

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
HOBBS OCD
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505
AUG 25 2017

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

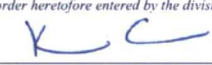
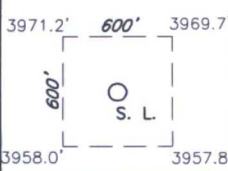
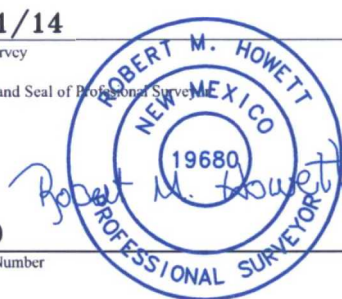
RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-43501		² Pool Code 96135		³ Pool Name SWD: Wolfcamp					
⁴ Property Code 317173		⁵ Property Name MALJAMAR 27 Federal SWD						⁶ Well Number 3	
⁷ OGRID NO. 229137		⁸ Operator Name COG OPERATING, LLC						⁹ Elevation 3962'	
¹⁰ Surface Location									
UL or lot no. N	Section 27	Township 17S	Range 32E	Lot Idn	Feet from the 225	North/South line SOUTH	Feet from the 2185	East/West line WEST	County LEA
¹¹ Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Dedicated Acres		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No. SWD-1608			

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

¹⁶ (B)		GEODETIC DATA NAD 27 GRID - NM EAST SURFACE LOCATION N 654810.5 - E 677644.7 LAT: 32.79882898° N LONG: 103.75521189° W		¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  8/22/17 Signature Date Kanicia Castillo Printed Name kcastillo@concho.com E-mail Address	
DETAIL "A" 		CORNER DATA NAD 27 GRID - NM EAST A: FOUND 2" IRON PIPE N 654576.2 - E 675461.0 B: FOUND 1/2" REBAR N 659858.7 - E 675431.5 C: FOUND BRASS CAP "1913" N 659876.2 - E 680701.5 D: FOUND BRASS CAP "1913" N 654597.3 - E 680736.5 E: FOUND BRASS CAP "1913" N 654587.3 - E 678099.0		¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 7/31/14 Date of Survey Signature and Seal of Professional Surveyor 	
SEE DETAIL "A" S. L. 2185' 225'		27		19680 Certificate Number	

RRC - Firm No.: TX 10193838 NM 4655451 - Job No.: LS140317

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

HOBBS OCD
AUG 25 2017
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1a. Type of Well ☐ Oil Well ☐ Gas Well ☐ Dry ☒ Other: INJ		5. Lease Serial No. NMLC057210
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____		6. If Indian, Allottee or Tribe Name
2. Name of Operator COG OPERATING LLC		7. Unit or CA Agreement Name and No.
Contact: KANICIA CASTILLO E-Mail: kcastillo@concho.com		8. Lease Name and Well No. MALJAMAR 27 FEDERAL SWD 3
3. Address 600 W ILLINOIS AVE ONE CONCHO CENTER MIDLAND, TX 79701	3a. Phone No. (include area code) Ph: 432-685-4332	9. API Well No. 30-025-43501
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface Lot N 225FSL 2185FWL At top prod interval reported below Lot N 225FSL 2185FWL At total depth Lot N 225FSL 2185FWL		10. Field and Pool, or Exploratory SWD;WOLFCAMP
14. Date Spudded 03/02/2017		11. Sec., T., R., M., or Block and Survey or Area Sec 27 T17S R32E Mer NMP
15. Date T.D. Reached 03/20/2017		12. County or Parish LEA
16. Date Completed ☐ D & A ☒ Ready to Prod. 06/05/2017		13. State NM
17. Elevations (DF, KB, RT, GL)* 3962 GL		
18. Total Depth: MD 10244 TVD 10244	19. Plug Back T.D.: MD TVD	20. Depth Bridge Plug Set: MD TVD
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CN, CBL, MUD LOG		22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☒ No ☐ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
6.125									
12.250	9.625 J55	40.0		2314		675			
8.750	7.000 L80	29.0		9650		1550			
17.500	13.375 J55	54.5	0	1118		775		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
4.500	9564	9599						

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP	9650	10244	9650 TO 10244			OPEN HOLE
B)						
C)						
D)						

26. Perforation Record

Depth Interval	Amount and Type of Material
9650 TO 10244	ACIDIZE W/ 31,000 GALS 15% WITH 10,000# ROCK SALT DIVERTER AND FLUSH W/500 GALS FRESH WATER.

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #385614 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
UNKNOWN

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
RUSTLER	999		SANDSTONE DOLOMITE & ANHYDRITE DOLOMITE & ANHYDRITE DOLOMITE DOLOMITE	RUSTLER	999
QUEEN	3358			QUEEN	3358
GRAYBURG	3740			GRAYBURG	3740
SAN ANDRES	4173			SAN ANDRES	4173
PADDOCK	5917			PADDOCK	5917
BLINEBRY	6457			BLINEBRY	6457
ABO	7942			ABO	7942
WOLFCAMP	9456			WOLFCAMP	9456

32. Additional remarks (include plugging procedure):
1st injection 8/2/17

Logs will be submitted in WIS.

OCD will receive hard copies via mail.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7 Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #385614 Verified by the BLM Well Information System.
For COG OPERATING LLC, sent to the Hobbs**

Name (please print) KANICIA CASTILLO

Title PREPARER

Signature _____ (Electronic Submission)

Date 08/22/2017

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

Additional data for EC transaction #385573 that would not fit on the form

32. Additional remarks, continued

9567. Set packer @ 9576. Top of packer @ 9567. Test casing to 1000# for 30 mins, good test. POP @ 6300.

6/5/17 MIRU. Pressure csg to 500#, record on chart for 30 mins. Good test.

8/2/17 1st injection. Inject 610bbls.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC057210
2. Name of Operator COG OPERATING LLC Contact: KANICIA CASTILLO E-Mail: kcastillo@concho.com		6. If Indian, Allottee or Tribe Name
3a. Address 600 W ILLINOIS AVE MIDLAND, TX 79701	3b. Phone No. (include area code) Ph: 432-685-4332	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 27 T17S R32E Mer NMP 225FSL 2185FWL		8. Well Name and No. MALJAMAR 27 FEDERAL SWD 3
		9. API Well No. 30-025-43501
		10. Field and Pool or Exploratory Area SWD;WOLFCAMP
		11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Drilling Operations
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

5/15/17 MIRU.
5/16/17 Run CBL from 9594 to surface.
5/17/17 Drill plug. Plug will not go down.
5/18/17 Work plug loose and put to 10,245.
5/19/17 MIRU wireline to run open hole logs. Could not get past 9570.
5/22/17 Set packer @ 9599. Test packer and casing to 4500#.
5/23/17 Acidize w/31,000 gals 15% with 10,000# rock salt diverter and flush with 500 gals of fresh water.
5/24/17 Tried to retrieve on/off tool. Well started flowing.
5/26/17 Well is dead.
5/30/17 RIH release packer.
6/01/17 RIH w/ 114jts 4-1/2, 12.75#, L80 Buttress tbj set @ 9564. Cross Over @ 9565. On/off tool @

14. I hereby certify that the foregoing is true and correct. Electronic Submission #385573 verified by the BLM Well Information System For COG OPERATING LLC, sent to the Hobbs	
Name (Printed/Typed) KANICIA CASTILLO	Title PREPARER
Signature (Electronic Submission)	Date 08/22/2017

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office _____

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

March 29, 2017

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Kanicia Castillo

HOBBS OCD
AUG 25 2017
RECEIVED

RE: **Maljamar 27 Federal SWD No. 003**

Please find enclosed a copy of the survey from 0' to 9600' ran on the above referenced well.

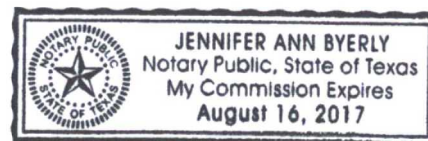
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 29th day of March, A.D., 2017, by Keith Havelka.

Jennifer Ann Byerly
Jennifer Ann Byerly
Notary Public, State of Texas



Company: COG OPERATING
Lease/Well: MALJAMAR 27 FEDERAL SWD No. /003



Rig Name: PATRIOT 6
State/County: NEW MEXICO/LEA
VS-Azi: 0.00 Degrees
Latitude: 32.79883, Longitude: -103.75521
Grid North = True North -0.31 degs (NAD 27)
Grid Correction Applied = -0.31 degs



Depth Reference : RKB=18 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: e-line gyro-de_01.ut
Minimum Curvature Method
Report Date/Time: 3/29/2017 / 10:53

VES Survey International
Midland, Texas
432-563-5444

Surveyor: Michael Cook
Maljamar 27 Federal SWD No. 003 / API 30-025-43501

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.22	171.80	100.00	-0.19	0.03	-0.19	0.20	171.80	0.22
200.00	0.27	45.12	200.00	-0.22	0.22	-0.22	0.31	134.18	0.44
300.00	0.05	252.94	300.00	-0.06	0.35	-0.06	0.36	100.04	0.32
400.00	0.14	344.97	400.00	0.04	0.28	0.04	0.28	81.85	0.15
500.00	0.22	33.06	500.00	0.31	0.35	0.31	0.47	48.41	0.16
600.00	0.22	93.31	600.00	0.46	0.65	0.46	0.80	54.73	0.22
700.00	0.74	58.08	699.99	0.79	1.39	0.79	1.60	60.44	0.57
800.00	0.51	37.98	799.99	1.48	2.21	1.48	2.66	56.20	0.31
900.00	1.02	31.81	899.98	2.59	2.95	2.59	3.93	48.80	0.51
1000.00	0.97	26.01	999.96	4.10	3.79	4.10	5.58	42.77	0.11
1100.00	1.37	16.93	1099.94	6.00	4.51	6.00	7.51	36.93	0.44
1200.00	1.20	15.00	1199.92	8.16	5.13	8.16	9.64	32.15	0.17
1300.00	1.18	10.89	1299.90	10.19	5.60	10.19	11.63	28.78	0.09
1400.00	1.36	17.46	1399.87	12.33	6.15	12.33	13.78	26.49	0.22
1500.00	1.13	13.64	1499.85	14.42	6.74	14.42	15.92	25.03	0.24
1600.00	1.05	30.77	1599.83	16.18	7.44	16.18	17.80	24.70	0.34

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	0.89	23.91	1699.82	17.68	8.22	17.68	19.50	24.95	0.20
1800.00	0.72	12.33	1799.81	19.00	8.67	19.00	20.89	24.54	0.23
1900.00	0.92	28.06	1899.80	20.33	9.19	20.33	22.31	24.32	0.30
2000.00	0.97	52.86	1999.78	21.55	10.24	21.55	23.86	25.42	0.41
2100.00	1.60	29.72	2099.76	23.27	11.61	23.27	26.01	26.51	0.81
2200.00	1.91	60.09	2199.71	25.32	13.75	25.32	28.81	28.50	0.97
2300.00	2.07	45.63	2299.65	27.41	16.48	27.41	31.99	31.02	0.52
2400.00	1.55	41.58	2399.60	29.69	18.67	29.69	35.07	32.17	0.53
2500.00	1.56	26.25	2499.57	31.91	20.17	31.91	37.75	32.29	0.41
2600.00	1.71	21.46	2599.53	34.52	21.32	34.52	40.57	31.69	0.20
2700.00	1.69	3.68	2699.48	37.38	21.96	37.38	43.35	30.43	0.53
2800.00	1.72	9.12	2799.44	40.34	22.29	40.34	46.09	28.92	0.16
2900.00	1.44	352.38	2899.40	43.06	22.36	43.06	48.52	27.44	0.54
3000.00	1.31	353.89	2999.37	45.44	22.07	45.44	50.52	25.91	0.13
3100.00	1.59	355.05	3099.34	47.97	21.83	47.97	52.70	24.47	0.28
3200.00	2.14	341.77	3199.29	51.13	21.12	51.13	55.32	22.45	0.70
3300.00	2.17	330.91	3299.22	54.56	19.62	54.56	57.98	19.78	0.41
3400.00	2.34	335.75	3399.14	58.08	17.86	58.08	60.76	17.09	0.25
3500.00	2.12	334.35	3499.06	61.60	16.22	61.60	63.70	14.75	0.23
3600.00	1.77	339.41	3599.01	64.71	14.88	64.71	66.40	12.95	0.39
3700.00	1.82	341.52	3698.96	67.67	13.83	67.67	69.07	11.55	0.08
3800.00	1.68	339.88	3798.91	70.56	12.82	70.56	71.71	10.30	0.15
3900.00	1.54	334.58	3898.87	73.15	11.74	73.15	74.09	9.12	0.21
4000.00	1.37	341.92	3998.84	75.49	10.79	75.49	76.26	8.14	0.25
4100.00	1.01	314.25	4098.82	77.24	9.79	77.24	77.86	7.22	0.66
4200.00	0.99	319.58	4198.80	78.52	8.60	78.52	78.99	6.25	0.10
4300.00	1.15	312.76	4298.78	79.86	7.30	79.86	80.19	5.22	0.20
4400.00	0.96	296.53	4398.77	80.92	5.81	80.92	81.12	4.11	0.36
4500.00	0.74	277.46	4498.76	81.37	4.42	81.37	81.49	3.11	0.35
4600.00	0.79	264.76	4598.75	81.39	3.10	81.39	81.45	2.18	0.17
4700.00	0.72	239.69	4698.74	81.02	1.87	81.02	81.04	1.32	0.33
4800.00	0.61	226.72	4798.73	80.34	0.94	80.34	80.34	0.67	0.19
4900.00	0.43	227.75	4898.73	79.72	0.28	79.72	79.72	0.20	0.18
5000.00	0.58	232.44	4998.72	79.16	-0.40	79.16	79.16	359.71	0.16
5100.00	0.29	225.66	5098.72	78.67	-0.99	78.67	78.67	359.28	0.29
5200.00	0.15	203.35	5198.72	78.37	-1.22	78.37	78.38	359.11	0.16
5300.00	0.34	231.93	5298.72	78.07	-1.51	78.07	78.08	358.89	0.22
5400.00	0.71	275.45	5398.72	77.94	-2.35	77.94	77.98	358.27	0.52
5500.00	0.45	272.45	5498.71	78.02	-3.36	78.02	78.09	357.53	0.26

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5600.00	0.77	292.90	5598.70	78.30	-4.37	78.30	78.42	356.81	0.38
5700.00	1.34	322.10	5698.69	79.48	-5.70	79.48	79.68	355.90	0.77
5800.00	1.89	334.38	5798.65	81.89	-7.13	81.89	82.20	355.02	0.65
5900.00	2.52	342.93	5898.57	85.48	-8.49	85.48	85.90	354.33	0.71
6000.00	3.38	345.39	5998.44	90.44	-9.88	90.44	90.98	353.76	0.87
6100.00	3.58	347.81	6098.26	96.35	-11.29	96.35	97.01	353.32	0.25
6200.00	2.45	336.49	6198.12	101.37	-12.80	101.37	102.18	352.80	1.27
6300.00	1.79	339.13	6298.05	104.80	-14.21	104.80	105.76	352.28	0.67
6400.00	0.91	238.90	6398.03	105.85	-15.45	105.85	106.97	351.70	2.15
6500.00	1.79	286.91	6498.00	105.90	-17.62	105.90	107.35	350.55	1.36
6600.00	2.12	341.68	6597.95	108.11	-19.70	108.11	109.89	349.67	1.82
6700.00	1.94	343.15	6697.89	111.49	-20.78	111.49	113.41	349.44	0.19
6800.00	2.41	346.13	6797.82	115.15	-21.77	115.15	117.19	349.29	0.47
6900.00	3.07	344.24	6897.70	119.77	-23.00	119.77	121.96	349.13	0.67
7000.00	2.80	333.50	6997.57	124.53	-24.82	124.53	126.98	348.73	0.61
7100.00	2.97	300.72	7097.45	128.04	-28.13	128.04	131.10	347.61	1.63
7200.00	1.82	323.40	7197.36	130.64	-31.31	130.64	134.34	346.52	1.47
7300.00	0.87	354.55	7297.34	132.67	-32.32	132.67	136.55	346.31	1.17
7400.00	1.84	9.58	7397.31	135.00	-32.13	135.00	138.77	346.61	1.03
7500.00	2.28	329.57	7497.25	138.31	-32.87	138.31	142.16	346.63	1.47
7600.00	2.20	291.37	7597.18	140.72	-35.67	140.72	145.17	345.78	1.47
7700.00	0.81	293.43	7697.14	141.70	-38.10	141.70	146.74	344.95	1.39
7800.00	0.72	322.61	7797.13	142.48	-39.13	142.48	147.76	344.64	0.40
7900.00	1.31	319.56	7897.11	143.85	-40.26	143.85	149.38	344.37	0.60
8000.00	0.57	303.10	7997.10	145.00	-41.42	145.00	150.79	344.06	0.79
8100.00	1.55	344.38	8097.08	146.57	-42.19	146.57	152.52	343.94	1.19
8200.00	0.57	83.77	8197.07	147.93	-42.06	147.93	153.79	344.13	1.74
8300.00	0.38	94.94	8297.07	147.96	-41.23	147.96	153.59	344.43	0.21
8400.00	0.42	85.23	8397.06	147.96	-40.53	147.96	153.41	344.68	0.08
8500.00	0.47	83.15	8497.06	148.04	-39.75	148.04	153.28	344.97	0.05
8600.00	0.44	76.73	8597.06	148.17	-38.97	148.17	153.21	345.26	0.06
8700.00	0.42	57.78	8697.06	148.46	-38.29	148.46	153.32	345.54	0.14
8800.00	0.70	45.96	8797.05	149.08	-37.53	149.08	153.73	345.87	0.30
8900.00	0.64	59.25	8897.04	149.80	-36.61	149.80	154.20	346.27	0.17
9000.00	0.34	52.09	8997.04	150.26	-35.90	150.26	154.49	346.56	0.31
9100.00	0.45	32.68	9097.04	150.77	-35.45	150.77	154.89	346.77	0.18
9200.00	0.89	23.86	9197.03	151.82	-34.93	151.82	155.78	347.04	0.45
9300.00	0.97	25.95	9297.02	153.29	-34.24	153.29	157.07	347.41	0.08
9400.00	0.70	23.66	9397.01	154.62	-33.62	154.62	158.23	347.73	0.27

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9500.00	0.72	8.67	9497.00	155.80	-33.28	155.80	159.31	347.94	0.19
9600.00	0.84	346.35	9596.99	157.13	-33.36	157.13	160.63	348.01	0.33



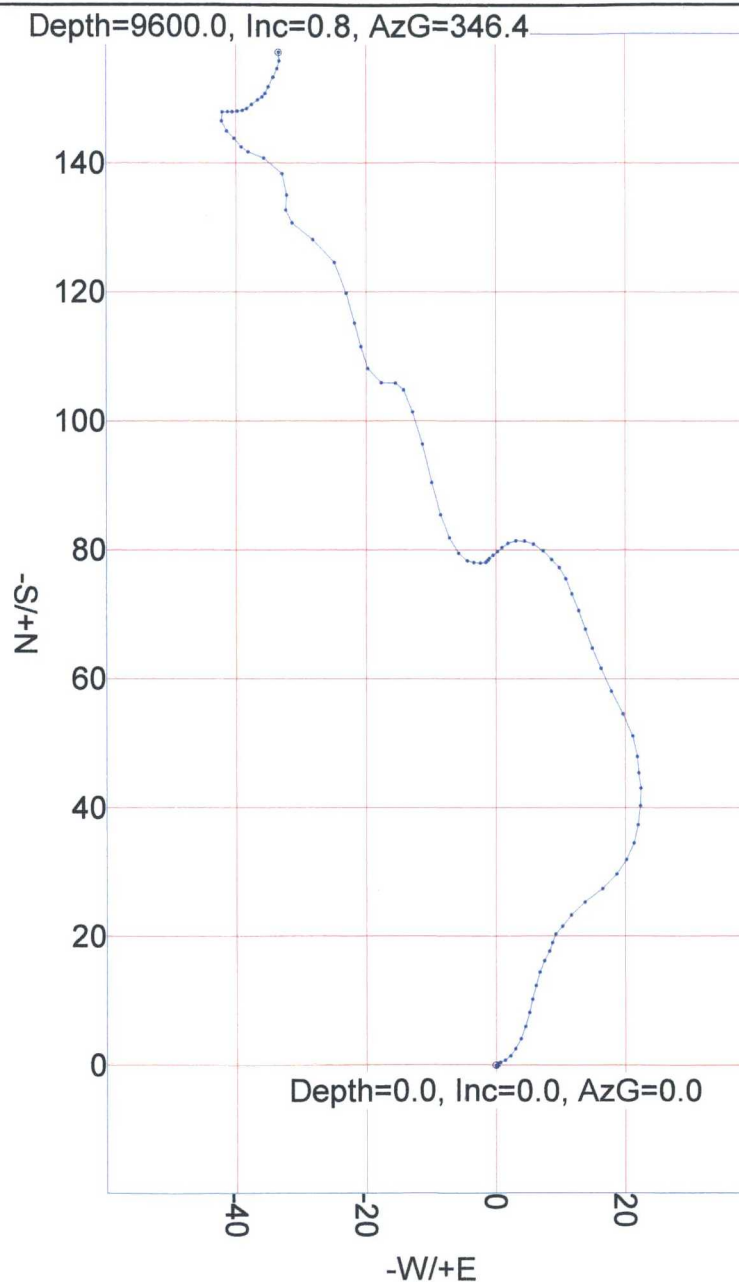
VES Survey International

Midland, Texas

432-563-5444

Surveyor: Michael Cook

Maljamar 27 Federal SWD No. 003 / API 30-025-43501



V.E.S. Survey Date: 3/21/2017



I Michael Cook certify that I am employed by VES Survey International. That I did on the day(s) of 03/22/17 through 03/22/17 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 9,600.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of COG Operating for the Maljamar 27 Federal SWD Well # 3 API # 30-025-43501 in Lea County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by VES Survey International.

A handwritten signature in blue ink, appearing to read "M. Cook", is written over a horizontal line.

Michael Cook
Service Technician
VES Survey International



PATRIOT DRILLING, LLC

OPERATOR: COG Operating, LLC
WELL/LEASE: Maljamar 27 Fed SWD # 3
COUNTY: Lea County New Mexico
Section 27, T17S, R32E

**STATE OF NEW MEXICO
DEVIATION REPORT**

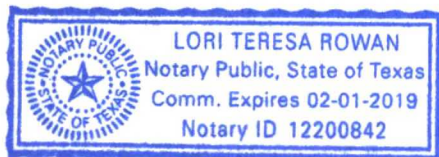
<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
261	1/2	6,866	3
502	1/4	7,055	3 1/4
810	1/2	7,339	1 1/2
1,047	1 1/4	7,622	2
1,758	1/2	8,191	1/2
2,242	2	8,381	3/4
2,431	1 3/4	8,950	3/4
2,966	1 1/4	9,329	1
3,690	2	9,507	1
4,349	1	9,994	2
5,040	1/2	10,080	2 1/2
5,385	1/2		
6,077	4		
6,489	1 1/4		

Patriot Drilling, LLC

M. Leroy Peterson, Executive Vice-
President

The foregoing instrument was acknowledged before me on this 27th day of March, 2017 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2019



Lori T. Rowan
Notary Public for Ector Co., Texas



Catalyst Oilfield Services
11999 E Hwy 158
Gardendale, TX 79758
(432) 563-0727
Fax: (432) 224-1038

OIL IN WATER ANALYSIS

Customer: COG Operating LLC - NM

Report Date: 7/8/2017

Area: Artesia

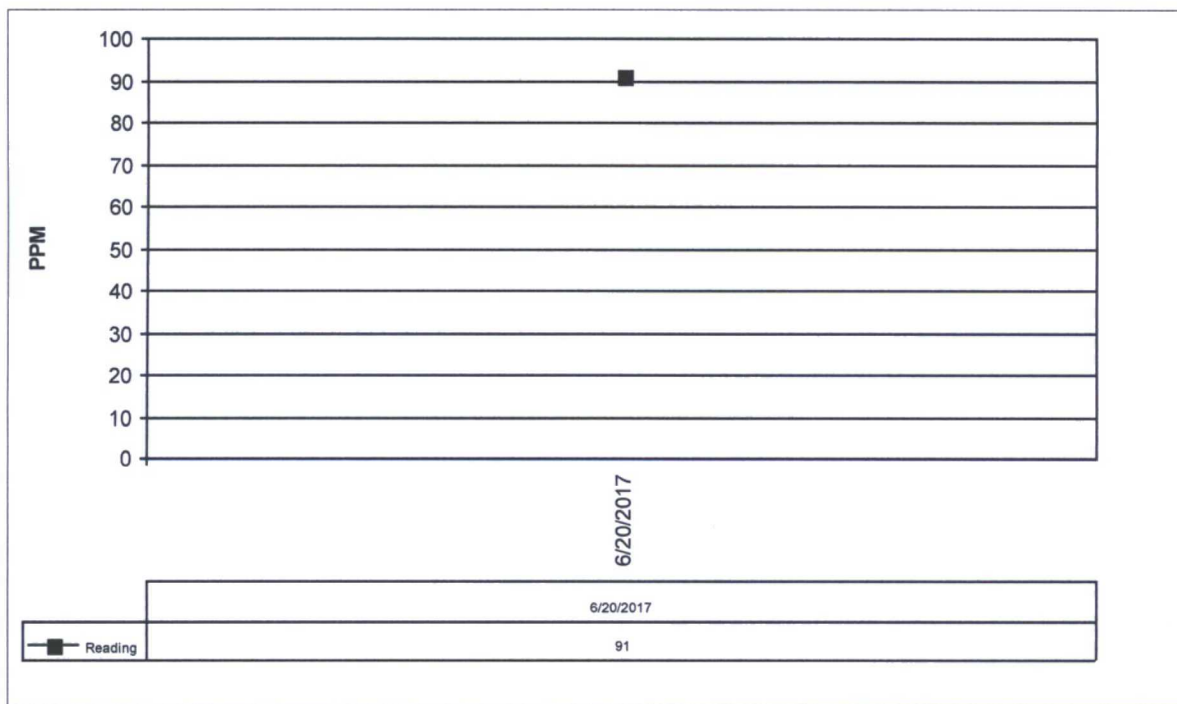
Date Range: 6/19/2017 - 7/9/2017

Lease: Maljamar

Location: 27 SWD #3

Sample Point: Wellhead

* Zero indicates no value



Comments: