

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, Oklahoma City, OK 73102		² OGRID Number 6137
		³ Reason for Filing Code/ Effective Date NW / 6/26/15
⁴ API Number 30-015-42551	⁵ Pool Name Los Medanos; Bone Spring	⁶ Pool Code 40295
⁷ Property Code 33079	⁸ Property Name Apache 24-23 Fed Com	⁹ Well Number 12H

II. ¹⁰ Surface Location

UL or lot no. P	Section 24	Township 22S	Range 30E	Lot Idn	Feet from the 920	North/South line South	Feet from the 330	East/West line East	County Eddy
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¹¹ Bottom Hole Location

UL or lot no. O	Section 23	Township 22S	Range 30E	Lot Idn	Feet from the 734	North/South line South	Feet from the 2134	East/West line East	County Eddy
¹² Lsc Code F	¹³ Producing Method Code F	¹⁴ Gas Connection Date 6/26/15	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
035246	Shell Trading (US) Company P.O. Box 4604 Houston, TX 77210	Oil
036785	DCP Midstream P.O. Box 50020 Midland, TX 79710-0020	Gas
NM OIL CONSERVATION ARTESIA DISTRICT JUL 29 2015 RECEIVED		

IV. Well Completion Data

²¹ Spud Date 3/11/15	²² Ready Date 6/26/15	²³ TD 17848	²⁴ PBTB 17757	²⁵ Perforations 11139 - 17740	²⁶ DHC, MC
²⁷ Hole Size 17-1/2"	²⁸ Casing & Tubing Size 13-3/8"	²⁹ Depth Set 587	³⁰ Sacks Cement 720 sx CIC; Circ 384 sx		
12-1/4"	9-5/8"	3854	1630 sx Cement; Circ 540 sx		
8-3/4"	7"	11025	1190 sx CIC + 205 sx CIH; Circ 108 sx		
6"	4-1/2"	17846	615 sx CIH; Circ 3 bbls		

V. Well Test Data

Tubing: 2-7/8"

³¹ Date New Oil 7/22/15	³² Gas Delivery Date 7/22/15	³³ Test Date 7/22/15	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure 2800 psi	³⁶ Csg. Pressure 0 psi
³⁷ Choke Size	³⁸ Oil 1052 bbl	³⁹ Water 1644 bbl	⁴⁰ Gas 2016 mcf	⁴¹ Test Method	

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:

Printed name:

Lucretia Morris

Title:

Regulatory Compliance Analyst

E-mail Address:

lucretia.morris@dvn.com

Date:

7/28/2015

Phone:

405-552-3303

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:

Pending BLM approvals will subsequently be reviewed and scanned

Provide signature page for Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
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.**

5. Lease Serial No. **BHL: NMNM89051**

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE – Other instructions on page 2.

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
Apache 24-23 Fed Com 12H

2. Name of Operator
Devon Energy Production Company, L.P.

9. API Well No.
30-015-42551

3a. Address
333 West Sheridan, Oklahoma City, OK 73102

3b. Phone No. (include area code)
405-228-4248

10. Field and Pool or Exploratory Area
Los Medanos; Bone Spring

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
920' FSL & 330' FEL Unit P, Sec 24, T22S, R30E
734' FSL & 2134' FEL Unit O, Sec 23, T22S, R30E

PP: 729' FSL & 402' FEL

11. Country or Parish, State
Eddy, 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	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Completion Report	
	☐ 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 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.)

4/28/15-6/26/15: MIRU WL & PT. TIH & ran CBL, found ETOC @ surface. RIH w/ 313 jts 2-7/8" L-80 tubing, set @ 10157.5'. TIH w/pump through frac plug and guns. Perf Wolfcamp, 11139'-17740', total 936 holes. Frac'd 11139'-17740' in 26 stages. Frac totals 39,343.5 gals 15% HCL, 1,048,000# Oklahoma #1 100 Mesh sand, 9,648,000 Ottawa Sand 30/50. ND frac, MIRU PU, NU BOP, DO plugs & CO to PBTD 17757'. CHC, FWB, ND BOP. TOP.

14. I hereby certify that the foregoing is true and correct.

Name (Printed/Typed)

Lucretia Morris

Title **Regulatory Compliance Analyst**

Signature

Lucretia Morris

Date **7/28/2015**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Office

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 *ABD*

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

by of the United States any false,

(Instructions on page 2)

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. NMLC064827A
2. Name of Operator DEVON ENERGY PRODUCTION CO		6. If Indian, Allottee or Tribe Name
Contact: LUCRETIA A MORRIS Email: Lucretia.Morris@dvn.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: 405-552-3303	8. Well Name and No. APACHE 24-23 FED COM 12H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 24 T22S R30E SESE 920FSL 330FEL		9. API Well No. 30-015-42551
		10. Field and Pool, or Exploratory LOS MEDANOS;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	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 shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion 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.)

(3/11/15-3/13/15) Spud @ 06:30. TD 17-1/2? hole @ 587?. RIH w/ 13 jts 13-3/8? 48# H-40 ST&C csg, set @ 587?. Lead w/ 720 sx CIC, yld 1.32 cu ft/sk. Disp w/ 85 bbls 8.34 ppg FW. Circ 384 sx cmt to surf. PT BOPE @ 250/5000 psi & PT annular @ 250/3500 psi, held each test for 10 min, OK. PT csg to 1211 psi for 30 min, OK.

(3/14/15-3/17/15) TD 12-1/4? hole @ 3863?. RIH w/ 92 jts 9-5/8? 40# J-55 BT csg, set @ 3854.4?. Lead w/ 1200 sx HIC, yld 1.87 cu ft/sk. Tail w/ 430 sx CIC, yld 1.33 cu ft/sk. Disp w/ 289.6 bbls FW. Circ 540 sx cmt to surf. ETOC @ 2421?. PT csg to 2765 psi for 30 min, OK.

(3/18/15-3/29/15) TD 8-3/4? hole @ 11035?. RIH w/ 232 jts 7? 29# P-110 BT csg & 19 jts 7? 29# RY-P110 BTC-DWC csg, set @ 11025?. 1st Stage Cement lead w/ 595 sx CIC, yld 2.81 cu ft/sk. Tail w/ 205 sx CIH, yld 1.22 cu ft/sk. Disp w/ 250 bbls water & disp 156 bbls mud. Open DV Tool, set bottom

NM OIL CONSERVATION
ARTESIA DISTRICT

JUL 29 2015

RECEIVED

14. I hereby certify that the foregoing is true and correct. Electronic Submission #299780 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO LP, sent to the Carlsbad	
Name (Printed/Typed) LUCRETIA A MORRIS	Title REGULATORY COMPLIANCE ANALYST
Signature (Electronic Submission)	Date 04/29/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE

Approved By _____	Title _____
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 _____

Pending BLM approvals will
subsequently be reviewed
and scanned *AD*

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

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

Additional data for EC transaction #299780 that would not fit on the form

32. Additional remarks, continued

@ 4545.5?. Circ 262 bbls off DV Tool. 2nd Stage Cement lead w/ 510 sx CIC, yld 2.81 cu ft/sk. Tail w/ 85 sx CIC, yld 14.80 cu ft/sk. Disp w/ 168 bbls water. Close DV Tool. Circ 108 sx to surf. PT BOPE @ 250/5000 psi & PT annular @ 250/3500 psi, held each test for 10 min, OK. PT csg to 1500 psi for 30 min, OK. PT csg to 1420 psi for 15 min, OK. PT csg to 3200 psi, OK.

(3/29/15-4/19/15) TD 6? hole @ 17848?. RIH w/ 168 jts 4-1/2? 13.5# P-110 CDC-HTQ csg, set @ 17846?. Tail w/ 615 sx CIH, yld 1.23 cu ft/sk. Disp w/ 120 bbls FW. Circ 3 bbls cmt to surf. PT csg to 2000 psi for 30 min, OK. RR @ 12:00.

NM OIL CONSERVATION
ARTESIA DISTRICT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUL 29 2015

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

RECEIVED

a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.,
Other: _____

2. Name of Operator
Devon Energy Production Company, L.P.

3. Address **333 West Sheridan Ave, Oklahoma City, OK 73102** 3a. Phone No. (include area code)
405-228-4248

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

At surface

920' FSL & 330' FEL Unit P, Sec 24, T22S, R30E

At top prod. interval reported below

At total depth **734' FSL & 2134' FEL Unit O, Sec 23, T22S, R30E**

14. Date Spudded **3/11/15** 15. Date T.D. Reached **4/15/15** 16. Date Completed **6/26/15**
☐ D & A ☒ Ready to Prod.

18. Total Depth: MD **17848** 19. Plug Back T.D.: MD **17757** 20. Depth Bridge Plug Set: MD
TVD **10958** TVD

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

CBL / Gamma Ray / CCL

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
17-1/2"	13-3/8" H-40	48#	0	587		720 sx CIC		0	384 sx
12-1/4"	9-5/8" J-55	40#	0	3854		1630 sx Cement		0	540 sx
8-3/4"	7" P110/RYP110	29#	0	11025	DV @ 4546	1190 sx CIC + 205 sx CIH		4526	108 sx
6"	4-1/2" P-110	13.5#	10290	17846		615 sx CIH		10290	3 bbls

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-7/8"	10158							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Wolfcamp	11139	17740	11139 - 17740		936	open
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
11139 - 17740	39,343.5 gals 15% HCl Acid, 1,048,000# Okla #1 100 Mesh, 9,648,000# Ottawa Sand 30/50

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
6/26/15	7/22/15	24		1052	2016	1644			Flow
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. Opsi	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
	2800psi	0psi					1916.35		

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. Opsi	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

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

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 (Solid, 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
Wolfcamp	11061			2nd BSPG Lime	9143
				2nd BSPG Sand	9568
				3rd BSPG Lime	9920
				3rd BSPG Sand	10592
				Wolfcamp (estimated)	11061

32. Additional remarks (include plugging procedure):

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

- ☒ Electrical/Mechanical Logs (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) Lucretia MorrisTitle Regulatory Compliance Analyst

Signature

Lucretia MorrisDate 7/28/2015

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)

(Form 3160-4, page 2)



Directional Survey

Well Name: APACHE 24-23 FED COM 12H

Sub-Division DELAWARE BASIN		Region DELAWARE BASIN WEST		Field Name QUAHADA RIDGE SOUTHEAST		County EDDY		State/Province NM					
Surface Legal Location Sec 24 22S 30E		API/UWI 3001542551		Latitude (") 32° 22' 22.301" N		Longitude (") 103° 49' 35.985" W		Orig KB Elevation (ft) 3,430.60		Ground Elev MSL (ft) 3,407.00		KB - GL (ft) 23.60	
Wellbores													
Wellbore Name OH				Parent Wellbore OH				SAP Well ID 38009				Vertical Section Direction (") 267.82	
Kick Offs & Key Depths													
Date 3/22/2015				Type Kick Off				Top Depth (ftKB) 10,300.0					
Date 3/29/2015				Type Kick Off				Top Depth (ftKB) 11,035.0					
Actual Deviation Survey MWD, Proposed? No				Definitive? Yes		Proposed? No		Proposed Deviation Survey					
Deviation Survey													
Date 3/11/2015				Description 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		EWTie In (ft) 0.00			
Survey Data													
Date	MD (ftKB)	Incl (")	Azm (")	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (*/100ft)	Survey Tool	Survey Company			
3/11/2015	169.00	0.40	77.96	169.00	-0.58	0.12	0.58	0.24	MWD	EXTREME			
3/11/2015	186.00	0.31	186.29	186.00	-0.63	0.09	0.63	3.40	MWD	EXTREME			
3/11/2015	291.00	0.40	176.35	291.00	-0.60	-0.56	0.62	0.10	MWD	EXTREME			
3/11/2015	391.00	0.89	166.55	390.99	-0.76	-1.66	0.83	0.50	MWD	EXTREME			
3/11/2015	466.00	1.41	163.35	465.97	-1.11	-3.11	1.22	0.70	MWD	EXTREME			
3/11/2015	602.00	1.38	177.59	601.93	-1.53	-6.35	1.77	0.26	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	696.00	1.67	180.17	695.90	-1.48	-8.85	1.82	0.32	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	789.00	1.60	179.30	788.86	-1.39	-11.51	1.83	0.08	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	882.00	1.54	183.91	881.83	-1.22	-14.05	1.76	0.15	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	975.00	1.35	178.95	974.80	-1.07	-16.39	1.69	0.24	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,067.00	1.19	180.97	1,066.78	-1.00	-18.43	1.70	0.18	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,161.00	0.87	188.50	1,160.76	-0.81	-20.11	1.58	0.37	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,253.00	0.80	164.31	1,252.75	-0.83	-21.42	1.65	0.39	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,349.00	0.58	134.71	1,348.74	-1.32	-22.41	2.17	0.43	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,444.00	0.31	112.23	1,443.74	-1.88	-22.85	2.75	0.33	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,540.00	0.33	97.78	1,539.74	-2.39	-22.98	3.27	0.09	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,635.00	0.39	65.40	1,634.74	-2.96	-22.88	3.83	0.22	MWD	HALLIBURTON ENERGY SE...			
3/11/2015	1,731.00	0.25	82.29	1,730.74	-3.47	-22.72	4.34	0.17	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	1,826.00	0.23	70.79	1,825.74	-3.86	-22.63	4.72	0.05	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	1,922.00	0.37	69.89	1,921.73	-4.34	-22.46	5.19	0.15	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	2,017.00	0.13	111.92	2,016.73	-4.73	-22.39	5.58	0.30	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	2,113.00	0.17	35.37	2,112.73	-4.91	-22.32	5.77	0.20	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	2,208.00	0.20	142.13	2,207.73	-5.10	-22.33	5.95	0.31	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	2,304.00	0.31	149.80	2,303.73	-5.32	-22.69	6.18	0.12	MWD	HALLIBURTON ENERGY SE...			
3/14/2015	2,399.00	0.63	139.05	2,398.73	-5.76	-23.31	6.65	0.35	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,495.00	0.52	121.13	2,494.72	-6.46	-23.93	7.37	0.22	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,591.00	0.26	21.79	2,590.72	-6.91	-23.95	7.83	0.64	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,686.00	0.07	274.20	2,685.72	-6.94	-23.75	7.85	0.30	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,782.00	0.33	226.73	2,781.72	-6.67	-23.94	7.59	0.30	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,877.00	0.31	216.26	2,876.72	-6.31	-24.33	7.24	0.06	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	2,973.00	0.17	132.62	2,972.72	-6.25	-24.64	7.19	0.35	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,069.00	0.65	111.75	3,068.72	-6.85	-24.93	7.80	0.52	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,164.00	1.16	119.93	3,163.70	-8.15	-25.61	9.13	0.55	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,260.00	1.36	123.60	3,259.68	-9.90	-26.73	10.93	0.22	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,356.00	1.14	114.40	3,355.66	-11.68	-27.75	12.74	0.31	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,451.00	1.18	114.49	3,450.64	-13.40	-28.55	14.49	0.04	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,546.00	1.38	113.65	3,545.62	-15.30	-29.41	16.43	0.21	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,642.00	1.82	124.32	3,641.58	-17.57	-30.74	18.75	0.55	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,737.00	1.57	146.69	3,736.54	-19.45	-32.68	20.71	0.74	MWD	HALLIBURTON ENERGY SE...			
3/15/2015	3,795.00	1.69	163.07	3,794.51	-20.08	-34.16	21.40	0.83	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	3,926.00	1.42	168.18	3,925.47	-20.85	-37.59	22.29	0.23	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,021.00	1.50	170.33	4,020.44	-21.20	-39.97	22.74	0.10	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,117.00	1.47	166.05	4,116.40	-21.62	-42.41	23.25	0.12	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,212.00	1.46	165.10	4,211.37	-22.13	-44.76	23.85	0.03	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,308.00	1.53	175.33	4,307.34	-22.46	-47.22	24.27	0.29	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,403.00	1.43	175.01	4,402.31	-22.57	-49.66	24.48	0.11	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,499.00	1.57	182.22	4,498.28	-22.53	-52.17	24.53	0.24	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,594.00	1.07	180.50	4,593.25	-22.39	-54.36	24.47	0.53	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,690.00	0.96	174.96	4,689.23	-22.39	-56.05	24.54	0.15	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,785.00	0.87	189.47	4,784.22	-22.28	-57.56	24.49	0.26	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,880.00	1.11	190.51	4,879.21	-21.93	-59.17	24.20	0.25	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	4,975.00	1.14	210.18	4,974.19	-21.23	-60.90	23.56	0.41	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,069.00	1.17	216.26	5,068.17	-20.13	-62.48	22.52	0.13	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,164.00	1.34	215.62	5,163.15	-18.84	-64.16	21.30	0.18	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,258.00	1.45	211.76	5,257.12	-17.51	-66.07	20.03	0.15	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,353.00	1.27	222.13	5,352.09	-16.10	-67.87	18.70	0.32	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,447.00	1.28	221.73	5,446.07	-14.64	-69.43	17.30	0.01	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,542.00	1.39	232.48	5,541.04	-12.97	-70.92	15.68	0.29	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,636.00	1.18	242.80	5,635.02	-11.16	-72.06	13.91	0.33	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,731.00	1.66	248.56	5,729.99	-8.98	-73.01	11.76	0.53	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	5,825.00	1.43	249.20	5,823.96	-6.58	-73.92	9.40	0.25	MWD	HALLIBURTON ENERGY SE...			



Directional Survey

Well Name: APACHE 24-23 FED COM 12H

Sub-Division DELAWARE BASIN		Region DELAWARE BASIN WEST		Field Name QUAHADA RIDGE SOUTHEAST				County EDDY		State/Province NM			
Surface Legal Location Sec 24 22S 30E		API/UWI 3001542551		Latitude (°) 32° 22' 22.301" N		Longitude (°) 103° 49' 35.985" W		Orig KB Elevation (ft) 3,430.60		Ground Elev MSL (ft) 3,407.00		KB - GL (ft) 23.60	
Survey Data													
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company			
3/18/2015	5,919.00	1.42	251.33	5,917.93	-4.35	-74.71	7.20	0.06	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,014.00	0.91	227.08	6,012.91	-2.65	-75.60	5.53	0.74	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,108.00	1.02	199.91	6,106.90	-1.77	-76.90	4.70	0.50	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,202.00	1.45	204.83	6,200.87	-0.92	-78.76	3.92	0.47	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,297.00	1.70	204.17	6,295.84	0.26	-81.14	2.83	0.26	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,391.00	1.60	203.09	6,389.80	1.43	-83.62	1.75	0.11	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,485.00	1.64	206.58	6,483.76	2.64	-86.03	0.63	0.11	MWD	HALLIBURTON ENERGY SE...			
3/18/2015	6,580.00	1.49	213.06	6,578.73	4.01	-88.28	-0.65	0.24	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	6,674.00	1.51	210.84	6,672.69	5.39	-90.37	-1.95	0.07	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	6,769.00	1.60	202.79	6,767.66	6.63	-92.66	-3.11	0.25	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	6,863.00	1.65	205.06	6,861.62	7.80	-95.10	-4.19	0.09	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	6,959.00	1.38	203.55	6,957.59	8.94	-97.41	-5.24	0.28	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,055.00	1.54	191.96	7,053.56	9.76	-99.73	-5.97	0.35	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,150.00	1.49	189.99	7,148.52	10.33	-102.20	-6.44	0.08	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,246.00	1.60	185.14	7,244.49	10.76	-104.76	-6.78	0.18	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,341.00	1.54	183.22	7,339.45	11.05	-107.36	-6.97	0.08	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,436.00	1.47	184.91	7,434.42	11.32	-109.85	-7.15	0.09	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,531.00	1.62	179.35	7,529.39	11.51	-112.40	-7.24	0.22	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,626.00	1.26	187.97	7,624.36	11.73	-114.78	-7.37	0.44	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,720.00	1.28	187.22	7,718.33	12.08	-116.85	-7.64	0.03	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,815.00	1.06	201.53	7,813.31	12.61	-118.72	-8.10	0.38	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	7,909.00	0.81	211.53	7,907.30	13.33	-120.09	-8.76	0.32	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,004.00	0.54	159.04	8,002.29	13.55	-121.08	-8.95	0.68	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,099.00	1.70	165.00	8,097.28	13.10	-122.86	-8.43	1.23	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,193.00	2.49	180.60	8,191.21	12.89	-126.25	-8.09	1.03	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,287.00	2.50	181.74	8,285.12	13.13	-130.34	-8.17	0.05	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,379.00	2.75	189.35	8,377.03	13.70	-134.52	-8.59	0.47	MWD	HALLIBURTON ENERGY SE...			
3/19/2015	8,473.00	1.86	196.14	8,470.95	14.63	-138.21	-9.38	0.99	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	8,568.00	1.74	187.46	8,565.90	15.36	-141.13	-10.00	0.31	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	8,662.00	1.24	196.93	8,659.87	15.93	-143.51	-10.48	0.59	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	8,757.00	1.84	198.87	8,754.84	16.82	-145.94	-11.27	0.63	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	8,851.00	1.82	219.27	8,848.79	18.35	-148.52	-12.71	0.69	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	8,945.00	2.13	193.48	8,942.74	19.81	-151.38	-14.06	0.99	MWD	HALLIBURTON ENERGY SE...			
3/20/2015	9,040.00	2.03	205.77	9,037.67	21.07	-154.61	-15.20	0.48	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,137.00	2.00	171.49	9,134.62	21.69	-157.83	-15.70	1.22	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,231.00	1.66	162.83	9,228.57	21.16	-160.75	-15.05	0.47	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,327.00	1.34	138.10	9,324.54	20.08	-162.92	-13.89	0.74	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,421.00	1.05	117.22	9,418.52	18.63	-164.13	-12.39	0.55	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,516.00	1.55	117.04	9,513.49	16.75	-165.11	-10.48	0.53	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,610.00	1.30	127.70	9,607.46	14.82	-166.34	-8.50	0.39	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,705.00	1.48	130.03	9,702.44	13.09	-167.79	-6.71	0.20	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,800.00	1.50	112.84	9,797.40	11.05	-169.06	-4.62	0.47	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,895.00	1.55	113.98	9,892.37	8.77	-170.07	-2.30	0.06	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	9,991.00	1.79	120.64	9,988.33	6.34	-171.36	0.17	0.32	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,086.00	2.13	123.82	10,083.27	3.67	-173.10	2.92	0.38	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,182.00	2.14	132.96	10,179.21	0.96	-175.31	5.71	0.35	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,220.00	1.63	134.23	10,217.19	0.09	-176.17	6.62	1.35	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,277.00	1.19	158.06	10,274.17	-0.67	-177.29	7.42	1.27	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,308.00	2.39	233.91	10,305.16	-0.24	-177.97	7.02	7.73	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,340.00	5.09	252.10	10,337.09	1.68	-178.80	5.13	9.11	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,373.00	7.81	258.83	10,369.88	5.30	-179.68	1.53	8.54	MWD	HALLIBURTON ENERGY SE...			
3/22/2015	10,404.00	10.17	259.90	10,400.49	10.09	-180.57	-3.23	7.63	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,436.00	12.50	258.51	10,431.87	16.31	-181.75	-9.40	7.33	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,468.00	14.63	257.70	10,462.97	23.71	-183.31	-16.75	6.68	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,500.00	17.00	257.29	10,493.76	32.29	-185.20	-25.26	7.41	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,532.00	18.85	257.24	10,524.20	41.97	-187.37	-34.87	5.78	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,564.00	20.83	257.47	10,554.30	52.65	-189.74	-45.46	6.19	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,596.00	24.59	261.19	10,583.82	64.86	-192.00	-57.60	12.57	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,628.00	28.72	265.10	10,612.41	79.16	-193.68	-71.85	14.02	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,660.00	31.90	266.68	10,640.04	95.30	-194.82	-87.95	10.24	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,692.00	34.74	267.33	10,666.77	112.87	-195.74	-105.51	8.94	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,723.00	37.70	267.83	10,691.78	131.19	-196.51	-123.80	9.60	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,755.00	39.90	267.81	10,716.72	151.24	-197.27	-143.84	6.88	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,787.00	42.99	269.06	10,740.70	172.42	-197.84	-165.01	10.00	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,819.00	45.50	269.52	10,763.62	194.73	-198.12	-187.33	7.91	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,849.00	47.38	270.23	10,784.30	216.46	-198.16	-209.07	6.50	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,882.00	50.04	270.63	10,806.07	241.23	-197.97	-233.86	8.11	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,915.00	51.88	270.78	10,826.85	266.82	-197.66	-259.49	5.59	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,946.00	54.44	270.79	10,845.44	291.60	-197.32	-284.30	8.26	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	10,978.00	57.29	271.06	10,863.39	318.04	-196.89	-310.78	8.93	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	11,076.00	65.58	271.75	10,910.21	403.87	-194.76	-396.75	8.48	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	11,107.00	68.69	270.67	10,922.26	432.38	-194.16	-425.30	10.53	MWD	HALLIBURTON ENERGY SE...			
3/23/2015	11,139.00	71.23	268.44	10,933.22	462.42	-194.40	-455.36	10.29	MWD	HALLIBURTON ENERGY SE...			
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Report Printed: 7/28/2015													



Directional Survey

Well Name: APACHE 24-23 FED COM 12H

Sub-Division		Region		Field Name				County		State/Province	
DELAWARE BASIN		DELAWARE BASIN WEST		QUAHADA RIDGE SOUTHEAST				EDDY		NM	
Surface Legal Location		API/UWI		Latitude (°)		Longitude (°)		Orig KB Elevation (ft)		Ground Elev MSL (ft)	
Sec 24 22S 30E		3001542551		32° 22' 22.301" N		103° 49' 35.985" W		3,430.60		3,407.00	
KB - GL (ft)										23.60	
Survey Data											
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company	
3/23/2015	11,170.00	73.15	266.85	10,942.71	491.93	-195.61	-484.84	7.89	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,202.00	75.40	265.25	10,951.38	522.72	-197.74	-515.57	8.52	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,234.00	77.90	264.95	10,958.77	553.82	-200.40	-546.59	7.87	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,265.00	82.40	264.55	10,964.07	584.31	-203.19	-577.00	14.57	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,297.00	87.16	264.62	10,966.98	616.12	-206.20	-608.71	14.88	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,328.00	91.97	265.81	10,967.21	647.07	-208.78	-639.59	15.98	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,359.00	93.17	266.54	10,965.82	678.03	-210.85	-670.49	4.53	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,390.00	93.26	266.32	10,964.09	708.97	-212.78	-701.38	0.77	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,422.00	93.68	265.28	10,962.15	740.89	-215.12	-733.24	3.50	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,449.00	93.55	264.12	10,960.45	767.80	-217.60	-760.07	4.31	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,547.00	92.59	265.06	10,955.20	865.50	-226.83	-857.49	1.37	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,641.00	91.72	267.59	10,951.66	959.39	-232.85	-951.22	2.84	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,734.00	91.26	269.05	10,949.24	1,052.35	-235.58	-1,044.15	1.65	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,829.00	89.66	272.90	10,948.48	1,147.19	-233.96	-1,139.11	4.39	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	11,925.00	88.83	273.60	10,949.75	1,242.75	-228.52	-1,234.95	1.13	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,020.00	89.08	274.11	10,951.48	1,337.20	-222.13	-1,329.72	0.60	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,115.00	89.48	275.05	10,952.67	1,431.53	-214.55	-1,424.40	1.08	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,210.00	87.99	275.02	10,954.77	1,525.76	-206.21	-1,519.01	1.57	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,304.00	86.48	274.14	10,959.30	1,618.99	-198.71	-1,612.60	1.86	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,397.00	86.23	272.75	10,965.22	1,711.35	-193.14	-1,705.24	1.52	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,493.00	85.73	270.95	10,971.95	1,806.88	-190.04	-1,800.95	1.94	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,588.00	87.63	268.87	10,977.45	1,901.64	-190.20	-1,895.78	2.96	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,683.00	89.26	269.23	10,980.03	1,996.58	-191.77	-1,990.73	1.76	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,779.00	89.97	269.50	10,980.67	2,092.55	-192.83	-2,086.72	0.79	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,874.00	89.11	269.44	10,981.43	2,187.50	-193.71	-2,181.71	0.91	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	12,969.00	88.25	269.29	10,983.62	2,282.44	-194.76	-2,276.68	0.92	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,064.00	88.86	269.05	10,986.02	2,377.38	-196.14	-2,371.64	0.69	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,159.00	89.48	266.80	10,987.40	2,472.37	-199.58	-2,466.56	2.46	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,254.00	89.85	266.60	10,987.95	2,567.35	-205.05	-2,561.40	0.44	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,350.00	89.51	267.63	10,988.49	2,663.34	-209.88	-2,657.28	1.13	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,445.00	89.60	267.02	10,989.22	2,758.33	-214.31	-2,752.17	0.65	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,540.00	90.43	266.59	10,989.20	2,853.31	-219.61	-2,847.02	0.98	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,634.00	91.20	267.06	10,987.86	2,947.29	-224.81	-2,940.87	0.96	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,729.00	91.39	267.19	10,985.72	3,042.26	-229.58	-3,035.72	0.24	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,823.00	89.91	265.45	10,984.65	3,136.21	-235.61	-3,129.52	2.43	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	13,918.00	89.82	265.16	10,984.87	3,231.12	-243.39	-3,224.20	0.32	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,012.00	90.03	265.32	10,985.00	3,325.03	-251.19	-3,317.87	0.28	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,108.00	89.35	266.80	10,985.52	3,420.98	-257.78	-3,413.64	1.70	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,203.00	90.25	267.60	10,985.85	3,515.97	-262.42	-3,508.53	1.27	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,298.00	91.05	267.93	10,984.77	3,610.96	-266.13	-3,603.45	0.91	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,392.00	89.85	267.92	10,984.03	3,704.96	-269.53	-3,697.38	1.28	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,487.00	90.49	268.81	10,983.75	3,799.95	-272.24	-3,792.34	1.15	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,583.00	89.42	269.45	10,983.82	3,895.92	-273.70	-3,888.33	1.30	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,677.00	89.91	269.74	10,984.37	3,989.88	-274.36	-3,982.32	0.61	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,772.00	90.65	270.06	10,983.91	4,084.81	-274.53	-4,077.32	0.85	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,867.00	88.61	270.61	10,984.52	4,179.71	-273.97	-4,172.31	2.22	MWD	HALLIBURTON ENERGY SE...	
3/23/2015	14,957.00	87.96	270.25	10,987.22	4,269.58	-273.30	-4,262.27	0.83	MWD	HALLIBURTON ENERGY SE...	
4/10/2015	15,051.00	89.81	268.41	10,989.05	4,363.52	-274.40	-4,356.24	2.78	MWD	HALLIBURTON ENERGY SE...	
4/10/2015	15,145.00	91.17	268.64	10,988.24	4,457.51	-276.82	-4,450.20	1.47	MWD	HALLIBURTON ENERGY SE...	
4/10/2015	15,240.00	91.64	268.56	10,985.91	4,552.47	-279.14	-4,545.14	0.50	MWD	HALLIBURTON ENERGY SE...	
4/10/2015	15,336.00	91.82	268.42	10,983.02	4,648.42	-281.67	-4,641.06	0.24	MWD	HALLIBURTON ENERGY SE...	
4/11/2015	15,431.00	92.93	269.62	10,979.08	4,743.31	-283.29	-4,735.97	1.72	MWD	HALLIBURTON ENERGY SE...	
4/11/2015	15,526.00	93.24	270.34	10,973.97	4,838.11	-283.32	-4,830.83	0.82	MWD	HALLIBURTON ENERGY SE...	
4/11/2015	15,621.00	92.66	271.22	10,969.08	4,932.85	-282.03	-4,925.69	1.11	MWD	HALLIBURTON ENERGY SE...	
4/11/2015	15,716.00	92.56	271.58	10,964.75	5,027.57	-279.71	-5,020.56	0.39	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	15,809.00	91.45	271.90	10,961.50	5,120.29	-276.89	-5,113.46	1.24	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	15,905.00	91.26	271.65	10,959.23	5,216.04	-273.92	-5,209.39	0.33	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,000.00	91.36	271.51	10,957.05	5,310.81	-271.30	-5,304.33	0.18	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,095.00	91.42	271.40	10,954.75	5,405.59	-268.89	-5,399.27	0.13	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,190.00	91.48	271.57	10,952.35	5,500.37	-266.43	-5,494.21	0.19	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,284.00	91.27	271.28	10,950.09	5,594.15	-264.09	-5,588.15	0.38	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,379.00	92.16	272.39	10,947.25	5,688.87	-261.05	-5,683.06	1.50	MWD	HALLIBURTON ENERGY SE...	
4/12/2015	16,475.00	92.13	272.63	10,943.65	5,784.49	-256.85	-5,778.90	0.25	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	16,569.00	90.25	272.52	10,941.70	5,878.14	-252.63	-5,872.78	2.00	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	16,663.00	88.64	272.29	10,942.61	5,971.83	-248.68	-5,966.69	1.73	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	16,853.00	90.40	273.86	10,944.20	6,161.01	-238.49	-6,156.40	1.24	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	16,948.00	88.83	273.68	10,944.84	6,255.49	-232.24	-6,251.18	1.66	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,042.00	89.01	273.47	10,946.61	6,349.00	-226.38	-6,344.98	0.29	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,138.00	89.38	273.52	10,947.96	6,444.52	-220.53	-6,440.80	0.39	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,232.00	89.91	273.15	10,948.55	6,538.09	-215.06	-6,534.64	0.69	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,327.00	89.26	271.24	10,949.23	6,632.80	-211.43	-6,629.56	2.12	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,421.00	88.92	271.12	10,950.73	6,726.63	-209.49	-6,723.53	0.38	MWD	HALLIBURTON ENERGY SE...	
4/13/2015	17,516.00	89.17	271.46	10,952.31	6,821.44	-207.35	-6,818.49	0.44	MWD	HALLIBURTON ENERGY SE...	
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Directional Survey

Well Name: APACHE 24-23 FED COM 12H

Sub-Division DELAWARE BASIN		Region DELAWARE BASIN WEST		Field Name QUAHADA RIDGE SOUTHEAST			County EDDY		State/Province NM			
Surface Legal Location Sec 24 22S 30E		API/UWI 3001542551		Latitude (°) 32° 22' 22.301" N		Longitude (°) 103° 49' 35.985" W		Orig KB Elevation (ft) 3,430.60		Ground Elev MSL (ft) 3,407.00		KB - GL (ft) 23.60
Survey Data												
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company		
4/13/2015	17,610.00	89.04	271.93	10,953.78	6,915.21	-204.57	-6,912.44	0.52	MWD	HALLIBURTON ENERGY SE...		
4/13/2015	17,705.00	88.89	272.28	10,955.49	7,009.93	-201.08	-7,007.36	0.40	MWD	HALLIBURTON ENERGY SE...		
4/13/2015	17,848.00	88.89	272.28	10,958.26	7,152.47	-195.40	-7,150.22	0.00	BIT	HALLIBURTON ENERGY SE...		