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Farmington Field Office
Bureau of Land Management

CONFIDENTIAL
TIGHT HOLE

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Dry Other

b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff.Resvr,. Other

5. Lease Serial No.: NMSF077972

6. If Indian, Allotee or Tribe Name:

7. Unit or CA Agreement Name and No.:

2. Name of Operator: ENERGEN RESOURCES

8. Lease Name and Well No.: Richardson Navajo 27-13 10 #4H

3. Address: 2010 Afton Place, Farmington, NM 87401

3a. Phone No. *(include area code)*: 505-325-6800

9. API Well No.: 30-045-35242

4. Location of Well *(Report location clearly and in accordance with Federal requirements)**

At surface: 1281' FSL, 1385' FWL Sec. 11 T27N R13W (N) SE/SW

At top prod. interval reported below: 479' FSL, 115' FWL Sec. 11 T27N R13W (M) SW/SW

At total depth: 382' FSL, 255' FWL Sec.10 T27N R13W (M) SW/SW

10. Field and Pool, or Exploratory: Basin Mancos

11. Sec., T., R., M., or Block and Survey or Area: Sec.11,T27N,R13W - N.M.P.M.

12. County or Parish: San Juan

13. State: NM

14. Date Spudded	15. Date T.D. Reached	16. Date Completed	17. Elevations (DF, RKB, RT, GL)*
10/14/15	11/13/15	☐ D & A ☒ Ready to Prod. 12/08/15	5922' GL

18. Total Depth: MD / TVD	19. Plug Back T.D.: MD / TVD	20. Depth Bridge Plug Set: MD / TVD
10995' / 5267'	10942' / 5267'	

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

22. Was well cored? ☐ No ☐ Yes (Submit analysis)
Was DST run ☐ No ☐ Yes (Submit report
Directional Survey? ☐ No ☒ Yes (Submit copy)

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 Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.25"	9.625"	36#	0	351'		205 sx		surface	16 bbls
8.75"	7.0"	26#	0	6321'		860 sx		surface	40 bbls
6.125"	4.5"	11.6#	6147'	10990'		510 sx		6147'	25 bbls
6.125"	4.5"	11.6#	0	6147'	Tie back	0 sx			

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375"	6284'							

25. Producing Intervals / 26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Mancos/Niabrara C	5806'		6333.5'-10898' MD			
B)			See attachment.			
C)						
D)						

OIL CONS. DIV DIST. 3
DEC 18 2015

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
6333.5'-10898' MD	See Attached

ACCEPTED FOR RECORD
DEC 15 2015
FARMINGTON FIELD OFFICE
BY:

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
12/11/15	12/11/15	24							flowing

Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. →	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status
128/64	280#	600#		168	2465	955		

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. →	Oil BBL	Gas MCF	Water BBL	Gas: Oil Ratio	Well Status

(See instructions and spaces for additional data on page 2)

NMOCD

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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. →**	**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. →**	**Oil BBL**	**Gas MCF**	**Water BBL**	**Gas: Oil Ratio**	**Well Status**	

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

To be sold

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
				Nacimiento	Surface
				Ojo Alamo (est)	390' MD
				Kirtland (est)	501' MD
				Fruitland FM (est)	824' MD
				Pictured Cliffs (est)	1342' MD
				Lewis (est)	1477' MD
				Chacra (est)	2232' MD
				Huerfanito Bentonite(est)	1770' MD
				Cliff House	2916' MD
				Point Lookout	3919' MD
				Mancos Shale	4287' MD
				El Vado SS	4865' MD
				Niobrara A	5538' MD
				Niobrara B	5658' MD
				Niobrara C	5806' MD

32. Additional remarks (include plugging procedure):

33. Indicate which items have bee attached by placing a check in the appropriate boxes:

☐ Electrical/Mechanical Logs (1 full set req'd) ☐ Geologic Report ☐ DST Report ☒ Directional Survey

☐ Sundry Notice for plugging and cement verification ☐ Core Analysis ☐ Other:

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

Name *(please print)* Anna Stotts Title Regulatory Analyst

Signature Anna Stotts Date 12/14/15

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.

(Continued on page 3)

Richardson Navajo 27 13 10 #4H
30-045-35242
3160-4 Attachment

#26 Perforation Record, #27 Amount and Type of Material

10895'-10898' MD (RSI). Frac w/105653# of 20/40 sand.
10665.5'-10838' MD, .41" HD, 6 spf, 36 holes. Frac w/162086# of 20/40 sand
10437.5'-10610' MD, .41" HD, 6 spf, 36 holes. Frac w/229630# of 20/40 sand.
10209.5'-10382' MD, .41" HD, 6 spf, 36 holes. Frac w/232000# of 20/40 sand.
9981.5'-10154' MD, .41" HD, 6 spf, 36 holes. Frac w/232900# of 20/40 sand.
9753.5'-9926' MD, .41" HD, 6 spf, 36 holes. Frac w/231500# of 20/40 sand.
9525.5-9698' MD, .41 " HD, 6 spf, 36 holes. Frac w/ 228600# of 20/40 sand.
9297.5'-9470' MD, .41" HD, 6 spf, 36 holes. Frac w/236600# of 20/40 sand.
9069.5'-9242' MD, .41" HD, 6 spf, 36 holes. Frac w/229800# of 20/40 sand.
8841.5'-9014' MD, .41" HD, 6 spf, 36 holes. frac w/231500# of 20/40 sand.
8613.5'-8786' MD. .41" HD, 6 spf, 36 holes. Frac w/232800# of 20/40 sand.
8385.5'-8558' MD, .41" HD, 6 spf, 36 holes. Frac w/228300# of 20/40 sand.
8157.5'-8330' MD, .41" HD, 6 spf, 36 holes. Frac w/207100# of 20/40 sand.
7929.5'-8102' MD, .41" HD, 6 spf, 36 holes. Frac w/230800# of 20/40 sand.
7701.5';-7874' MD, .41" HD, 6 spf, 36 holes. Frac w/230200# of 20/40 sand.
7473.5'-7646' MD, .41" HD, 6 spf, 36 holes. Frac w/236500# of 20/40 sand.
7245.5'-7418' MD, .41" HD, 6 spf, 36 holes. Frac w/230000# of 20/40 sand.
7017.5'-7190' MD, .41" HD, 6 spf, 36 holes. Frac w/227500# of 20/40 sand.
6789.5'-6962' MD, .41" HD, 6 spf, 36 holes. Frac w/229190# of 20/40 sand.
6561.5'-6734' MD, .41" HD, 6 spf, 36 holes. Frac w/238000# of 20/40 sand.
6333.5'-6506' MD, .41" HD, 6 spf, 36 holes. Frac w/237731# of 20/40 sand.