Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

WELL API NO. 30-015-21486	
5. Indicate Type of Lease STATE ☒ FEE ☐	
6. State Oil & Gas Lease No. B-10715	
SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.) 1. Type of Well: Oil Well ☐ Gas Well ☐ Other Injection Well ☒	7. Lease Name or Unit Agreement Name ARTESIA STATE UNIT 8. Well Number 602
2. Name of Operator **Alamo Permian Resources, LLC**	9. OGRID Number **274841**
3. Address of Operator **415 W. Wall Street, Suite 500, Midland, TX 79701**	10. Pool name or Wildcat Artesia; Queen-Grayburg-San Andres
4. Well Location Unit Letter L : 1530 feet from the S line and 1310 feet from the W line Section 13 Township 18S Range 27E NMPM County EDDY	
	11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
OTHER: CLEAN-OUT, ADD PERFS, ACIDIZE ☒		OTHER: ☐	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

SEE ATTACHED

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Carie Stoker TITLE **Regulatory Affairs Coordinator** DATE 02/28/2015

Type or print name **CARIE STOKER** E-mail address: **carie@stokeroilfield.com** PHONE: **432.664.7659**

APPROVED BY: TITLE DATE 3/10/2015

Conditions of Approval (if any):

ALAMO PERMIAN RESOURCES, LLC

ARTESIA STATE UNIT #602 WIW
CLEAN-OUT, ADD PERFS, & ACIDIZE PROCEDURE

1. MIRU PU & BOP's. Be sure well is dead and blown down. If well tries to flow back – flow well back either into water truck(s) if flowback is weak, or via temporary poly line to Artesia State Unit Water Station inlet tank, if flowback appears to be strong. In either case, take flowback to Artesia State Unit Water Station inlet water tank.

2. **THIS WELL HAS 4-1/2" 10.5# J-55 PRODUCTION CASING.**
   We will need to use the 2-3/8" workstring for this workover.

3. In October & November 2013 we worked on the Artesia State Unit #602 WIW – unsuccessfully cleaning the well out to its PBTD at 1,996'. While attempting to pull the injection tubing & packer, we initially pulled out only a 4-1/2"x2-3/8" cup-type packer and 2-1/2 jts of 2-3/8" tubing which had parted. We learned that we had left 1-1/2 jts of 2-3/8" tubing and a Watson J-Lock injection packer in the well.

   After milling and fishing attempts, the tubing was caught with an overshot and the Watson J-Lock packer was released. The 1-1/2 jts of tbg and the top half of the packer was recovered – the top connection, top set of slips, & 4' of the packer mandrel. The packer rubbers, sleeve, bottom set of slips, and J-slot body were left in the hole. We then successfully milled up the packer rubbers and everything except approximately 1' of the packer mandrel. This piece of mandrel did not fall to bottom as it should have because it was setting on and imbedded in what we thought was a hard paraffin, iron sulfite, and sand plug in the casing. We subsequently found this fill covering all perfs in all of the other Artesia State Unit WIW's and it is a very dense dehydrated plug material consisting of paraffin, iron sulfide, black scale, salt, formation sand, and frac sand. The only way to get it cleaned out is to drill it out with a mill-toothed bit and drill collars using the Aztec Well Service reverse unit.

   During the 2013 workover, we were able to clean out down to 1,881' or just below the top 3 sets of perforations in the well in the QN-Loco Hills and GB-Upper Grayburg intervals. At this point, a new injection packer was set at 1,746' and the well was acidized with 1,554 gal of 15% HCl acid plus acid booster, demulsifiers, paraffin solvent, and scale inhibitor. A small job since we only had a small portion of the perforations open at that time.

   PROVIDE A DETAILED TALLY & DESCRIPTION OF TUBING, INJECTION PACKER AND ANY OTHER DOWNHOLE EQUIPMENT PULLED FROM THIS WELL IN THE MORNING REPORT FOR OUR RECORDS.

   Visually inspect Injection Tubing & Injection Packer coming out of hole. Send Injection Packer in for Repair/Replacement depending on condition.

Current Perforations:	1,794' – 1,980' (186' Overall interval) – 40' of perforations (80 holes).
Planned New Perforations:	**1,502' – 1,980' (478' Overall interval) – 50' of perforations (100 holes).**
Total Perfs after W/O:	**1,502' – 1,980' (478' Overall Interval) – 50' of perforations (180 holes).**

   See Wellbore Diagram for perforations detail – updated 02//2014.

4. Run in hole with cut-lip overshot or other suitable fishing tool and attempt to wash over and recover the 1' of packer mandrel. Hopefully the acid job during the last workover had some effect on the hard fill in the wellbore and fish will be free and able to be recovered.

5. Once fish is recovered – Run in hole with a 3-1/2" mill tooth skirted rock bit and 4-6 3-1/8" drill collars on 2-3/8" workstring along and drill out hard fill in wellbore using reverse unit and power swivel – circulating hole clean while drilling. Attempt to reach PBTD at 1,996' if possible. Catch samples of any material recovered from well and send to chemical company for analysis. Note any bridges or hard streaks in report. While at TD, circulate hole clean using clean produced water from Artesia State Unit or WAGU Water Injection Station before pulling out of hole.

6. Run in hole with a 3-1/2" mill tooth skirted rock bit and 4-1/2" rotating casing scraper on 2-3/8" workstring and clean off 4-1/2" production casing down to PBTD. POOH with bit and scraper.

7. RU **Warrior Energy Service Corp.** logging company and run cased-hole GR/CNL/CCL log for perforating and correlation from PBTD to base of Surface Casing at **322'**.

   Log should show porosity based on Sandstone Matrix, Dolomite Matrix, & Limestone Matrix.

   Email log directly from wellsite to **BOTH**: Pat Seale at pseale@alamoresources.com and Tom Fekete at jordanrubicon@msn.com.

   We will review GR/CNL/CCL log and perfs for correlation to old GRN/CCL log run on 03/17/1975, prior to perforating.

8. Perforate the **ARTESIA STATE UNIT #602 WIW** well over the following **10 intervals** using 3-1/8" Hollow-Carrier slick perforating guns with 19-grain charges:

Interval No.	Perf Interval Top	Bottom	No. of Ft	SPF	No. of Perfs	Zone
1	1,502'	1,512'	10'	2	20	QN – Penrose SS
2	1,794'	1,802'	8'	2	16	QN – Loco Hills SS
3	1,806'	1,811'	5'	2	10	QN – Loco Hills SS
4	1,874'	1,877'	3'	2	6	GB – Upper Grayburg
5	1,901'	1,904'	3'	2	6	GB – Metex
6	1,911'	1,917'	6'	2	12	GB – Metex
7	1,927'	1,932'	5'	2	10	GB – Metex
8	1,944'	1,948'	4'	2	8	GB – Metex
9	1,971'	1,974'	3'	2	6	GB – Metex
10	1,977'	1,980'	3'	2	6	GB – Metex
TOTALS			**50'**		**100 Perfs**	

9. **Acidize LOCO HILLS, UPPER GRAYBURG, & METEX Perforated Intervals from 1,794'- 1,980':**
   - **186' Overall;**
   - **40' of perforations**
   - **160 perforations (80 New + 80 Old perfs)**

   in 4 Stages using Rock Salt for Diversion of acid during Job.

   Acid Job Total:

   - **8,000 gal 15% NEFE HCl (190.5 Bbls)**
   - **200.1 gal/ft of perfs**
   - **50.0 gal/perf)**

   with acid booster, anti-sludge, paraffin solvent, scale inhibitor, and demulsifiers, **pumped at 5.0-6.0 BPM**.

   - Run in hole with Treating Packer on 2-3/8" workstring with Retrievable Bridge Plug setting tool and RBP below packer.

   - Set Treating Packer at approximately **1,750'**.

Acidize the perforations in 4 Stages using Rock Salt as diverting agent between Stages:

STAGE 1: **SPOT 126 gal 15% NEFE HCl (3.0 bbls)** across Perfs from 1,794'-1,980' (186') inside the 4-1/2" 10.5# production casing in the well.

Pick up Retrievable Packer and Set at approx. **1,750'**.

ACIDIZE STAGE 1 with a total of 3,200 gal 15% NEFE HCl (66.7 bbls) + additives, increasing pump rate after breakdown to 5.0-6.0 BPM.

PUMP 400# ROCK SALT in Artesia State Unit or WAGU produced water as Diverting Agent between Stage 1 and Stage 2.

STAGE 2: **PUMP 2,400 gal 15% NEFE HCl ACID (57.1 bbls) + additives at 5.0-6.0 BPM.**

PUMP 400# ROCK SALT in Artesia State Unit or WAGU produced water as Diverting Agent between Stage 2 and Stage 3.

STAGE 3: **PUMP 1,200 gal 15% NEFE HCl ACID (28.6 bbls) + additives at 5.0-6.0 BPM.**

PUMP 400# ROCK SALT in Artesia State Unit or WAGU produced water as Diverting Agent between Stage 3 and Stage 4.

STAGE 4: **PUMP 1,200 gal 15% NEFE HCl ACID (28.6 bbls) + additives at 5.0-6.0 BPM.**

Pump +/- **10.7 Bbls Fresh Water** to displace acid to bottom of perforations at **1,980'**.

Shut-in well and record Shut-In Pressures: Initial Shut-in; 5-minute S/I; 10-minute S/I; & 15-minute S/I.

Leave well Shut-in for 4 hours for acid to spend.

Flow back well into vacuum trucks until it lays down and dies. If well flows back more than 2 truck loads of water – hook up well to line and flowback to Artesia State Unit Water Station until it dies.

Release Treating Packer and POOH.

Run in Hole with Retrievable Bridge Plug and setting tool below Treating Packer.

10. **Acidize new PENROSE SANDSTONE perfs from 1,502' – 1,512':**
    - **10' Overall;**
    - **10' of perforations**
    - **20 perfs**

Acid Job Total:

- **1,500 gal 15% NEFE HCl (47.6 Bbls)**
- **175.0 gal/ft of perfs**
- **75.0 gal/perf)**

with acid booster, anti-sludge, paraffin solvent, scale inhibitor, and demulsifiers, **pumped at 5.0-6.0 BPM.**

Re-Set Retrievable Bridge Plug at approximately **1,560'**.

Set Treating Packer at approximately **1,450'**.

Pump **1,500 gal 15% NEFE HCl plus additives** down tubing at **5-6 BPM** after acid is on perfs and perfs have broken down.

Pump +/- **6.8 Bbls Fresh Water** to displace acid to bottom of perforations at **1,520'**. Shut-in well and record Shut-In Pressures: Initial Shut-in; 5-minute S/I; 10-minute S/I; & 15-minute S/I.

Shut well in 4 hours for acid to spend.

11. Open well up to flow back into vacuum trucks on location initially. Take the first 2 truckloads of flow back to commercial disposal site. If well should continue to flow back – tie well in to flow back to the Artesia State Unit Water Station inlet tank until it dies. May need to put pulling unit rig on standby during these flowback times in order to keep workover costs down.

12. Release Retrievable Treating Packer, go down and retrieve RBP & POOH with RBP, packer, and workstring. Have water truck on hand to kill well if it tries to come in during trip.

13. Trip in hole with 2-3/8" workstring with muleshoe on bottom & tag for fill to PBTD. Circulate hole clean with water truck using **Fresh Water** at least at least 2 times around in order to dissolve rock salt. POOH with workstring and muleshoe.

14. Run in hole with 2-3/8" internally plastic-coated injection tubing & 4-1/2" Baker Model AD-1 tension Injection Packer.

    Pressure test tubing to 5,000 psig while going in hole.

15. Pump & circulate approx. 75 Bbls of packer fluid into tbg/csg annulus – get clear returns.

    Set Baker Model AD-1 tension Injection Packer at a depth of approximately **1,450'.**

    PACKER MUST BE SET WITHIN 100' OF THE TOP INJECTION PERF AT 1,374' – NMOCD RULES.

16. ND BOP and NU injection wellhead.

    BE SURE TO REPLACE MASTER VALVE & TREE CAP VALVE WITH 2" FULL-OPENING BALL VALVES ON INJECTION WELLHEAD ASSEMBLY.

17. Pressure up on tubing/casing annulus to 500 psig with pressure recorder chart on pump truck. Hold and record pressure for 30 minutes for MIT. Have NMOCD REPRESENTATIVE on-site as a WITNESS for the MIT IF POSSIBLE. If not available, have chart to send to NMOCD.

18. Run Injection Test on well using produced water from Artesia State Unit or WAGU Water Station and pump truck. Have pressure chart recorder on truck for test. Pump 15 Bbls produced water into well at each of the following rates, allowing pump in pressure to stabilize before going to next rate. Record pump-in rates, volumes pumped, initial pressure, and final pressure for each Test Rate. DO NOT EXCEED 1,500 psig pumping pressure during test – if 1,500 psig is reached do not attempt next rate.

    Test Rates:
    - 0.25 BPM
    - 0.50 BPM
    - 0.75 BPM
    - 1.00 BPM
    - 1.50 BPM
    - 2.00 BPM

19. Once NMOCD approves MIT test run, hook well up to injection line and begin water injection.

H. Patrick Seale
February 25, 2015

ALAMO PERMIAN RESOURCES, LLC
WELLBORE DIAGRAM

Lease/Well No.: **ARTESIA STATE UNIT #602 WIW** ELEVATION, GL: 3,542 ft

Location: 1,530' FSL & 1,310' FWL
UL: L, SEC: 13, T: 18-S, R:27-E FIELD: **ARTESIA: QN-GB-SA**
EDDY County, NM

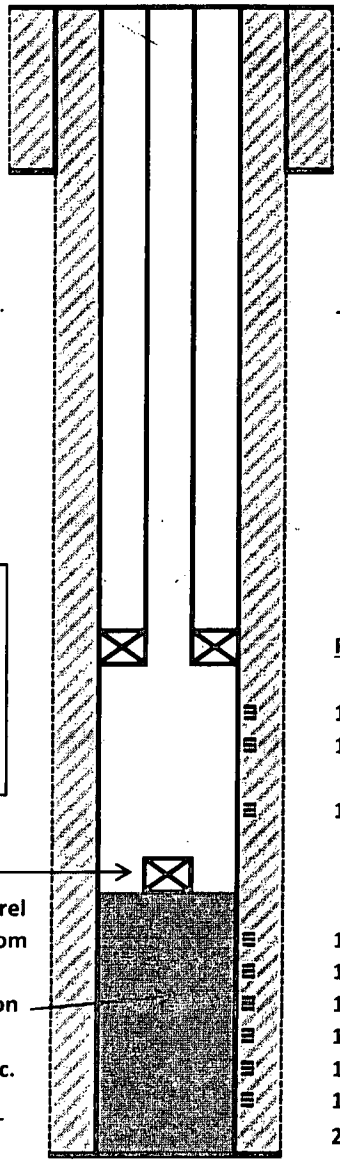
LEASE No.: State B-10715 Spudded: 3/11/1975

API No. : **30-015-21486** Drlg Stopped: 3/15/1975

Completed: 8/29/1975

ROTARY DRLG RIG LAT:

LONG:



12-1/4" HOLE

Surface Csg:
8-5/8" 24# J-55
Csg Set @ 322'
Cmt'd w/ 160 sx
+ 6 sx Redi-Mix

TOC @ Surface
Topped off

322' Csg

TOC @ Surface
Circulated 91 sx

7-7/8" HOLE

2-3/8" 4.7# J-55
IPC Tubing - 58 jts
Baker Model AD-1
Tension Packer
Set @ 1,745.66'
14,000# Tension
11/20/2013

FISH @ 1,881'
Bottom 1' of Mandrel
& Bottom Lugs from
J-Lock Pkr
Hard Fill Below: Iron
Sulfide, Sand,
Paraffin, Scale, Etc.
Covering Perfs

Production Csg:
4-1/2" 10.5# J-55
Csg Set @ 2,000'
Cmt'd w/ 660 sx

TOPS (TEF)	DEPTH, ft
YATES	
SEVEN RIVERS	
PENROSE	1,531
LOCO HILLS	1,792
GRAYBURG	1,817
METEX	1,900

PERFS:	Zone	SPF - # Holes	Date
1794 - 1802'	QN - Loco Hills	8' 2 spf - 16 holes	08/29/75
1806 - 1811'	QN - Loco Hills	5' 2 spf - 10 holes	08/29/75
1874 - 1877'	GB - Upper GB	3' 2 spf - 6 holes	08/29/75
1901 - 1904'	GB - Metex	3' 2 spf - 6 holes	08/29/75
1911 - 1917'	GB - Metex	6' 2 spf - 12 holes	08/29/75
1927 - 1932'	GB - Metex	5' 2 spf - 10 holes	08/29/75
1944 - 1948'	GB - Metex	4' 2 spf - 8 holes	08/29/75
1971 - 1974'	GB - Metex	3' 2 spf - 6 holes	08/29/75
1977 - 1980'	GB - Metex	3' 2 spf - 6 holes	08/29/75
2,000' Csg	*TOTALS:*	*40' -- 80 holes*	
1,996' PBTD			
2,000' TD			

Drilled by ANADARKO PROD. CO. as the ARTESIA STATE UNIT TRACT 6 #2 WIW.
Initial Water Injection: 08/29/1975 -- NMOCD Order #R-4907.
Renamed the ARTESIA STATE UNIT #602 WIW - 06/16/2011.
* ACTUAL CUM WI 12/31/2014 = 776.427 MBWI

Cumulative Prod. (12/31/14):

OIL	0.000	MBO
GAS	0.000	MMCF
WATER	0.000	MBW
INJECT.	612.110*	MBW

HPS: 02/25/2015

ARTESIA STATE UNIT #602 WIW

WELL PERFORATION, ACID JOB, FRAC JOB, & WELL TEST DETAILS

PERFS			ACID JOB(S)			FRAC JOB(S)						INITIAL POTENTIAL TEST			
TOP	BOTTOM	ZONE	DATE	ACID GALS	ACID TYPE	DATE	FRAC FLUID GALS	FLUID TYPE	SAND LBS	SAND SIZE	REMARKS	TEST DATE	OIL BOPD	GAS MCFD	WATER BWPD
1,794 1,806	1,802 1,811	QN-Loco Hills QN-Loco Hills	8/29/1975	504	15% HCl						26 perfs *19.4 gal/perf* 13 ft of perfs *38.8 gal/ft*				
1,874	1,877	GB-Upper GB	8/29/1975	COULD NOT TREAT THESE PERFS							6 perfs *0 gal/perf* 3 ft of perfs *0 gal/ft*				
1,901 1,911 1,927 1,944	1,904 1,917 1,932 1,948	GB-Metex GB-Metex GB-Metex GB-Metex	8/29/1975	1,008	15% HCl						36 perfs *28.0 gal/perf* 18 ft of perfs *56.0 gal/ft*				
1,971 1,977	1,974 1,980	GB-Metex GB-Metex	8/29/1975	252	15% HCl						12 perfs *21.0 gal/perf* 6 ft of perfs *42.0 gal/ft*				
1,794 1,806 1,874	1,802 1,811 1,877	QN-Loco Hills QN-Loco Hills GB-Upper GB	1/22/2014	1,554	15% NEFE HCl + Acid Booster, Demulsifiers, Paraffin Solvent, & Scale Inhibitor MATRIX ACID JOB Rate = 1.5 BPM Treating Pressure = 1,800 psig ASSUME ALL ACID TREATMENT WENT INTO UPPER PERFS - ABOVE FISH @ 1,881'. HARD PACKED FILL IN WELL BELOW FISH OF IRON SULFIDE, SAND, SCALE & PARAFFIN HAS BEEN FOUND TO BE IMPERMIABLE IN OTHER WATER INJECTION WELLS AT THE ARTESIA STATE UNIT.						32 perfs *48.6 gal/perf* 16 ft of perfs *97.2 gal/ft*				