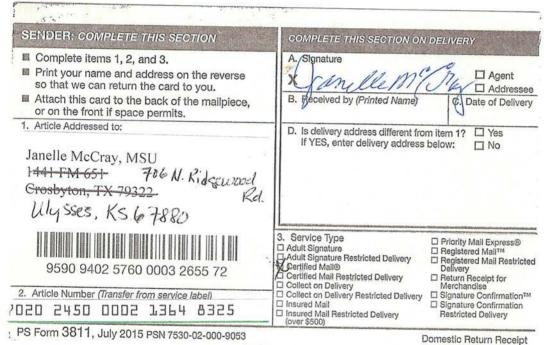
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Page 72 of 99

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A. Signature B. Received by (Printed Name) C. A. B. U. R. D. Is delivery address different from If YES, enter delivery address is	
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- 1. Article Addressed to:

Leo Patrick Morgan, Jr. 1009 Clinton Street Carrolton, TX 75007

COMPLETE THIS SECTION ON DELIVERY

A. Signature

* Clusion

Agent Addressee

B. Received by (Rrinted Name)

C. Date of Delivery

D. Is delivery address different from item 1?
 If YES, enter delivery address below:

☐ Yes ☐ No



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2. Article Number (Transfer from service label)

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PS Form 3811, July 2015 PSN 7530-02-000-9053

Domestic Return Receipt



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Complete items 1, 2, and 3. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. Article Addressed to: Mary Carol Morgan 4417 Mockingbird Lane Dallas, TX 75205	A. Signature D. Carrier B. Received by (Printed Name) M. Carrier B. D. Is delivery address different from iter If YES, enter delivery address below	
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Keith Z. Neuner 170 Camino Rayo Del Sol Corrales, NM 87048-6805



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HINKLE SHANOR LLP ATTORNEYS AT LAW

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Corpus Christi, TX 78415 Walta Neuner Ocker 2803 FM 763

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PS Form 3800, April 2015 PSN 75

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Alice Reed, MSU 2602 Dana Lubbock, TX 79415			
9590 9402 5760 0003 2655 58	3. Service Type ☐ Adult Signature ☐ Adult Signature Restricted Delivery X Certified Mail® ☐ Certified Mail Restricted Delivery	☐ Priority Mail Express®☐ Registered Mail™☐ Registered Mail Restricted Delivery☐ Return Receipt for	
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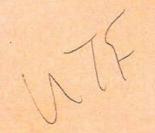




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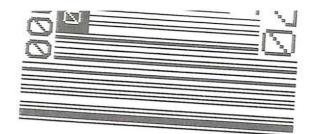


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U.S. Postal Service CERTIFIED MAIL® RECEIPT

Domestic Mail Only For delivery information, visit our website at www.usps.com® 1364 Extra Services & Fees (check box, add fe Certified Mail Restricted Delivery 2450 Total Postage and Fees 7020 Sent To William and Stephanie Zahn Street and Apt. 1510 Postbridge Ct. Arlington, TX 76012 City, State, ZIP

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instruction





FROM

HINKLE SHANOR LLP

ATTORNEYS AT LAW

PO BOX 2068 · 218 MONTEZUMA SANTA FE, NEW MEXICO 87504

TO

William and Stephanie Zahn 1510 Postbridge Ct. Arlington, TX 76012

Affidavit of Publication

ATE OF NEW MEXICO COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

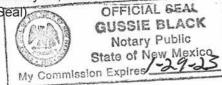
> Beginning with the issue dated November 14, 2021 and ending with the issue dated November 14, 2021.

Sworn and subscribed to before me this 14th day of November 2021.

Business Manager

My commission expires

January 29, 2023



This newspaper is duly qualified to publish notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE November 14, 2021

This is to notify all interested parties, including Donivan D. Crockett; Hayden G. Crockett; William Harrel Delafield, Jr.; Mary Ann Delafield Frazier; Gleason Wildcats, LLC; Donald Joseph Marczeski; Dorothy Ann Middaugh; Margaret Ann Morgan Lilly, Edward R. Lilly; Patricia Ann Morgan McNally; Leo Patrick Morgan, Jr.; Mary Carol Morgan; Sharon Y. Weisler; Crayton Weisler; William Marvin Zahn, Jr.; Stephanie Zahn; Darwin D. Crockett; Dorothy Fitzgerald; Walta Neuner Ocker; Keith Z. Neuner; Robert Franklin White, Sr., Rebecca Ann Gallun, Trustee of the Rebecca Ann Gallun Exempt Trust; Everett Bruce Lomax, Trustee of the Everett Bruce Lomax Exempt Trust; Kay Lomax Jerin, Trustee of the Kay Lomax Jerin Exempt Trust; Kathryn Ann Barwick Fox; Maxine E. Barber; Tom Barber; Rozella M. Jones; Arville O. Glenn, Jr.; Arlis E. Schleiger; Worth Fullingim; Rena F. Kerr; Rodean Gleason; Beal Gleason; Cleo Dickinson; James Don Dickinson; Barbara S. Dickinson; Grace G. Glenn; Prosperity State Bank, Successor to American State Bank, Trustee of the Willa Ruth Simmons Trust; Kenneth Edward Bennett and Frieda Johanna Bennett, Successors Trustees of the Bennett Family Living Trust; Lawrence A. Wangler, Trustee of the Wangler Trust: Sherry McCray, Trustee, McCray Family Trust; Oliver Falls; Melissa Glenn; Gerald Glenn; Bonnie Downing; Michael Goolsby; Cindy Corkins; Phillip Corkins; Melanie Caywood; Patsy Jean Howard Guinn; Doug Guinn; Dolores Davis; Don Glenn; Clark A. Glenn; Carolyn Taylor; Rex Glenn; Brenda Sue Ehlert Hayden; Marilyn K. Glenn; Toni Martin; Laura Oglesby; Claudia Moyers Jennifer Glenn; Cliff Glenn; Scott Alan Frost; Glenda King; Laura Hand; Alice Reed; Gary McCray; Janelle McCray; William F. Glenn, Ir: Patricia Horton: Reed; Gary McCray; Janelle McCray; William E. Glenn, Jr.; Patricia Horton; Lance Jackson; Tiffany Latner; Amanda McCasland; Amelia Jackson; Kathryn Ann Barwick Fox; Alvin Simpson; Christine Simpson; Worth Fullingim; Lawrence A. Wangler, Trustee of the Wangler Trust; Cindy Corkins; Phillip Corkins; and their successors and assigns that the New Mexico Oil Conservation Division will their successors and assigns that the New Mexico Oil Conservation Division will conduct a hearing on an application submitted by Manzano LLC (Case No. 22357). During the COVID-19 Public Health Emergency, state buildings are closed to the public and hearings will be conducted remotely. The hearing will be conducted on December 2, 2021 beginning at 8:15 a.m. To participate in the electronic hearing, see the instructions posted on the docket for that date. https://www.emnrd.nm.gov/ocd/hearing-info/. Applicant seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 Fast NMPM. Eddy County, New Mexico: and (2) authorizing Manzano to convert East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector. Applicant operates the following described wells within or near the Project Area:

• the Sodbuster 21 Fee #4H (API 30-025-43704) with a surface hole location at

200 FSL, 1650 FWL of Section 21 and a bottom hole location at 330 FNL, 1650

FWL of Section 21

• the Rag Mama 30-19 Fee #1 (API 30-025-44067) with a surface hole location at 25 FSL, 528 FEL of Section 30 and a bottom hole location at 2303 FSL, 394 FEL of Section 19; and
• The Vince BGH No. 1H (API No. 30-025-37104) located at 1980 FSL, 1750

FEL (Unit J) of Section 30

The wells are currently producing from the Jenkins San Andres Pool (Pool No. 33950). Applicant proposes to convert its Vince BGH No. 1H well from a producer into an injection well for pressure maintenance operations. Applicant plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince RGH No. 1H. Applicant does not applicable compatibility issues. The 19 Fee #1 into the San Andres formation through a closed system using the Vince BGH. No. 1H. Applicant does not anticipate compatibility issues. The injection interval of the Vince BGH No. 1H is 4840 feet to 4850 feet. Injection will provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well and will also reduce flaring. The expected average injection rate of produced gas into the Vince BGH No. 1H is 150 MCFGPD. The expected maximum injection rate is 1,000 MCFGPD to provide Manzano the option to inject more gas as the GOR increases or if Manzano drills additional wells in the Jenkins San Andres Pool. The expected average injection pressure of produced gas into the Vince BGH No. 1H is 500 psi and the proposed maximum injection pressure is 950 psi. Applicant's proposed pressure maintenance project can be conducted in a safe and responsible manner without causing waste, impairing correlative rights or and responsible manner without causing waste, impairing correlative rights or endangering fresh water, public health or the environment. The wells are located approximately 3 miles west of Crossroads, New Mexico.

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GILBERT HINKLE, SHANOR LLP PO BOX 2068 SANTA FE, NM 87504

MANZANO LLC

Case No. 22357

Exhibit A-4

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

SELF-AFFIRMED STATEMENT OF JOHN WORRALL

- 1. I am employed by Manzano LLC ("Manzano") as a geologist and am over 18 years of age and competent to provide this Self-Affirmed Statement. I have personal knowledge of the matters addressed herein. I am familiar with the Application in this case and with the geology matters pertaining to this Application. I have previously testified before the New Mexico Oil Conservation Division ("Division"), and my credentials as an expert in petroleum geology matters were accepted and made a matter of record.
- 2. Manzano's Application seeks an order: (1) approving a pressure maintenance project for the injection of produced gas through the Vince BGH #1 well into the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector.
- 3. Manzano operates the following described wells within or near the Project Area currently producing from the Jenkins San Andres Pool:

MANZANO LLC

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Exhibit B

- a. Sodbuster 21 Fee #4H (API 30-025-43704) horizontally drilled from a surface hole location at 200 FSL, 1650 FWL in Section 21 to a bottom hole location at 330 FNL, 1650 FWL in Section 21;
- b. Rag Mama 30-19 Fee #1 (API 30-025-44067) horizontally drilled from a surface hole location at 25 FSL, 528 FEL in Section 30 to a bottom hole location at 2303 FSL, 394 FEL in Section 19; and
- c. Vince BGH No. 1H (API No. 30-025-37104) ("Vince") vertically drilled at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 4. The perforated interval of the Rag Mama 30-19 Fee #1 is from 5,250' to 12,123'; the perforated interval of the Sodbuster 21 Fee #4H is from 5150 to 9,330; and the perforated interval of the Vince BGH No. 1H is 4840' to 4850'.
- 5. The Vince well currently produces 2 BOPD and 31 BWPD and is deemed uneconomic. Therefore, Manzano proposes to convert the well from a producer into an injection well to provide pressure maintenance support for the Rag Mama 30 19 Fee #1 well. Conversion of the well will also allow Manzano to attempt to eliminate flaring.
- 6. Manzano plans to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince BGH No. 1H at depths of 4840' to 4850' within the San Andres formation.
- 7. Accordingly, Manzano proposes the unitized interval be defined as the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation at depths of 4840' to 4850' as defined on the Manzano Vince BGH #1 well log provided on page 24 of Form C-108.
 - 8. The injection interval of the Vince BGH No. 1H well ("Vince") is 4840' to 4850'.

- 9. The productive zone immediately overlying the proposed injection interval is the San Andres formation with its top being at an approximate depth of 4000' TVD.
- 10. Page 22 of Form C-108 contains a structure map of the Project Area. The map shows the structural contours near the top of the P-1 dolomite within the San Andres formation. The map demonstrates the reservoir is relatively flat with a 40 feet of east dip per mile (a half degree slope).
- 11. Page 23 of Form C-108 contains an isopach map of the P-1 Dolomite interval within the San Andres formation. The San Andres formation is present from 4000 to 5460' within the Vince well. The interval from 4810 to 4900' is known as the P-1 dolomite which is a fine crystalline dolomite with 4% to 12% porosity and 20 to 100 ohm-m of resistivity. The interval has up to 100' of porosity greater than 6%. Oil and gas is stratigraphically trapped where this reservoir pinches out northward into anhydrite. The zone is also overlain by anhydrite and underlain by a tight limestone.
- 12. Page 21 of Form C-108 contains a cross-section of the target injection interval. The cross-sections demonstrate the injection interval is consistent and continuous across the formation underlying the Project Area. The cross-section also shows all lands within the proposed unit contain porous reservoir rock, and therefore, all lands within the proposed unit appear capable of contributing additional secondary recovery reserves.
- 13. From geologic studies performed over this area, the Project Area is well suited for pressure maintenance operations and the entire Project Area should continue to contribute enhanced recovery reserves.
- 14. There are no faults or other geologic impediments that would impede the efficiency of the Project.

- 15. Manzano's pressure maintenance project can be conducted in a safe and responsible manner without causing waste, impairing correlative rights or endangering fresh water, public health or the environment.
- 16. There are no water wells within one (1) mile of the proposed injection well. Page 26 of Form C-108 shows the nearest water wells are located 2.5 to 3.0 miles from the Vince well.
- 17. The water aquifer in the Project Area is the Ogalalla Red Beds. Page 25 of Form C-108 contains a map from Atkins Engineering of Roswell indicating the top of water is present at 4025' above sea level below the Vince well. This well has a drill floor elevation of 4183' where water is found at 158'. The map indicates there is approximately 25' of water in this area.
- 18. With respect to compatibility, the source of the gas to be injected will be produced gas from the **Sodbuster 21 Fee #4H** and **Rag Mama 30-19 Fee #1** wells drilled within or near the Project area. Gas analyses for the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 are provided on pages 19 and 20 of Form C-108 and show the two source wells produce a typical San Andres formation gas—the BTU content is 1059 to 1138 with nitrogen (4.4 to 8.1 Mole %), CO2 (13.1to15.3mole%) and H2S (2.1 to 2.4 mole %).
- 19. I do not expect any compatibility issues to arise from the proposed injection operations.
- 20. I have examined the available geological and engineering data and have found no evidence of open faults or hydrological connection between the proposed injection interval and any underground sources of drinking water.
- 21. Based on my professional training and experience, it is my opinion that the proposed injection operations will not impair any hydrocarbon-bearing zones. It is also my opinion

that injection fluids will be confined to the injection interval as a result of the stratigraphic confining layers above and below the injection zone.

- 22. In my opinion, the granting of Manzano's application would serve the interests of conservation, the prevention of waste, and the protection of correlative rights.
- 23. The exhibits referenced above were either prepared by me or under my supervision or were compiled from company business records.
- 24. I understand this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 23 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

John Worrall

11-22-2021

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

APPLICATION OF MANZANO LLC FOR APPROVAL OF A PRESSURE MAINTENANCE PROJECT AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 22357

SELF-AFFIRMED STATEMENT OF MIKE HANAGAN

- 1. I am the Operations Manger for Manzano LLC ("Manzano"). I am over 18 years of age and competent to provide this Self-Affirmed Statement. I have personal knowledge of the matters addressed herein. I am familiar with the Application in this case and with the engineering matters pertaining to this Application. I have previously testified before the New Mexico Oil Conservation Division ("Division"), and my credentials as an expert were accepted and made a matter of record.
- 2. Manzano's Application seeks an order: (1) approving a pressure maintenance project ("Project") for the injection of produced gas through the Vince BGH #1 well into the Jenkins San Andres pool (Pool Code 33950) within the San Andres formation in a project area ("Project Area") comprised of SE/4 of Section 30, Township 9 South, Range 35 East, NMPM, Eddy County, New Mexico; and (2) authorizing Manzano to convert the Vince BGH #1 well from a producing well to an injector.
- 3. Manzano operates the following described wells within or near the Project Area currently producing from the Jenkins San Andres Pool:
 - a. Sodbuster 21 Fee #4H (API 30-025-43704) horizontally drilled from a surface hole location at 200 FSL, 1650 FWL in Section 21 to a bottom hole location at 330 FNL, 1650 FWL in Section 21;

MANZANO LLC

Case No. 22357

Exhibit C

- b. Rag Mama 30-19 Fee #1 (API 30-025-44067) horizontally drilled from a surface hole location at 25 FSL, 528 FEL in Section 30 to a bottom hole location at 2303 FSL, 394 FEL in Section 19; and
- c. Vince BGH No. 1H (API No. 30-025-37104) vertically drilled at 1980 FSL, 1750 FEL (Unit J) of Section 30.
- 4. The injection interval of the Vince BGH No. 1H well ("Vince") is 4840' to 4850'.
- 5. Manzano proposes to convert its Vince well from a producer into an injection well for pressure maintenance operations for the purpose of; (1) mitigating the flaring of off-spec methane from our Rag Mama & Sodbuster wells, and (2) increasing the ultimate recovery of oil within the interval underlying the Project area.
- 6. Manzano proposes to inject produced gas from the Sodbuster 21 Fee #4 and Rag Mama 30-19 Fee #1 into the San Andres formation through a closed system using the Vince well at depths of 4840' to 4850' within the San Andres formation.
- 7. Specifications and a wellbore schematic for the Vince well is provided at pages 8-11of Form C-108. The Vince well will be adequately equipped for injection and the construction of the Well will protect fresh water and other hydrocarbon-bearing zones.
- 8. The expected average injection rate of produced gas into the Vince well is 150 MCFGPD. The expected maximum injection rate is 1,000 MCFGPD to provide Manzano the option to inject more gas as the GOR increases or if Manzano drills additional wells in the Jenkins San Andres pool.
- 9. The expected average injection pressure of produced gas into the Vince well is 500 psi and the proposed maximum injection pressure is 950 psi.
- 10. No additional stimulation is planned. The zone has already been acidized with 41,000 gallons of 15% NEFE acid.

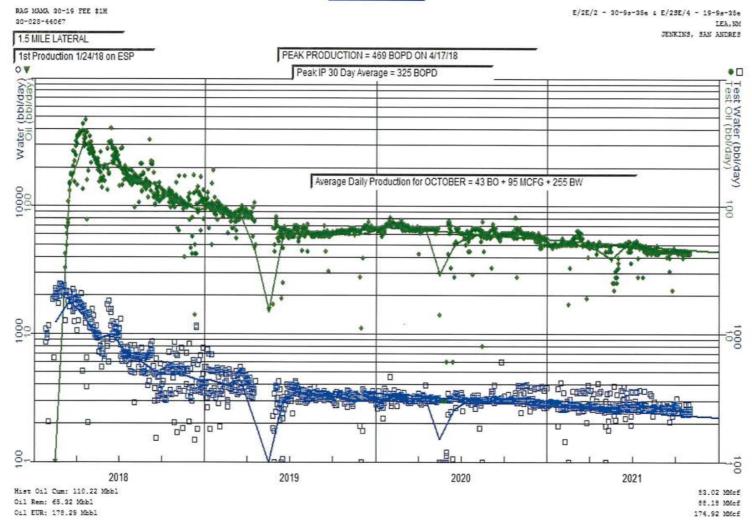
- 11. When we drilled and completed the Rag Mama 30 19 #1H, which at its nearest point is over 1200' east of the Vince, with a frac that included 5,155,137 lbs. of sand, we did not see any effect on the production in the adjacent Vince BGH #1 well. Therefore, the proposed area of the SE/4 of Section 30 is appropriate because the reservoir has low permeability; we do not believe the injected gas will affect reservoir pressure in a larger area. It will take time for the injected gas to affect the Rag Mama 30 19 #1H, but it should help to arrest decline in the well's production. Exhibit C-1, is a decline curve of the Rag Mama 30 19 #1H. Based on my professional training and experience, it is my opinion that production will further decline in the absence of pressure maintenance support.
- 12. Without approval of this application, Manzano, LLC will likely have to plug and abandon the Rag Mama 3019 #1H, the Vince BGH #1, and the Sodbuster 21 #1H wells, because there are no alternatives to comply with the NMOCD no flare rule in this area. This will result in a permanent waste of the oil and gas in these wells. Injection of the gas will allow for the gas that is currently flared to be safely stored in the reservoir, while potentially providing the added benefit of pressure support.
- 13. It is my opinion that injection operations within the Project are economically and technically feasible and that it is prudent to utilize pressure maintenance operations to maximize oil recovery.
- 14. Injection of produced gas into the Vince BGH No. 1H well will attempt to eliminate flaring.
- 15. Manzano has run an MIT test prior to commencing injection and will monitor pressure during injection.
- 16. The exhibits referenced above were either prepared by me or under my supervision or were compiled from company business records.

- 17. In my opinion, the granting of Manzano's application would serve the interests of conservation, the prevention of waste, and the protection of correlative rights.
- 18. I understand this Self-Affirmed Statement will be used as written testimony in this case. I affirm that my testimony in paragraphs 1 through 17 above is true and correct and is made under penalty of perjury under the laws of the State of New Mexico. My testimony is made as of the date handwritten next to my signature below.

Mike Hanagan

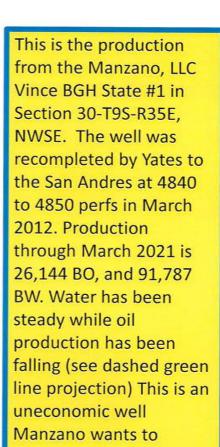
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RAG MAMA

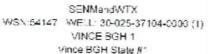


MANZANO LLC
Case No. 22357
Exhibit C-1

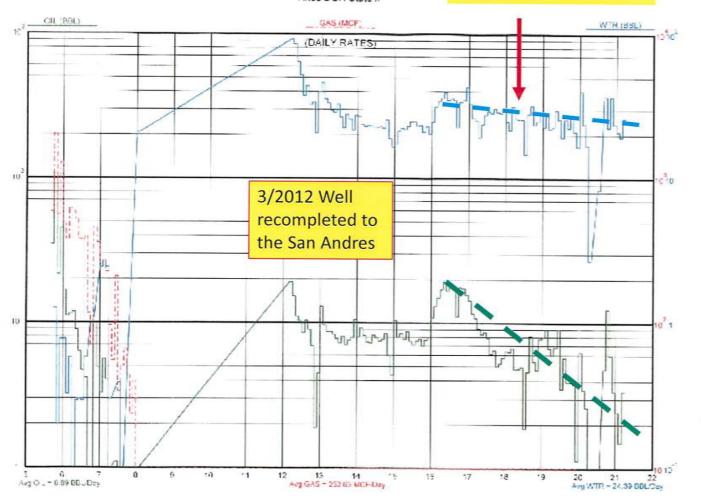
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convert to gas injection. .



2018, Manzano fraced the offset Rag Mama had no affect on production of the Vince.



This is the Targa pipeline system formerly of Agave, that goes to the Vince well. The Vince and Rag Mama wells are located at the northernmost end of this sytem. It is abandoned coming up to Manzano. Manzano has tried repeatedly to get the gas into this system for the last four years. Targa will not take this gas even if we give it to them.