

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Devon Energy Production Company, L.P. 333 West Sheridan Avenue, Okc, OK 73102		² OGRID Number 6137
		³ Reason for Filing Code/ Effective Date NW/ 6/8/14
⁴ API Number 30 - 015-41514	⁵ Pool Name Hackberry North; Bone Spring	⁶ Pool Code 97056
⁷ Property Code 38797	⁸ Property Name Rigel 20 Fed Com	⁹ Well Number 5H

II. ¹⁰ Surface Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
	19	19S	31E		480	N	190	E	Eddy

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	20	19S	31E		595	N	342	E	Eddy
¹² Lse Code F	¹³ Producing Method Code	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
036785	DCP Midstream P.O. Box 50020 Midland, TX 79710-0020	G
27842	Holly Frontier 10 Desta Drive, Ste 350W Midland, TX 79710	O
NM OIL CONSERVATION		
ARTESIA DISTRICT		
AUG 20 2014		
RECEIVED		

IV. Well Completion Data

²¹ Spud Date 2/25/14	²² Ready Date 6/8/14	²³ TD 12,835 8012	²⁴ PBTB 12,787	²⁵ Perforations 8235- 12,767	²⁶ DHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
26	20	470	1,099 sx		
17.5	13 3/8	2,460	2,305 sx		
12 1/4	9 5/8	4,002	1,945 sx		
8 3/4	5.5 Tubing: 2 7/8	12,835 7,696	2,760 sx		

V. Well Test Data

³¹ Date New Oil 6/13/14	³² Gas Delivery Date 6/13/14	³³ Test Date 6/23/14	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure 430	³⁶ Csg. Pressure 220
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method Flowing
	226	1169	645		

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Tami Laird*

Printed name:

Tami Laird

Title:

Regulatory Analyst

E-mail Address:

tami.laird@dmn.com

Date:

8/19/14

Phone:

405-228-2816

Approved by:

BR Dade

Title:

Dir. R. S. Peterson

Approval Date:

8-21-2014

Pending BLM approvals will subsequently be reviewed and scanned

Provide survey signature page

NM OIL CONSERVATION ARTESIA DISTRICT

AUG 20 2014

Form 3160-4
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMNM63362

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other			6. If Indian, Allottee or Tribe Name		
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____			7. Unit or CA Agreement Name and No.		
2. Name of Operator DEVON ENERGY CORPORATION E-Mail: tami.laird@devn.com			8. Lease Name and Well No. RIGEL 20 FED COM 5H		
3. Address 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102			9. API Well No. 30-015-41514		
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 19 T19S R31E Mer At surface 480FNL 190FEL Sec 19 T19S R31E Mer At top prod interval reported below 480FNL 190FEL Sec 20 T19S R31E Mer At total depth 595FNL 342FEL			10. Field and Pool, or Exploratory HACKBERRY N; BONE SPRING		
14. Date Spudded 02/25/2014			15. Date T.D. Reached 03/20/2014		11. Sec., T., R., M., or Block and Survey or Area Sec 19 T19S R31E Mer
16. Date Completed ☐ D & A ☒ Ready to Prod. 06/08/2014			12. County or Parish EDDY		
17. Elevations (DF, KB, RT, GL)* 3417 GL			13. State NM		
18. Total Depth: MD 12835 TVD 8012		19. Plug Back T.D.: MD 12787 TVD		20. Depth Bridge Plug Set: MD TVD	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NONE RAN			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 Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
26.000	20.000 J55	94.0	0	470		1099		0	
17.500	13.375 J55	61.0	0	2460		2305		529	
12.250	9.625 J55	40.0	0	4002		1945		2545	
8.750	5.500 HCP110	17.0	0	12835		2760		4995	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7696							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) RUSTLER	409	535	8235 TO 12767		360	OPEN
B) SALADO	535	1967				
C) TANSIL	1967	2105				
D) YTES	2105	2370				

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

Depth Interval	Amount and Type of Material
8235 TO 12767	32,014 GAL 15% HCL; 223,191# 100 MESH; 882,682# 40/70; 46,994# 20/40

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
06/13/2014	06/23/2014	24	→	226.0	645.0	1169.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. 430 SI	Csg. Press. 220.0	24 Hr. Rate →	Oil BBL 226	Gas MCF 645	Water BBL 1169	Gas:Oil Ratio 2854	Well Status POW	

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		

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

ELECTRONIC SUBMISSION #256926 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

Pending BLM approvals will subsequently be reviewed and scanned

** DATED **

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.)
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
RUSTLER	409	535	BARREN	RUSTLER	409
SALADO	535	1967	BARREN	SALADO	535
TANSIL	1967	2105	BARREN	TANSIL	1967
YTES	2105	2370	OIL	YTES	2105
SVRV	2370	2464	OIL	SVRV	2370
CAPITAN	2464	3243	OIL	CAPITAN	2464
QUEEN	3243	4336	OIL	QUEEN	3243
DLWR	4336	6534	OIL	DLWR	4336

32. Additional remarks (include plugging procedure):

1st BSLM 6536 7906 oil
1 BSS 7906 7977 oil
1st BSPG 7977 8140 oil
1st BSPG base 8140 8189 oil
1st BSPG mid 8189 Unknown oil

6/8/14: TOP.

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 #256926 Verified by the BLM Well Information System.
For DEVON ENERGY CORPORATION, sent to the Carlsbad

Name (please print) TAMI SHIPLEY

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 08/13/2014

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 **

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

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 reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM63362
2. Name of Operator DEVON ENERGY CORPORATION		6. If Indian, Allottee or Tribe Name
Contact: TAMI SHIPLEY E-Mail: tami.laird@dmn.com		7. If Unit or CA/Agreement, Name and/or No.
3a. Address 333 WEST SHERIDAN AVENUE OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-228-2816	8. Well Name and No. RIGEL 20 FED COM 5H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 19 T19S R31E 480FNL 190FEL		9. API Well No. 30-015-41514
		10. Field and Pool, or Exploratory HACKBERRY N; BONE SPRING
		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ 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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

5/3/14: MIRU frac equip. RU wireline.
5/6/14 - 5/11/14: 10 stage acid frac job. 8235' - 12,767'. 360 holes. 32,014 gal 15% HCL; 223,191#
100 mesh; 882,682# 40/70; 46,994# 20/40.
5/11/14: RDMO frac equip. Drill out plugs.
6/8/14: TOP.

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 20 2014

RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #257550 verified by the BLM Well Information System For DEVON ENERGY CORPORATION, sent to the Carlsbad	
Name (Printed/Typed) TAMI SHIPLEY	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 08/19/2014

THIS SPACE FOR FEDERAL OR STATE

Approved By _____
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.

Pending BLM approvals will
subsequently be reviewed
and scanned

Date

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person to knowingly and willfully 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.

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



Directional Survey AUG 20 2014

District DELAWARE BASIN	County EDDY	Field Name HACKBERRY	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC19 T19S R31E	3001541514	Latitude (°) 32° 39' 6.57" N	Longitude (°) 103° 54' 2.282" W	Ground Elev... 3,417.20
			KB - GL (ft) 26.20	Orig KB Elev (ft) 3,443.40
				Tubing Head Elevation (ft)

Wellbores				
Wellbore Name OH	Parent Wellbore	SAP Well-ID 34652	Kick Off Depth (ftKB) 7,370.0	Vertical Section Direction (°) 90.47
Actual Deviation Survey GYRO / MWD, Proposed? No	Definitive? No	Proposed? No	Proposed Deviation Survey	

Deviation Survey				
Date 3/12/2014	Description GYRO / MWD			
MD Tie In (ftKB) 0.00	TVD Tie In (ftKB) 0.00	Inclination Tie In (°) 0.00	Azimuth Tie In (°) 0.00	NSTie In (ft) 0.00
				EW Tie In (ft) 0.00

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
3/12/2014	100.00	0.57	57.11	100.00	0.42	0.27	0.42	0.57	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	200.00	0.61	61.21	199.99	1.30	0.80	1.30	0.06	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	300.00	0.54	64.81	299.99	2.18	1.25	2.19	0.08	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	400.00	0.72	67.37	399.98	3.19	1.70	3.20	0.18	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	500.00	0.73	66.00	499.97	4.34	2.20	4.36	0.02	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	600.00	0.92	58.99	599.96	5.61	2.87	5.63	0.21	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	700.00	1.00	56.59	699.95	7.02	3.76	7.05	0.09	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	800.00	1.11	61.48	799.93	8.59	4.71	8.63	0.14	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	900.00	0.93	65.52	899.92	10.17	5.51	10.22	0.19	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,000.00	0.89	71.90	999.90	11.65	6.08	11.70	0.11	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,100.00	0.87	96.56	1,099.89	13.14	6.24	13.19	0.38	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,200.00	0.96	88.13	1,199.88	14.73	6.18	14.78	0.16	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,300.00	1.17	83.37	1,299.86	16.58	6.32	16.63	0.23	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,400.00	1.20	80.22	1,399.84	18.62	6.62	18.68	0.07	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,500.00	1.46	78.38	1,499.81	20.90	7.05	20.96	0.26	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,600.00	1.41	75.43	1,599.78	23.33	7.62	23.40	0.09	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,700.00	1.37	79.09	1,699.75	25.69	8.16	25.76	0.10	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,800.00	1.44	81.34	1,799.72	28.10	8.57	28.18	0.09	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	1,900.00	1.12	85.03	1,899.70	30.32	8.84	30.39	0.33	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,000.00	0.94	89.99	1,999.68	32.11	8.93	32.19	0.20	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,100.00	0.56	91.31	2,099.67	33.42	8.92	33.49	0.38	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,200.00	0.47	103.87	2,199.67	34.31	8.81	34.38	0.14	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,300.00	0.36	110.50	2,299.67	35.00	8.60	35.07	0.12	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,400.00	0.39	115.91	2,399.66	35.60	8.34	35.67	0.05	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,500.00	0.38	139.95	2,499.66	36.13	7.94	36.19	0.16	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,600.00	0.49	159.02	2,599.66	36.50	7.29	36.56	0.18	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,700.00	0.58	181.04	2,699.66	36.65	6.38	36.70	0.22	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,800.00	0.56	178.90	2,799.65	36.66	5.39	36.70	0.03	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	2,900.00	0.60	172.08	2,899.65	36.75	4.38	36.79	0.08	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,000.00	0.63	179.67	2,999.64	36.83	3.31	36.86	0.09	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,100.00	0.67	170.70	3,099.63	36.94	2.18	36.96	0.11	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,200.00	0.70	178.36	3,199.63	37.06	1.00	37.07	0.10	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,300.00	0.67	179.03	3,299.62	37.10	-0.20	37.10	0.03	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,400.00	0.65	180.44	3,399.61	37.11	-1.35	37.10	0.03	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	3,500.00	0.57	181.74	3,499.61	37.10	-2.42	37.08			
3/12/2014	3,600.00	0.53	189.51	3,599.60	37.02	-3.37	3			
3/12/2014	3,700.00	0.61	205.95	3,699.60	36.72	-4.30	36			
3/12/2014	3,800.00	0.60	210.58	3,799.59	36.23	-5.23	36			
3/12/2014	3,900.00	0.58	190.62	3,899.59	35.87	-6.18	35.1			
3/12/2014	4,000.00	0.68	204.31	3,999.58	35.54	-7.22	35.4			
3/12/2014	4,100.00	0.45	215.03	4,099.58	35.08	-8.08	35.02	0.25	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,200.00	0.56	217.89	4,199.57	34.56	-8.79	34.49	0.11	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,300.00	0.55	220.07	4,299.57	33.96	-9.54	33.88	0.02	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,400.00	0.87	221.87	4,399.56	33.15	-10.47	33.07	0.32	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,500.00	0.96	223.51	4,499.55	32.08	-11.65	31.98	0.09	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,600.00	0.99	234.93	4,599.53	30.80	-12.75	30.70	0.20	GYRO	VAUHG N ENERGY SERVICES
3/12/2014	4,700.00	0.80	240.83	4,699.52	29.49	-13.59	29.38	0.21	GYRO	VAUHG N ENERGY SERVICES

Pending BLM approvals will
subsequently be reviewed
and scanned



Directional Survey

District DELAWARE BASIN	County EDDY	Field Name HACKBERRY	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC19 T19S R31E	API/UWI 3001541514	Latitude (°) 32° 39' 6.57" N	Longitude (°) 103° 54' 2.282" W	Ground Elev... 3,417.20
			KB - GL (ft) 26.20	Orig KB Elev (ft) 3,443.40
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
3/12/2014	4,800.00	0.88	238.65	4,799.51	28.23	-14.33	28.12	0.09	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	4,900.00	0.66	242.85	4,899.50	27.07	-14.99	26.95	0.23	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,000.00	0.74	248.49	4,999.49	25.96	-15.49	25.84	0.11	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,100.00	0.68	240.74	5,099.48	24.85	-16.02	24.72	0.11	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,200.00	0.69	233.63	5,199.48	23.85	-16.66	23.71	0.09	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,300.00	0.65	228.92	5,299.47	22.94	-17.39	22.80	0.07	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,400.00	0.48	197.11	5,399.47	22.40	-18.17	22.25	0.35	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,500.00	0.54	185.33	5,499.46	22.24	-19.04	22.08	0.12	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,600.00	0.51	195.83	5,599.46	22.08	-19.93	21.92	0.10	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,700.00	0.41	204.36	5,699.45	21.82	-20.69	21.65	0.12	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,800.00	0.46	235.09	5,799.45	21.35	-21.24	21.17	0.24	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	5,900.00	0.68	237.17	5,899.45	20.52	-21.79	20.35	0.22	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,000.00	0.60	242.58	5,999.44	19.57	-22.36	19.38	0.10	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,100.00	0.77	252.50	6,099.43	18.46	-22.80	18.28	0.21	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,200.00	1.08	267.05	6,199.42	16.88	-23.05	16.69	0.39	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,300.00	1.43	270.75	6,299.40	14.69	-23.08	14.51	0.36	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,400.00	1.67	275.09	6,399.36	11.99	-22.94	11.81	0.27	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,500.00	1.83	278.75	6,499.31	8.96	-22.57	8.78	0.20	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,600.00	1.79	282.74	6,599.26	5.86	-21.98	5.68	0.13	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,700.00	2.02	280.10	6,699.21	2.59	-21.32	2.42	0.25	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,800.00	1.86	277.91	6,799.15	-0.75	-20.79	-0.93	0.18	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	6,900.00	1.59	275.34	6,899.11	-3.75	-20.44	-3.91	0.28	GYRO	VAUGHN ENERGY SERVICES
3/12/2014	7,029.00	1.49	260.28	7,028.06	-7.18	-20.56	-7.35	0.32	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,123.00	1.41	256.67	7,122.03	-9.51	-21.03	-9.68	0.13	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,217.00	1.14	247.20	7,216.01	-11.49	-21.66	-11.67	0.36	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,280.00	1.06	244.98	7,278.99	-12.59	-22.15	-12.77	0.14	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,343.00	0.62	246.23	7,341.99	-13.43	-22.53	-13.61	0.70	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,375.00	0.88	113.23	7,373.99	-13.36	-22.70	-13.54	4.31	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,406.00	3.96	95.08	7,404.95	-12.07	-22.89	-12.26	10.12	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,438.00	7.65	91.25	7,436.79	-8.84	-23.03	-9.03	11.59	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,469.00	11.34	88.14	7,467.36	-3.73	-22.98	-3.92	12.01	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,501.00	14.68	86.09	7,498.53	3.46	-22.60	3.27	10.54	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,534.00	18.20	84.37	7,530.18	12.76	-21.81	12.58	10.77	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,565.00	21.46	85.21	7,559.33	23.22	-20.86	23.05	10.56	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,597.00	24.45	85.69	7,588.80	35.65	-19.87	35.49	9.36	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,629.00	27.17	86.12	7,617.60	49.54	-18.88	49.38	8.52	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,660.00	29.63	85.94	7,644.87	64.24	-17.86	64.09	7.94	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,692.00	32.10	86.72	7,672.33	80.61	-16.81	80.47	7.82	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,723.00	35.26	88.62	7,698.13	97.78	-16.12	97.65	10.74	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,754.00	37.99	90.43	7,723.01	116.26	-15.98	116.14	9.47	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,786.00	40.98	91.89	7,747.70	136.61	-16.40	136.48	9.78	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,817.00	44.14	92.24	7,770.53	157.56	-17.16	157.43	10.22	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,849.00	46.25	91.40	7,793.08	180.26	-17.88	180.12	6.85	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,880.00	48.80	91.35	7,814.01	203.12	-18.42	202.98	8.23	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,912.00	51.35	90.59	7,834.55	227.66	-18.84	227.51	8.17	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,943.00	54.08	90.08	7,853.33	252.32	-18.98	252.17	8.90	MWD	PATHFINDER ENERGY SE...
3/12/2014	7,974.00	56.89	90.26	7,870.89	277.86	-19.06	277.71	9.08	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,006.00	60.59	90.48	7,887.49	305.21	-19.23	305.06	11.58	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,037.00	64.46	90.57	7,901.79	332.71	-19.49	332.56	12.49	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,069.00	67.80	91.51	7,914.74	361.96	-20.02	361.81	10.78	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,100.00	70.52	92.57	7,925.77	390.92	-21.05	390.76	9.34	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,132.00	72.02	92.61	7,936.04	421.21	-22.42	421.04	4.69	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,163.00	72.28	92.83	7,945.54	450.69	-23.82	450.51	1.08	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,195.00	73.78	91.08	7,954.89	481.28	-24.87	481.10	7.02	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,226.00	77.03	89.93	7,962.70	511.28	-25.13	511.09	11.08	MWD	PATHFINDER ENERGY SE...



Directional Survey

District DELAWARE BASIN	County EDDY	Field Name HACKBERRY	Project Group DELAWARE BASIN REG	State/Province NM
Surface Legal Location SEC19 T19S R31E	API/UWI 3001541514	Latitude (") 32° 39' 6.57" N	Longitude (") 103° 54' 2.282" W	Ground Elev... 3,417.20
			KB - GL (ft) 26.20	Orig KB Elev (ft) 3,443.40
				Tubing Head Elevation (ft)

Survey Data

Date	MD (ftKB)	Incl (")	Azm (")	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DL/S ("/100ft)	Survey Tool	Survey Company
3/12/2014	8,258.00	80.64	88.83	7,968.89	542.66	-24.79	542.48	11.77	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,352.00	87.41	87.36	7,978.67	636.01	-21.67	635.86	7.37	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,447.00	89.34	87.88	7,981.36	730.85	-17.73	730.73	2.10	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,542.00	89.25	89.64	7,982.53	825.80	-15.67	825.70	1.85	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,636.00	89.43	90.26	7,983.62	919.79	-15.59	919.69	0.69	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,731.00	89.87	89.99	7,984.20	1,014.79	-15.80	1,014.69	0.54	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,825.00	90.31	89.99	7,984.05	1,108.78	-15.78	1,108.69	0.47	MWD	PATHFINDER ENERGY SE...
3/12/2014	8,919.00	89.25	90.26	7,984.41	1,202.78	-15.99	1,202.69	1.16	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,014.00	88.20	90.96	7,986.52	1,297.75	-17.00	1,297.66	1.33	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,108.00	87.67	90.70	7,989.91	1,391.69	-18.36	1,391.59	0.63	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,202.00	87.41	90.78	7,993.95	1,485.60	-19.57	1,485.49	0.29	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,297.00	87.67	90.78	7,998.02	1,580.51	-20.86	1,580.40	0.27	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,391.00	90.13	91.31	7,999.83	1,674.48	-22.58	1,674.35	2.68	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,485.00	90.40	91.22	7,999.39	1,768.47	-24.65	1,768.33	0.30	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,580.00	90.84	90.26	7,998.37	1,863.47	-25.88	1,863.32	1.11	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,674.00	89.08	91.31	7,998.43	1,957.46	-27.17	1,957.30	2.18	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,769.00	88.90	91.14	8,000.11	2,052.44	-29.20	2,052.27	0.26	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,862.00	89.08	91.58	8,001.74	2,145.41	-31.41	2,145.22	0.51	MWD	PATHFINDER ENERGY SE...
3/12/2014	9,957.00	89.09	91.58	8,003.26	2,240.38	-34.03	2,240.18	0.01	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,052.00	88.55	91.22	8,005.22	2,335.35	-36.35	2,335.13	0.68	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,147.00	88.37	91.49	8,007.77	2,430.30	-38.59	2,430.07	0.34	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,241.00	88.02	91.31	8,010.73	2,524.24	-40.89	2,523.99	0.42	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,335.00	87.58	89.82	8,014.34	2,618.17	-41.81	2,617.91	1.65	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,430.00	88.02	89.11	8,017.99	2,713.08	-40.93	2,712.84	0.88	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,524.00	89.52	89.91	8,020.01	2,807.05	-40.12	2,806.81	1.81	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,619.00	91.54	90.43	8,019.13	2,902.04	-40.40	2,901.80	2.20	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,713.00	91.01	91.14	8,017.03	2,996.01	-41.69	2,995.77	0.94	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,808.00	90.22	90.87	8,016.02	3,091.00	-43.36	3,090.75	0.88	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,903.00	90.31	91.49	8,015.58	3,185.99	-45.31	3,185.73	0.66	MWD	PATHFINDER ENERGY SE...
3/12/2014	10,997.00	89.69	90.17	8,015.58	3,279.99	-46.68	3,279.71	1.55	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,091.00	89.69	90.70	8,016.08	3,373.98	-47.39	3,373.71	0.56	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,186.00	89.78	90.17	8,016.52	3,468.98	-48.11	3,468.70	0.57	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,281.00	89.69	89.99	8,016.96	3,563.98	-48.24	3,563.70	0.21	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,375.00	89.34	89.73	8,017.76	3,657.97	-48.01	3,657.70	0.46	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,467.00	89.34	89.47	8,018.82	3,749.95	-47.37	3,749.69	0.28	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,564.00	89.43	89.29	8,019.86	3,846.93	-46.32	3,846.68	0.21	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,659.00	89.08	90.34	8,021.10	3,941.91	-46.02	3,941.67	1.16	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,753.00	89.08	90.52	8,022.60	4,035.90	-46.72	4,035.66	0.19	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,847.00	90.92	91.14	8,022.60	4,129.90	-48.08	4,129.64	2.07	MWD	PATHFINDER ENERGY SE...
3/12/2014	11,942.00	90.66	91.14	8,021.29	4,224.88	-49.97	4,224.61	0.27	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,037.00	89.60	90.52	8,021.08	4,319.88	-51.35	4,319.60	1.29	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,131.00	89.96	90.17	8,021.44	4,413.88	-51.91	4,413.60	0.53	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,225.00	90.31	89.73	8,021.22	4,507.87	-51.83	4,507.60	0.60	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,320.00	89.60	90.17	8,021.29	4,602.87	-51.75	4,602.60	0.88	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,414.00	89.25	90.17	8,022.24	4,696.86	-52.03	4,696.59	0.37	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,509.00	90.13	89.82	8,022.75	4,791.85	-52.02	4,791.59	1.00	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,604.00	91.28	89.82	8,021.58	4,886.84	-51.72	4,886.58	1.21	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,698.00	92.59	90.61	8,018.41	4,980.78	-52.07	4,980.52	1.63	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,756.00	92.95	90.52	8,015.60	5,038.71	-52.65	5,038.45	0.64	MWD	PATHFINDER ENERGY SE...
3/12/2014	12,835.00	92.95	90.52	8,011.54	5,117.61	-53.36	5,117.34	0.00	BIT	PATHFINDER ENERGY SE...