

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

- [NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

IPI
- Alamo Permitt Resources
274841

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- [1] TYPE OF APPLICATION - Check Those Which Apply for [A]
 [A] Location - Spacing Unit - Simultaneous Dedication
 NSL NSP SD
 Check One Only for [B] or [C]
 [B] Commingling - Storage - Measurement
 DHC CTB PLC PC OLS OLM
 [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
 WFX PMX SWD IPI EOR PPR
 [D] Other: Specify _____

Well
- West Artesia
Grayburg Unit #1
30-015-02645
Pool
- Artesia, Queen
Grayburg - San
Andrews
3230

- [2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply
 [A] Working, Royalty or Overriding Royalty Interest Owners
 [B] Offset Operators, Leaseholders or Surface Owner
 [C] Application is One Which Requires Published Legal Notice
 [D] Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Tyler Woodruff Print or Type Name	 Signature	Senior Landman Title	9/29/14 Date
		twoodruff@alamoresources.com e-mail Address	



September 29, 2014

Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis drive
Santa Fe, New Mexico 87505

Attention: Ms. Jami Bailey, CPG
Division Director

Re: Injection Pressure Increase Application
Alamo Permian Resources, LLC
West Artesia Grayburg Unit Well No. 1
Pool: Artesia-Queen-Grayburg-San Andres Pool (3230)
Eddy County, New Mexico

Dear Ms. Bailey,

Alamo Permian Resources, LLC ("Alamo"; OGRID No. 274841), as current operator of the West Artesia Grayburg Unit Waterflood Project, located in portions of Sections 7, 8, & 17, Township 18 South, Range 28 East, NMPM, Eddy County, New Mexico, hereby requests administrative approval to increase the surface injection pressure for the West Artesia Grayburg Unit Well No. 1, API # 30-015-02645 ("WAGU Well No. 1").

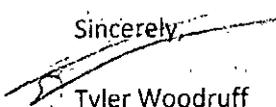
The WAGU Well No. 1 was approved for injection under Ordering Paragraph (1) of Division Order No. R-3357-C dated March 17, 2011. Pursuant to Ordering Paragraph (12) of Division Order No. R-3357-C, Alamo was approved a maximum surface injection pressure of 423 psi for the abovementioned well.

On August 27, 2014, Alamo conducted a step rate injection test on the WAGU Well No. 1. The performed step rate test indicates a surface fracture pressure of 1154 psi for the abovementioned well. Attached for your use and review is the Cardinal Surveys Company report on the step rate test performed on the WAGU Well No. 1.

Based on the results of the step rate test, Alamo, hereby requests authority to increase the maximum surface injection pressure to 1154 psi for the WAGU Well No. 1. The WAGU Well No. 1 will not take a sufficient volume of fluid at the current pressure limit and an approval of the proposed pressure increase will allow Alamo to effectively and efficiently conduct secondary recovery operations within the West Artesia Grayburg Unit Waterflood Project, thereby increasing the recovery of hydrocarbons from the Artesia-Queen-Grayburg-San Andres Pool (3230).

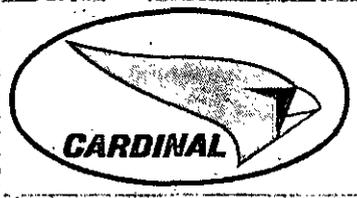
Should you have any questions or need any additional data, please do not hesitate to contact me.

Sincerely,


Tyler Woodruff
Senior Landman

CC: Randy Dade, OCD District II Supervisor

Step Rate Test



Cardinal Surveys Company

8/27/2014

Fracture @ 1042.2 BPD ✓
 2208.9 BHPSIA, ✓
 1154 Surf PSIA ✓

Alamo Resources
 WAGU # 1
 Wagu
 Eddy County, County,
 SC SC File # 21865
 Tool # Tool # CSCPSI2001.

Downhole PSI Tool Ser. No.
 Surface PSI Gauge Ser. No.
 Tool @ Tool @ 2100 ✓

SRT Results
1154 psi
 -50 psi safety
1104 psi

$\frac{1104 \text{ psi}}{1982 \text{ ft}} = 0.56 \text{ psi/ft}$

Start Time	End Time	Rate BPD	Comments
1	8:02 AM 9:30 AM		0 On Bottom
2	9:30 AM 10:00 AM	500	
3	10:00 AM 10:30 AM	700	
4	10:30 AM 11:00 AM	900	
5	11:00 AM 11:30 AM	1100	
6	11:30 AM 12:00 PM	1300	
7	12:00 PM 12:30 PM	1500	
8	12:30 PM 12:45 PM		0 Fall Off

Step Rate Test

Alamo Resources

WAGU #1

Wagu

Eddy County, County,



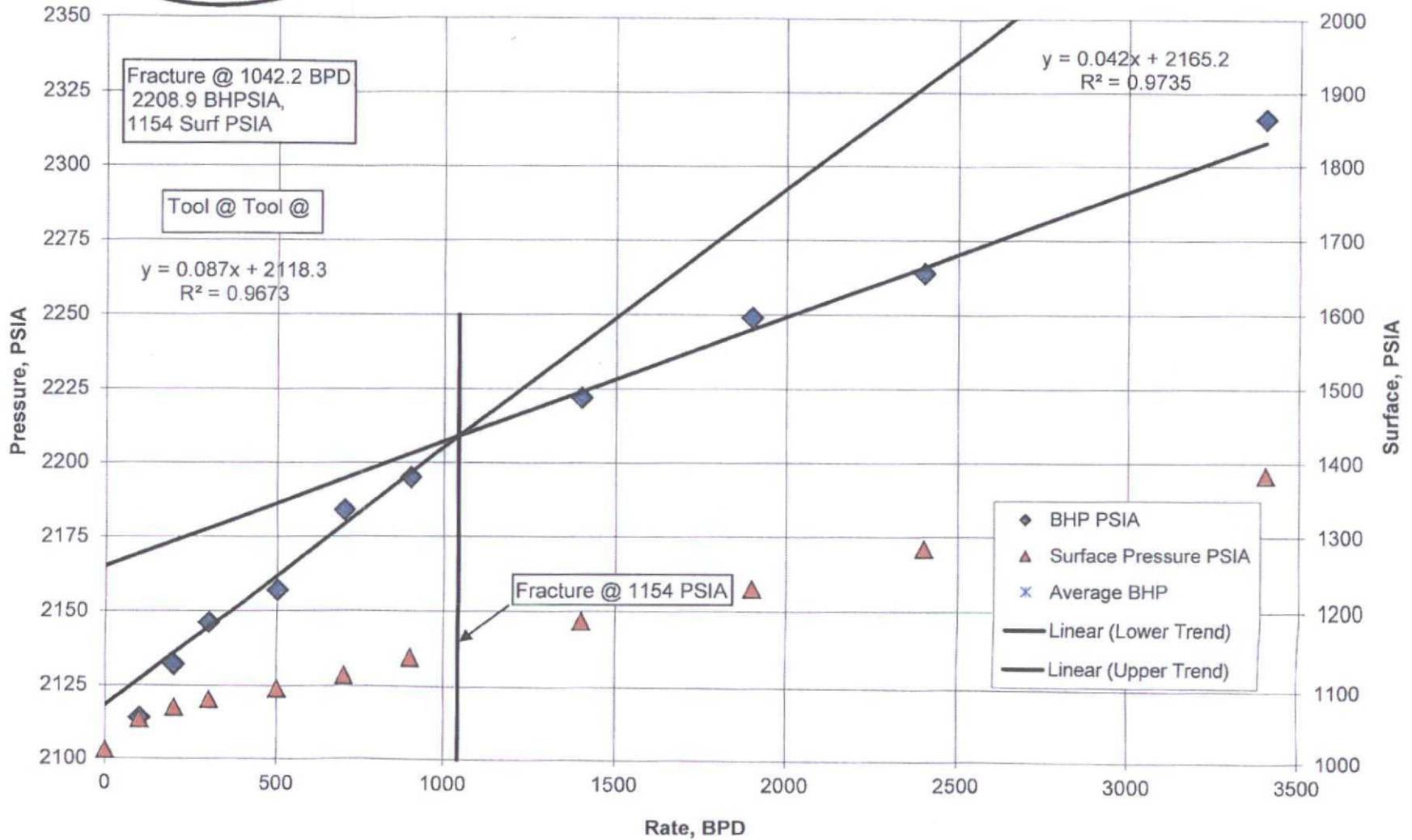
	S Time	E Time	D Time Min	Last Rate BPD	Step 1: Pressure		Surf PSIA	Cum. BBL	Delta BBL	Avg. BPD	Avg From Raw Data	Lower Trend	Upper Trend
					BPD	PSIA							
1	8:20 AM	9:00 AM	40	0	0	2047	1012	0	0	0			
2	9:00 AM	9:30 AM	30	100	100	2114	1054	3.9	3.9	187.2			
3	9:30 AM	10:00 AM	30	200	100	2132	1070	7.95	4.05	194.4			
4	10:00 AM	10:30 AM	30	300	100	2146	1081	14.2	6.25	300		2146	
5	10:30 AM	11:00 AM	30	500	200	2157	1096	25.6	11.4	547.2		2157	
6	11:00 AM	11:30 AM	30	700	200	2184	1114	41.3	15.7	753.6		2184	
7	11:30 AM	12:00 PM	30	900	200	2195	1138	61.3	20	960		2195	
8	12:00 PM	12:30 PM	30	1400	500	2222	1187	89.6	28.3	1358.4			2222
9	12:30 PM	1:00 PM	30	1900	500	2249	1230.1	131.4	41.8	2006.4			2249
10	1:00 PM	1:30 PM	30	2400	500	2264	1284.5	176.6	45.2	2169.6			2264
11	1:30 PM	2:00 PM	30	3400	1000	2316	1383.4	250.9	74.3	3566.4			
12	2:00 PM	2:15 PM	15	0	-3400	2287	1162	250.9	0	0			

0.0870 2118.3
0.042 2165.2

int point: 1042.222 BPD
2208.973 Psia

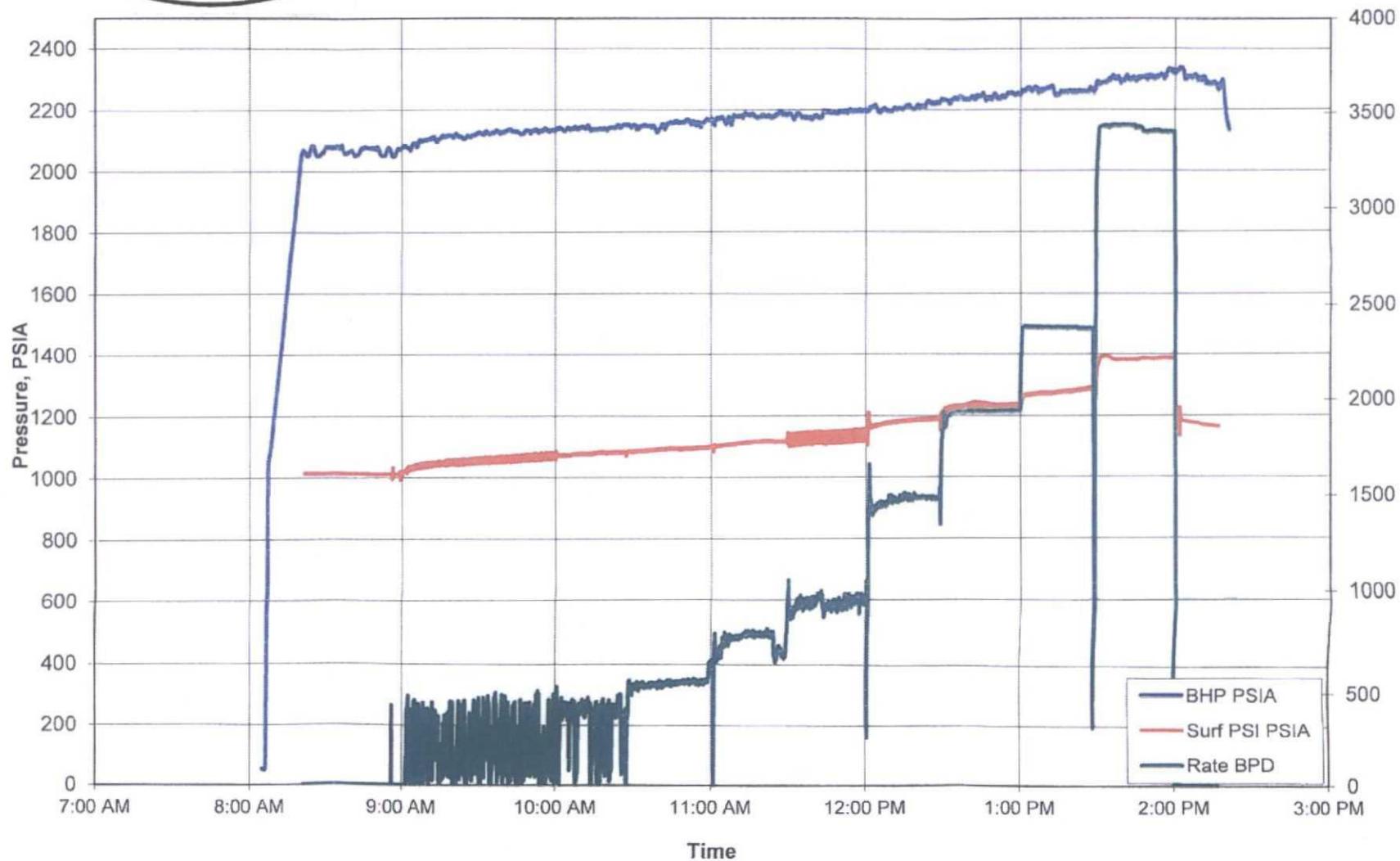


Alamo Resources WAGU # 1
Step Rate Test 8/27/2014





Alamo Resources WAGU # 1
Step Rate Test 8/27/2014



**ALAMO PERMIAN RESOURCES, LLC
WELLBORE DIAGRAM**

Lease/Well No. **WAGU No. 001 WIW** ELEVATION, GL: 3,633 ft
 Location: 990' FNL & 2,310' FWL
 UL: C, SEC: 8, T: 18-S, R: 28-E FIELD: ARTESIA: QN-GB-SA
 EDDY County, NM
 LEASE No. State OG-1644 Spudded: 10/3/1958
 API No.: 30-015-02645 Drlg Stopped: 10/26/1958
 Completed: 11/6/1958
 LAT:
 LONG:

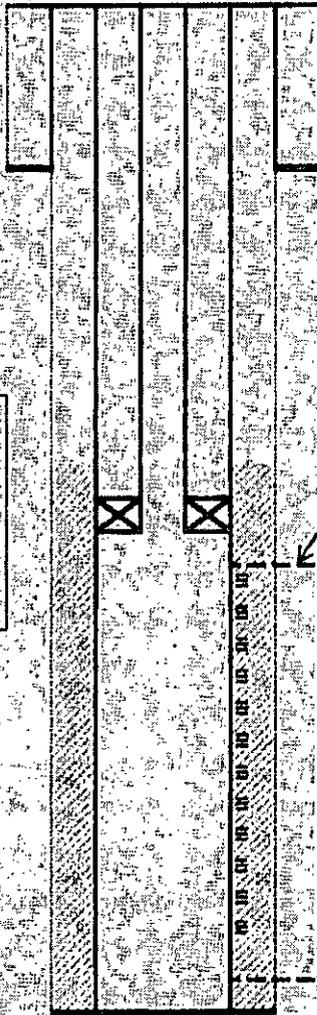
CABLE TOOLS

10" HOLE
 Surface Csg:
 8-5/8" 28#
 Csg Set @ 451'
 Cmt'd w/ MUD

2-3/8" 4.7# J-55
 IPC Tubing - 56 Jts
 Baker Model AD-1
 Tension Packer
 Set @ 1,816.02'
 15,000# Tension
 2/24/2014

*0.2 x 1981 = 396 / Admin
 423 psi for R-3357-C
 Tool at 2100'*

Production Csg:
 5 1/2" 15.5# J-55
 Csg Set @ 2,295'
 Cmt'd w/ 75 sx



TOC = No Cmt	TOPS	DEPTH, ft.
Csg Mudded	YATES	470
	SEVEN RIVERS	770
451'	QUEEN	1,416
	LOCO HILLS	1,981
	GRAYBURG	1,990
	SAN ANDRES	2,284

TOC Est'd @ 1,894'
 Calculated (75% SF)

PROPOSED INJECTION INTERVAL for WAGU #001 WIW:
 1,981' - 2,284'
INJECTION ZONES: LOCO HILLS, GRAYBURG, METEX, & PREMIER.

PERFS:	Zone	SPF - # Holes	Date
1982 - 2012	GB - Zone 12	30' 2 spf - 60 holes	10/23/09
2012 - 2050'	GB - Zone 11	38' 2 spf - 76 holes	10/23/09
2050 - 2068'	GB - Zone 10	18' 2 spf - 36 holes	10/23/09
2088 - 2096'	GB - Zone 9	8' 2 spf - 16 holes	10/23/09
2108 - 2133'	GB - Zone 8	25' 2 spf - 50 holes	10/23/09
2150 - 2159'	GB - Zone 7	9' 2 spf - 18 holes	10/23/09
2162 - 2165'	GB - Zone 6	3' 2 spf - 6 holes	10/23/09
2178 - 2180'	GB - Zone 5	2' 2 spf - 4 holes	10/23/09
2193 - 2218'	GB - Zone 4	25' 2 spf - 50 holes	10/23/09
2218 - 2242'	GB - Zone 3	24' 2 spf - 48 holes	10/23/09
2254 - 2258'	GB - Zone 2	4' 4 spf - 16 holes	11/06/58
2258 - 2264'	GB - Zone 1	6' 4 spf - 24 holes	11/06/58

TOTALS: 192' 404 holes
 2,295' Csg
 2,277' PBTD (02/21/14)
 2,297' TD

Originally Drilled as GULF STATE #1 by Ralph Nix & Jerry Curtis
 Renamed WAGU Tract 9 #1 - 03/21/68.
 Initial Water Injection: 11/09/68; Perfs: 2254-2264'
 Additional Perforations added in all GB Zones: 10/23/2009

Cumulative Prod. (04/30/13):
 OIL 11.657 MBO
 GAS 8.851 MMCF
 WATER 0.000 MBW
 INJECT. 193.604 MBW

HPS: 06/26/2014