

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NMOCD
Hobbs

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMLC061863A

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.
Other _____

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

2. Name of Operator ☒ DEVON ENERGY PRODUCTION CO. L Mail: Lucretia.Morris@dvn.com

8. Lease Name and Well No.
COTTON DRAW 32 STATE FED COM 4H

3. Address 333 WEST SHERIDAN AVE
OKLAHOMA CITY, OK 73102

3a. Phone No. (include area code)
Ph: 405-552-3303

9. API Well No.
30-025-41172-00-S1

4. Location of Well (Report location clearly and in accordance with Federal requirements)
At surface Sec 32 T24S R32E Mer NMP
At top prod interval reported below Sec 32 T24S R32E Mer NMP
At total depth Sec 5 T25S R32E Mer NMP
SWSW 345FSL 642FWL

10. Field and Pool, or Exploratory
PADUCA

11. Sec., T., R., M., or Block and Survey
or Area Sec 32 T24S R32E Mer NMP

12. County or Parish
LEA

13. State
NM

14. Date Spudded
04/03/2015

15. Date T.D. Reached
04/26/2015

16. Date Completed
☐ D & A ☒ Ready to Prod.
09/17/2015

17. Elevations (DF, KB, RT, GL)*
3470 GL

18. Total Depth: MD 15330
TVD 8289

19. Plug Back T.D.: MD 15270
TVD

20. Depth Bridge Plug Set: MD
TVD

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

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
17.500	13.375 H40	48.0	0	810		865		0	310
12.250	9.625 J55	40.0	0	4506		1555		0	40
8.750	5.500 P110	17.0	0	15330		2090		7737	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)
2.875	7704							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) DELAWARE NORTH			8471 TO 15271		936	OPEN- Delaware, N
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
8471 TO 15271	39,123 GALS 15% HCL ACID, 2,666,000# OTTAWA SAND 30/50, 1,821,000# OTTAWA SAND 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
09/17/2015	10/08/2015	24	→	1132.0	2019.0	2134.0			ELECTRIC PUMP/SUB-SURFACE
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. SI	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	435	271.0	→	1132	2019	2134	1784	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. SI	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 #320259 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

WMS/ocd 2/3/2016

FEB 03 2016

cyg

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 TOP OF SALT DELAWARE	726 1144 4587	1144 4350	BARREN BARREN OIL	RUSTLER TOP OF SALT DELAWARE	726 1144 4587

32. Additional remarks (include plugging procedure):

Intermediate Casing: RIH w/ 102 jts 9-5/8" 40# J-55 BT csg and 5 jts 9-5/8" 40# HCK-55 BT csg, set @ 4506'.

Production Casing: RIH w/ 168 jts 5-1/2" 17# P-110 BT csg, followed by 181 jts 7" 29# HCP-110 DWC csg, set @ 15330'. Drop bomb to open DV Tool, set btm @ 4991.5'.

Formation bottom not reported - unknown.

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 #320259 Verified by the BLM Well Information System.
For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs
Committed to AFMSS for processing by LINDA JIMENEZ on 10/21/2015 (16LJ0118SE)

Name (please print) LUCRETIA A MORRISTitle REGULATORY COMPLIANCE ANALYSTSignature (Electronic Submission)Date 10/16/2015

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.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
311 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
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-41172		² Pool Code 49490	³ Pool Name Paduca; Delaware, North
⁴ Property Code 39237	⁵ Property Name COTTON DRAW 32 STATE FED COM		⁶ Well Number 4H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.		⁹ Elevation 3469.5

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
K	32	24 S	32 E		2310	SOUTH	1330	WEST	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
M	5	25 S	32 E		345	SOUTH	642	WEST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
240			

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

	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 unless 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. <i>Lucretia Morris</i> 10/16/2015 Signature Date Lucretia Morris, Regulatory Analyst Printed Name Lucretia.Morris@dmn.com E-mail Address
	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. OCTOBER 22, 2013 Date of Survey <i>[Signature]</i> Signature and Seal of Professional Surveyor Certificate Number: ELIJAH F. JARAMILLO, PLS 12797 SURVEY NO. 1583B
	PP: 2310' FSL & 1330' FWL, Sec 32, T24S, R32E Project Area: [REDACTED] Producing Area: [REDACTED]



April 20, 2015

Devon Energy Production Co., L. P.
333 West Sheridan Ave
Oklahoma City, Oklahoma 73102-5010

Attn: Megan Moravec

Re: Cotton Draw 32 State Federal Com 4H

Please find enclosed a copy of the survey from 0' to 4350' ran on the above referenced well.

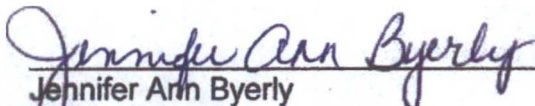
If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

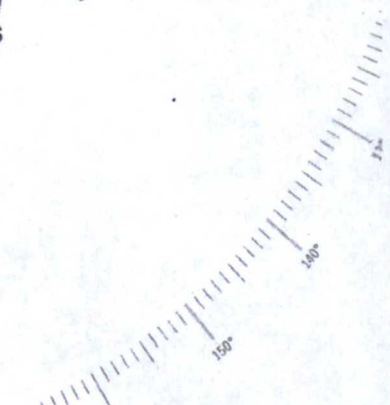
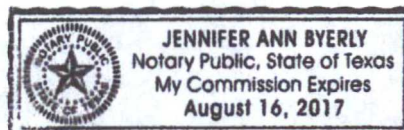

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 20 day of April,
A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas

VES Survey International
P.O. Box 261021 Corpus Christi, TX 78426
T (361) 767-0602 F (361) 767-0612
www.vessurvey.com





Company: Devon Energy
Lease/Well: Cotton Draw 32 State Federal Com/4H



Rig Name: ICD 207
State/County: New Mexico /Lea
Latitude: 32.17, Longitude: -103.70
GRID North is 0.34 Degrees East of True North
VS-Azi: 186.34 Degrees

Depth Reference : R.K.B=27FT

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: survey.ut
Minimum Curvature Method
Report Date/Time: 4/20/2015 / 09:36

VES Survey International
(432) 563-5444
West Texas

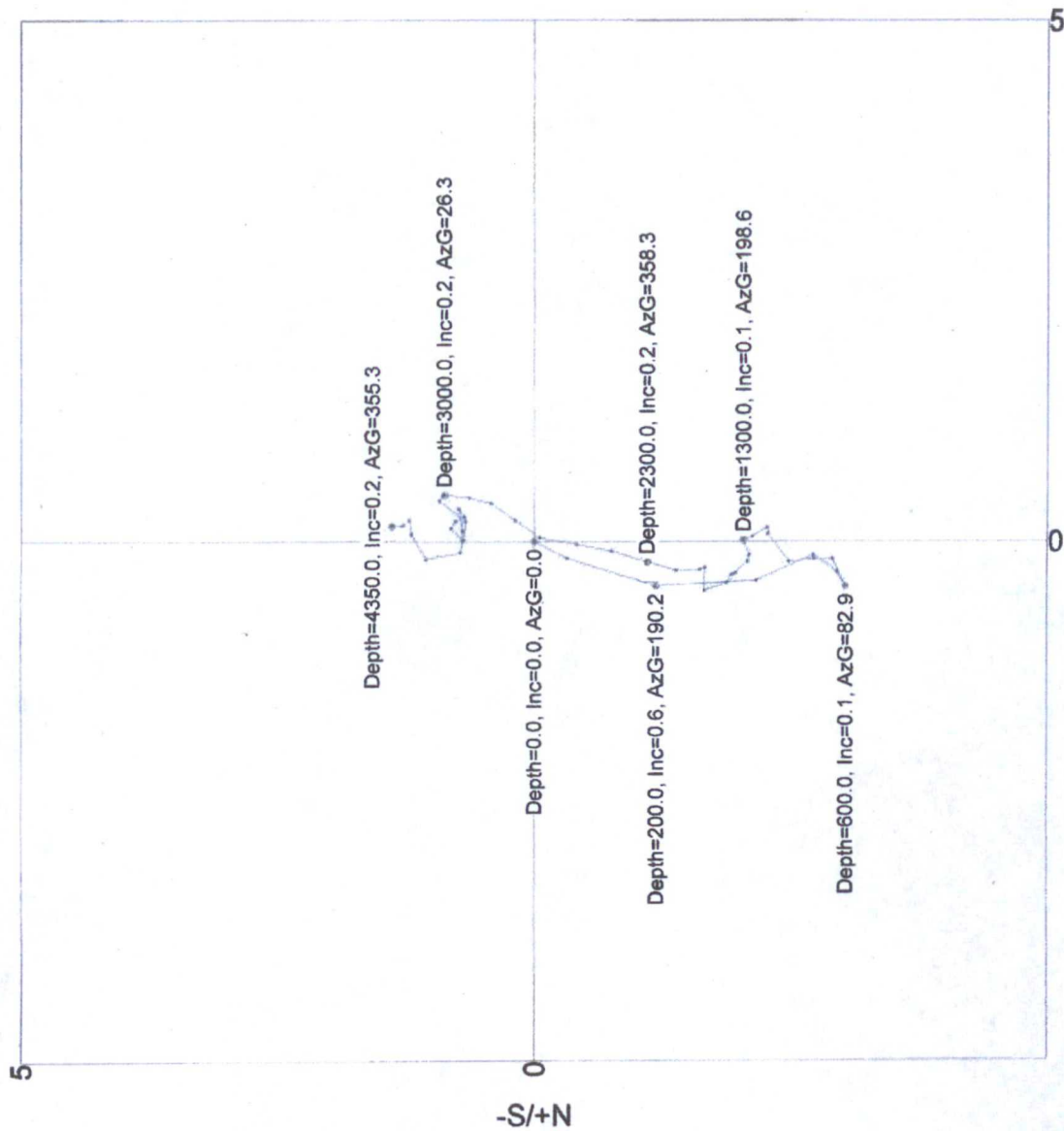
Surveyor: Javier Estrada
Cotton Draw 32 Federal Com 4H / API 30-025-41172

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	0.41	207.34	100.00	-0.32	-0.16	0.34	0.36	207.34	0.41
200.00	0.63	190.22	199.99	-1.18	-0.43	1.22	1.25	199.91	0.27
300.00	0.52	160.78	299.99	-2.15	-0.38	2.18	2.18	189.89	0.31
400.00	0.18	143.60	399.99	-2.71	-0.13	2.71	2.71	182.76	0.35
500.00	0.31	248.35	499.99	-2.94	-0.29	2.95	2.95	185.61	0.40
600.00	0.13	82.93	599.99	-3.02	-0.43	3.05	3.06	188.11	0.44
700.00	0.22	53.37	699.99	-2.90	-0.17	2.90	2.90	183.30	0.13
800.00	0.19	293.61	799.99	-2.72	-0.17	2.72	2.72	183.49	0.36
900.00	0.25	35.03	899.99	-2.47	-0.19	2.47	2.48	184.46	0.34
1000.00	0.16	80.80	999.99	-2.27	0.07	2.25	2.27	178.25	0.18
1100.00	0.09	258.83	1099.99	-2.26	0.13	2.23	2.26	176.65	0.24
1200.00	0.18	356.12	1199.99	-2.11	0.05	2.10	2.12	178.69	0.21
1300.00	0.08	198.63	1299.98	-2.02	0.01	2.01	2.02	179.59	0.26
1400.00	0.14	274.60	1399.98	-2.08	-0.13	2.08	2.09	183.53	0.14
1500.00	0.06	79.99	1499.98	-2.06	-0.19	2.07	2.07	185.38	0.20
1600.00	0.22	302.62	1599.98	-1.95	-0.30	1.97	1.98	188.72	0.27
1700.00	0.18	114.60	1699.98	-1.92	-0.32	1.94	1.94	189.34	0.40
1800.00	0.29	296.71	1799.98	-1.87	-0.40	1.90	1.91	191.93	0.47

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
1900.00	0.21	53.70	1899.98	-1.65	-0.47	1.69	1.72	195.95	0.42
2000.00	0.15	147.44	1999.98	-1.65	-0.25	1.67	1.67	188.69	0.27
2100.00	0.21	331.01	2099.98	-1.60	-0.27	1.62	1.63	189.59	0.36
2200.00	0.12	61.39	2199.98	-1.37	-0.28	1.40	1.40	191.38	0.23
2300.00	0.25	358.29	2299.98	-1.09	-0.20	1.11	1.11	190.32	0.20
2400.00	0.19	41.37	2399.98	-0.75	-0.09	0.76	0.76	187.08	0.17
2500.00	0.25	345.78	2499.98	-0.42	-0.03	0.42	0.42	184.70	0.21
2600.00	0.22	38.09	2599.98	-0.05	0.03	0.05	0.06	150.38	0.21
2700.00	0.12	29.85	2699.98	0.18	0.20	-0.21	0.27	47.38	0.11
2800.00	0.21	38.78	2799.98	0.41	0.36	-0.45	0.55	41.37	0.09
2900.00	0.11	323.90	2899.98	0.63	0.42	-0.68	0.76	33.56	0.21
3000.00	0.21	26.33	2999.98	0.87	0.44	-0.92	0.98	26.87	0.19
3100.00	0.20	230.20	3099.98	0.92	0.39	-0.96	1.00	22.78	0.40
3200.00	0.18	203.89	3199.98	0.67	0.19	-0.68	0.69	15.80	0.09
3300.00	0.23	324.70	3299.98	0.69	0.01	-0.68	0.69	0.67	0.36
3400.00	0.27	99.71	3399.98	0.81	0.12	-0.82	0.82	8.54	0.46
3500.00	0.19	267.73	3499.98	0.77	0.19	-0.78	0.79	13.75	0.46
3600.00	0.26	111.35	3599.98	0.68	0.23	-0.70	0.72	18.77	0.44
3700.00	0.21	316.16	3699.98	0.73	0.31	-0.76	0.79	22.97	0.46
3800.00	0.22	205.34	3799.98	0.69	0.10	-0.70	0.70	8.19	0.35
3900.00	0.27	326.70	3899.98	0.72	-0.11	-0.70	0.73	351.40	0.42
4000.00	0.18	23.09	3999.97	1.06	-0.18	-1.03	1.07	350.58	0.22
4100.00	0.21	91.19	4099.97	1.19	0.07	-1.19	1.20	3.28	0.22
4200.00	0.06	296.99	4199.97	1.22	0.20	-1.23	1.23	9.43	0.27
4300.00	0.04	0.20	4299.97	1.28	0.15	-1.29	1.29	6.82	0.06
4350.00	0.21	355.26	4349.97	1.39	0.15	-1.40	1.40	5.98	0.33



VES Survey International
(432) 563-5444
West Texas
Surveyor: Javier Estrada
Cotton Draw 32 Federal Com 4H / API 30-025-41172



-W/+E
VES Survey Date: 4/10/2015



Directional Survey

Well Name: COTTON DRAW 32 STATE FED COM 4H

Sub-Division DELAWARE BASIN WEST		Region BASIN WEST		Field Name PADUCA		County LEA		State/Province NM					
Surface Legal Location SEC32 T24S R32E		NPAV# 8002541172		Latitude (°) 32° 10' 22.761" N		Longitude (°) 103° 42' 3.241" W		Orig KB Elevation (ft) 3,496.50		Ground Elev MSL (ft) 3,469.50		KB - GL (ft) 27.00	
Wellbores													
Wellbore Name OH		Parent Wellbore OH				SAP Well ID 38213				Vertical Section Direction (°) 186.34			
Kick Offs & Key Depths													
Date 4/15/2015				Type Kick Off				Top Depth (ftKB) 7,737.0					
Actual Deviation Survey VAUGHN ENERGY SERVICE, Proposed? No				Definitive? No		Proposed? No		Proposed Deviation Survey					
Deviation Survey													
Date 4/10/2015		Description VAUGHN ENERGY SERVICE											
MD Tie In (ftKB)		TVD Tie In (ftKB)		Inclination Tie In (°)		Azimuth Tie In (°)		NStie In (ft)		EWtie In (ft)			
Survey Data													
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	NS (ft)	E/W (ft)	DLS (1/1000)	Survey Tool	Survey Company			
4/10/2015	100.00	0.41	207.34	100.00	0.33	-0.32	-0.16	0.41	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	200.00	0.63	190.22	200.00	1.22	-1.18	-0.43	0.27	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	300.00	0.52	160.78	299.99	2.17	-2.15	-0.37	0.31	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	400.00	0.18	143.60	399.99	2.70	-2.70	-0.13	0.35	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	500.00	0.31	248.35	499.99	2.94	-2.93	-0.29	0.40	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	600.00	0.13	82.93	599.99	3.04	-3.01	-0.43	0.44	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	700.00	0.22	53.37	699.99	2.88	-2.88	-0.16	0.12	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	800.00	0.19	293.61	799.99	2.70	-2.70	-0.16	0.35	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	900.00	0.25	35.03	899.99	2.46	-2.46	-0.19	0.34	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,000.00	0.16	80.80	999.99	2.24	-2.26	0.06	0.18	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,100.00	0.09	258.83	1,099.99	2.22	-2.25	0.14	0.25	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,200.00	0.18	356.12	1,199.99	2.09	-2.11	0.05	0.21	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,300.00	0.08	198.63	1,299.98	2.00	-2.02	0.02	0.26	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,400.00	0.14	274.60	1,399.98	2.08	-2.07	-0.13	0.14	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,500.00	0.06	79.99	1,499.98	2.07	-2.06	-0.20	0.20	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,600.00	0.22	302.62	1,599.98	1.97	-1.94	-0.31	0.27	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,700.00	0.18	114.60	1,699.98	1.93	-1.91	-0.33	0.40	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,800.00	0.29	296.71	1,799.98	1.89	-1.86	-0.41	0.47	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	1,900.00	0.21	53.70	1,899.98	1.68	-1.63	-0.49	0.43	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,000.00	0.15	147.44	1,999.98	1.66	-1.64	-0.27	0.27	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,100.00	0.21	331.01	2,099.98	1.61	-1.59	-0.29	0.36	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,200.00	0.12	51.39	2,199.98	1.39	-1.36	-0.30	0.22	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,300.00	0.25	358.29	2,299.98	1.10	-1.08	-0.22	0.20	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,400.00	0.19	41.37	2,399.98	0.74	-0.74	-0.12	0.17	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,500.00	0.25	345.78	2,499.98	0.40	-0.40	-0.06	0.21	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,600.00	0.22	38.09	2,599.98	0.04	-0.04	0.00	0.21	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,700.00	0.12	29.85	2,699.98	-0.22	0.21	0.17	0.10	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,800.00	0.21	38.78	2,799.98	-0.47	0.44	0.34	0.09	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	2,900.00	0.11	323.90	2,899.98	-0.70	0.66	0.40	0.21	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,000.00	0.21	26.33	2,999.98	-0.94	0.90	0.42	0.19	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,100.00	0.20	230.20	3,099.98	-0.99	0.95	0.37	0.40	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,200.00	0.18	203.89	3,199.98	-0.71	0.70	0.17	0.09	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,300.00	0.23	324.70	3,299.98	-0.71	0.72	-0.01	0.36	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,400.00	0.27	99.71	3,399.98	-0.85	0.84	0.11	0.46	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,500.00	0.19	267.73	3,499.98	-0.81	0.80	0.18	0.46	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,600.00	0.26	111.35	3,599.98	-0.73	0.71	0.22	0.44	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,700.00	0.21	316.16	3,699.98	-0.79	0.76	0.31	0.46	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,800.00	0.22	205.34	3,799.98	-0.72	0.72	0.10	0.35	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	3,900.00	0.27	326.70	3,899.98	-0.72	0.74	-0.11	0.43	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	4,000.00	0.18	23.09	3,999.97	-1.05	1.08	-0.18	0.23	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	4,100.00	0.21	91.19	4,099.97	-1.22	1.22	0.06	0.22	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	4,200.00	0.06	296.99	4,199.97	-1.26	1.24	0.20	0.27	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	4,300.00	0.04	0.20	4,299.97	-1.31	1.30	0.15	0.06	GYRO	VAUGHN ENERGY SERVICES			
4/10/2015	4,350.00	0.21	355.26	4,349.97	-1.42	1.41	0.15	0.34	GYRO	VAUGHN ENERGY SERVICES			
4/13/2015	4,585.00	0.16	61.16	4,584.97	-2.03	2.00	0.40	0.09	MWD	WEATHERFORD			
4/13/2015	4,680.00	1.19	275.61	4,679.97	-2.09	2.16	-0.47	1.39	MWD	WEATHERFORD			
4/13/2015	4,776.00	3.18	273.91	4,775.89	-1.97	2.44	-4.12	2.07	MWD	WEATHERFORD			
4/13/2015	4,871.00	5.21	271.72	4,870.63	-1.51	2.74	-11.06	2.14	MWD	WEATHERFORD			
4/13/2015	4,966.00	7.53	269.79	4,965.04	-0.45	2.85	-21.60	2.45	MWD	WEATHERFORD			
4/13/2015	5,061.00	9.23	265.98	5,059.02	1.63	2.29	-35.42	1.88	MWD	WEATHERFORD			
4/13/2015	5,156.00	10.25	266.25	5,152.65	4.48	1.21	-51.46	1.07	MWD	WEATHERFORD			
4/13/2015	5,251.00	10.48	266.57	5,246.10	7.43	0.14	-68.51	0.25	MWD	WEATHERFORD			
4/13/2015	5,346.00	10.51	266.27	5,339.51	10.41	-0.94	-85.79	0.07	MWD	WEATHERFORD			
4/13/2015	5,441.00	10.34	266.46	5,432.94	13.39	-2.03	-102.94	0.18	MWD	WEATHERFORD			
4/13/2015	5,536.00	10.24	265.76	5,526.42	16.40	-3.18	-119.87	0.17	MWD	WEATHERFORD			
4/13/2015	5,631.00	10.17	272.46	5,619.92	18.52	-3.45	-136.67	1.25	MWD	WEATHERFORD			
4/13/2015	5,726.00	10.29	273.24	5,713.41	19.55	-2.61	-153.52	0.19	MWD	WEATHERFORD			
4/13/2015	5,821.00	10.27	272.81	5,806.88	20.53	-1.71	-170.46	0.08	MWD	WEATHERFORD			
4/13/2015	5,916.00	10.41	272.82	5,900.34	21.57	-0.88	-187.48	0.15	MWD	WEATHERFORD			
4/14/2015	6,011.00	10.35	273.02	5,993.78	22.60	0.00	-204.58	0.07	MWD	WEATHERFORD			
4/14/2015	6,106.00	10.04	273.37	6,087.28	23.52	0.93	-221.37	0.33	MWD	WEATHERFORD			
4/14/2015	6,201.00	9.76	273.88	6,180.87	24.29	1.96	-237.67	0.31	MWD	WEATHERFORD			
4/14/2015	6,296.00	9.17	275.35	6,274.58	24.77	3.21	-253.24	0.67	MWD	WEATHERFORD			
4/14/2015	6,391.00	10.05	270.73	6,368.24	25.71	4.03	-269.06	1.23	MWD	WEATHERFORD			
4/14/2015	6,487.00	9.71	270.40	6,462.82	27.37	4.19	-285.54	0.36	MWD	WEATHERFORD			
4/14/2015	6,581.00	9.69	270.62	6,555.48	28.98	4.33	-301.37	0.04	MWD	WEATHERFORD			

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Directional Survey

Well Name: COTTON DRAW 32 STATE FED COM 4H

Sub-Division DELAWARE BASIN WEST	Region BASIN WEST	Field Name PADUCA	County LEA	State/Province NM
Surface Legal Location SEC32 T24S R32E	APN 3002541172	Latitude (°) 32° 10' 22.761" N	Longitude (°) 103° 42' 3.241" W	Orig KB Elevation (ft) 3,496.50
				Ground Elev MSL (ft) 3,469.50
				KB - GL (ft) 27.00

Survey Data										
Date	MD (NBS)	Incl (°)	Azm (°)	TVD (NBS)	VS (ft)	N/S (ft)	E/W (ft)	DLS (1/100ft)	Survey Tool	Survey Company
4/14/2015	6,676.00	9.67	270.90	6,649.12	30.53	4.54	-317.34	0.05	MWD	WEATHERFORD
4/14/2015	6,771.00	9.47	271.73	6,742.80	31.91	4.90	-333.13	0.26	MWD	WEATHERFORD
4/14/2015	6,866.00	9.30	272.79	6,836.53	33.02	5.51	-348.61	0.26	MWD	WEATHERFORD
4/14/2015	6,961.00	9.16	273.61	6,930.30	33.85	6.36	-363.83	0.20	MWD	WEATHERFORD
4/14/2015	7,057.00	7.89	270.35	7,025.24	34.91	6.88	-378.04	1.41	MWD	WEATHERFORD
4/14/2015	7,152.00	7.55	269.43	7,119.38	36.34	6.86	-390.80	0.38	MWD	WEATHERFORD
4/14/2015	7,247.00	6.99	270.03	7,213.61	37.72	6.80	-402.82	0.59	MWD	WEATHERFORD
4/14/2015	7,341.00	6.32	269.39	7,307.07	38.88	6.78	-412.90	1.78	MWD	WEATHERFORD
4/14/2015	7,436.00	4.12	267.27	7,401.74	39.95	6.65	-420.72	1.28	MWD	WEATHERFORD
4/14/2015	7,530.00	2.73	272.59	7,495.57	40.63	6.49	-426.33	1.52	MWD	WEATHERFORD
4/14/2015	7,625.00	1.16	268.99	7,590.52	40.90	6.58	-429.55	1.66	MWD	WEATHERFORD
4/14/2015	7,668.00	0.82	252.96	7,631.51	41.07	6.48	-430.24	1.06	MWD	WEATHERFORD
4/14/2015	7,716.00	0.77	255.41	7,681.50	41.33	6.29	-430.91	0.12	MWD	WEATHERFORD
4/14/2015	7,748.00	3.10	195.52	7,713.49	42.26	5.40	-431.35	8.73	MWD	WEATHERFORD
4/14/2015	7,780.00	6.81	185.46	7,745.36	45.01	2.68	-431.76	11.86	MWD	WEATHERFORD
4/14/2015	7,811.00	10.72	182.07	7,775.99	49.73	-2.03	-432.04	12.72	MWD	WEATHERFORD
4/14/2015	7,843.00	15.32	177.54	7,807.16	56.88	-9.23	-431.97	14.71	MWD	WEATHERFORD
4/14/2015	7,875.00	19.95	175.35	7,837.65	66.42	-18.90	-431.34	14.61	MWD	WEATHERFORD
4/14/2015	7,906.00	24.06	174.90	7,866.39	77.81	-30.47	-430.35	13.27	MWD	WEATHERFORD
4/14/2015	7,938.00	28.58	176.65	7,895.06	91.76	-44.62	-429.32	14.33	MWD	WEATHERFORD
4/14/2015	7,969.00	31.84	178.24	7,921.85	107.17	-60.20	-428.64	10.83	MWD	WEATHERFORD
4/14/2015	8,001.00	34.10	179.84	7,948.69	124.44	-77.61	-428.35	7.57	MWD	WEATHERFORD
4/14/2015	8,032.00	36.00	182.67	7,974.07	142.17	-95.40	-428.75	8.06	MWD	WEATHERFORD
4/14/2015	8,064.00	38.48	183.78	7,999.55	161.50	-114.73	-429.85	8.03	MWD	WEATHERFORD
4/14/2015	8,095.00	40.50	184.45	8,023.47	181.20	-134.40	-431.27	6.66	MWD	WEATHERFORD
4/14/2015	8,127.00	42.18	185.46	8,047.49	202.33	-155.45	-433.10	5.65	MWD	WEATHERFORD
4/14/2015	8,159.00	44.62	186.78	8,070.74	224.31	-177.31	-435.44	8.13	MWD	WEATHERFORD
4/14/2015	8,190.00	46.52	187.87	8,092.44	246.44	-199.27	-438.27	6.62	MWD	WEATHERFORD
4/14/2015	8,222.00	48.93	188.25	8,113.97	270.11	-222.71	-441.59	7.58	MWD	WEATHERFORD
4/14/2015	8,253.00	51.29	187.50	8,133.85	293.88	-246.27	-444.85	7.84	MWD	WEATHERFORD
4/14/2015	8,285.00	53.16	186.20	8,153.45	319.18	-271.38	-447.86	6.67	MWD	WEATHERFORD
4/14/2015	8,317.00	55.14	185.26	8,172.19	345.11	-297.18	-450.45	6.63	MWD	WEATHERFORD
4/14/2015	8,348.00	57.19	184.79	8,189.45	370.85	-322.83	-452.70	6.73	MWD	WEATHERFORD
4/14/2015	8,380.00	60.05	184.63	8,206.11	398.16	-350.06	-454.94	8.95	MWD	WEATHERFORD
4/14/2015	8,412.00	62.93	183.86	8,221.38	426.25	-378.10	-457.02	9.24	MWD	WEATHERFORD
4/14/2015	8,444.00	66.24	183.63	8,235.12	455.12	-406.94	-458.91	10.36	MWD	WEATHERFORD
4/14/2015	8,475.00	69.63	183.26	8,246.76	483.81	-435.61	-460.63	10.99	MWD	WEATHERFORD
4/14/2015	8,507.00	74.11	183.15	8,256.71	514.17	-465.97	-462.33	14.00	MWD	WEATHERFORD
4/14/2015	8,538.00	78.22	182.74	8,264.13	544.21	-496.02	-463.88	13.32	MWD	WEATHERFORD
4/14/2015	8,568.00	81.85	182.52	8,269.32	573.69	-525.53	-465.23	12.12	MWD	WEATHERFORD
4/17/2015	8,584.00	82.63	182.60	8,271.48	589.51	-541.37	-465.94	4.90	MWD	WEATHERFORD
4/17/2015	8,616.00	85.03	182.45	8,274.92	621.25	-573.15	-467.34	7.51	MWD	WEATHERFORD
4/17/2015	8,647.00	85.67	182.30	8,277.38	652.08	-604.03	-468.62	2.75	MWD	WEATHERFORD
4/17/2015	8,679.00	86.36	182.09	8,279.54	683.92	-635.93	-469.85	1.67	MWD	WEATHERFORD
4/17/2015	8,774.00	87.76	181.95	8,284.42	778.53	-730.74	-473.19	1.48	MWD	WEATHERFORD
4/17/2015	8,869.00	89.23	181.91	8,286.91	873.21	-825.65	-476.39	1.55	MWD	WEATHERFORD
4/17/2015	8,964.00	89.16	181.87	8,288.25	967.91	-920.59	-479.52	0.08	MWD	WEATHERFORD
4/17/2015	9,059.00	89.72	183.02	8,289.17	1,062.69	-1,015.60	-483.57	1.35	MWD	WEATHERFORD
4/17/2015	9,154.00	91.12	183.53	8,288.48	1,157.55	-1,110.34	-489.00	1.57	MWD	WEATHERFORD
4/18/2015	9,249.00	89.09	182.65	8,288.30	1,252.39	-1,205.19	-494.12	2.33	MWD	WEATHERFORD
4/18/2015	9,344.00	88.25	183.20	8,290.51	1,347.19	-1,300.04	-498.97	1.06	MWD	WEATHERFORD
4/18/2015	9,439.00	91.47	184.12	8,290.74	1,442.07	-1,394.84	-505.03	3.53	MWD	WEATHERFORD
4/18/2015	9,535.00	90.70	184.08	8,288.92	1,537.98	-1,490.57	-511.89	0.80	MWD	WEATHERFORD
4/18/2015	9,630.00	88.81	183.91	8,289.33	1,632.90	-1,585.34	-518.51	2.00	MWD	WEATHERFORD
4/18/2015	9,725.00	88.60	182.46	8,291.48	1,727.73	-1,680.16	-523.79	1.54	MWD	WEATHERFORD
4/18/2015	9,820.00	89.44	182.72	8,293.10	1,822.51	-1,775.05	-528.08	0.93	MWD	WEATHERFORD
4/18/2015	9,915.00	90.70	182.95	8,292.99	1,917.33	-1,869.93	-532.78	1.35	MWD	WEATHERFORD
4/18/2015	10,010.00	91.26	183.73	8,291.36	2,012.19	-1,964.76	-538.31	1.01	MWD	WEATHERFORD
4/18/2015	10,105.00	88.39	180.89	8,291.65	2,106.93	-2,059.66	-542.14	4.25	MWD	WEATHERFORD
4/18/2015	10,200.00	91.82	182.80	8,291.48	2,201.62	-2,154.59	-545.20	4.13	MWD	WEATHERFORD
4/18/2015	10,295.00	90.21	181.83	8,289.79	2,296.37	-2,249.49	-549.04	1.98	MWD	WEATHERFORD
4/18/2015	10,390.00	91.12	182.57	8,288.69	2,391.11	-2,344.42	-552.68	1.23	MWD	WEATHERFORD
4/18/2015	10,485.00	89.37	183.36	8,288.28	2,485.94	-2,439.28	-557.60	2.02	MWD	WEATHERFORD
4/18/2015	10,580.00	88.74	182.79	8,288.85	2,580.77	-2,534.13	-562.69	0.89	MWD	WEATHERFORD
4/18/2015	10,675.00	89.02	183.64	8,291.71	2,675.61	-2,628.96	-568.02	0.94	MWD	WEATHERFORD
4/18/2015	10,770.00	88.04	183.48	8,294.15	2,770.47	-2,723.75	-573.92	1.05	MWD	WEATHERFORD
4/18/2015	10,865.00	89.23	183.72	8,296.41	2,865.33	-2,818.53	-579.88	1.28	MWD	WEATHERFORD
4/18/2015	10,960.00	88.04	183.26	8,298.67	2,960.18	-2,913.33	-585.66	1.34	MWD	WEATHERFORD
4/18/2015	11,047.00	87.48	182.83	8,302.07	3,046.97	-3,000.14	-590.28	0.81	MWD	WEATHERFORD
4/18/2015	11,142.00	87.83	182.67	8,305.96	3,141.71	-3,094.95	-594.83	0.41	MWD	WEATHERFORD
4/18/2015	11,237.00	89.44	182.64	8,308.22	3,236.48	-3,189.82	-599.23	1.70	MWD	WEATHERFORD
4/18/2015	11,332.00	91.47	182.73	8,307.47	3,331.28	-3,284.70	-603.68	2.14	MWD	WEATHERFORD
4/18/2015	11,427.00	90.00	182.82	8,306.25	3,426.08	-3,379.58	-608.28	1.55	MWD	WEATHERFORD
4/18/2015	11,523.00	90.84	183.35	8,305.55	3,521.93	-3,475.44	-613.45	1.03	MWD	WEATHERFORD
4/18/2015	11,618.00	90.63	182.84	8,304.33	3,616.77	-3,570.29	-618.58	0.58	MWD	WEATHERFORD
4/18/2015	11,713.00	92.17	183.03	8,302.01	3,711.57	-3,665.14	-623.44	1.63	MWD	WEATHERFORD
4/18/2015	11,808.00	92.17	182.98	8,298.41	3,806.34	-3,759.94	-628.41	0.05	MWD	WEATHERFORD



Directional Survey

Well Name: COTTON DRAW 32 STATE FED COM 4H

Sub-Division DELAWARE BASIN WEST	Region BASIN WEST	Field Name PADUCA	County LEA	State/Province NM
Surface Legal Location SEC32 T24S R32E	APN/BLM 3002541172	Latitude (°) 32° 10' 22.761" N	Longitude (°) 103° 42' 3.241" W	Orig KB Elevation (ft) 3,496.50
			Ground Elev MSL (ft) 3,469.50	KB - GL (ft) 27.00

Survey Data										
Date	MD (ft/D)	Incl (°)	Azm (°)	TVD (ft/D)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
4/18/2015	11,903.00	93.15	183.55	8,294.00	3,901.10	-3,854.68	-633.82	1.19	MWD	WEATHERFORD
4/18/2015	11,998.00	90.98	183.43	8,290.58	3,995.91	-3,949.44	-639.60	2.29	MWD	WEATHERFORD
4/18/2015	12,093.00	89.37	183.72	8,290.29	4,090.80	-4,044.25	-645.52	1.72	MWD	WEATHERFORD
4/18/2015	12,188.00	90.35	184.41	8,290.52	4,185.72	-4,139.01	-652.26	1.26	MWD	WEATHERFORD
4/18/2015	12,283.00	90.70	184.98	8,289.65	4,280.68	-4,233.68	-660.03	0.70	MWD	WEATHERFORD
4/18/2015	12,378.00	88.11	183.58	8,290.63	4,375.60	-4,328.40	-667.12	3.10	MWD	WEATHERFORD
4/18/2015	12,473.00	88.25	183.28	8,293.65	4,470.43	-4,423.19	-672.80	0.35	MWD	WEATHERFORD
4/18/2015	12,568.00	89.09	183.43	8,295.86	4,565.27	-4,518.00	-678.36	0.90	MWD	WEATHERFORD
4/18/2015	12,663.00	90.35	183.95	8,296.32	4,660.17	-4,612.80	-684.47	1.43	MWD	WEATHERFORD
4/18/2015	12,758.00	90.91	184.73	8,295.28	4,755.11	-4,707.52	-691.66	1.01	MWD	WEATHERFORD
4/18/2015	12,853.00	88.11	183.74	8,296.09	4,850.03	-4,802.24	-698.68	3.13	MWD	WEATHERFORD
4/18/2015	12,948.00	87.83	182.74	8,299.45	4,944.83	-4,897.03	-704.04	1.09	MWD	WEATHERFORD
4/18/2015	13,043.00	88.39	182.29	8,302.59	5,039.56	-4,991.89	-708.21	0.78	MWD	WEATHERFORD
4/18/2015	13,138.00	90.14	181.34	8,303.81	5,134.25	-5,086.83	-711.22	2.10	MWD	WEATHERFORD
4/18/2015	13,233.00	89.58	181.10	8,304.04	5,228.87	-5,181.80	-713.24	0.64	MWD	WEATHERFORD
4/18/2015	13,328.00	91.26	181.15	8,303.34	5,323.48	-5,276.78	-715.10	1.77	MWD	WEATHERFORD
4/18/2015	13,423.00	91.19	180.83	8,301.31	5,418.04	-5,371.74	-716.75	0.34	MWD	WEATHERFORD
4/18/2015	13,518.00	92.52	182.09	8,298.24	5,512.64	-5,466.66	-719.16	1.93	MWD	WEATHERFORD
4/18/2015	13,613.00	91.96	182.47	8,294.52	5,607.33	-5,561.51	-722.94	0.71	MWD	WEATHERFORD
4/18/2015	13,707.00	91.47	182.25	8,291.71	5,701.08	-5,655.39	-726.81	0.57	MWD	WEATHERFORD
4/18/2015	13,802.00	89.93	181.96	8,290.55	5,795.79	-5,750.32	-730.30	1.65	MWD	WEATHERFORD
4/18/2015	13,897.00	89.86	181.95	8,290.72	5,890.51	-5,845.26	-733.54	0.07	MWD	WEATHERFORD
4/18/2015	13,992.00	90.49	182.36	8,290.43	5,985.28	-5,940.19	-737.11	0.79	MWD	WEATHERFORD
4/18/2015	14,087.00	92.31	182.35	8,288.11	6,080.00	-6,035.08	-741.01	1.92	MWD	WEATHERFORD
4/18/2015	14,182.00	92.10	183.02	8,284.46	6,174.73	-6,129.90	-745.46	0.74	MWD	WEATHERFORD
4/18/2015	14,277.00	90.14	182.31	8,282.60	6,269.51	-6,224.78	-749.88	2.19	MWD	WEATHERFORD
4/18/2015	14,372.00	91.61	183.72	8,281.15	6,364.34	-6,319.63	-754.87	2.14	MWD	WEATHERFORD
4/18/2015	14,467.00	88.32	181.86	8,281.21	6,459.14	-6,414.50	-759.50	3.98	MWD	WEATHERFORD
4/18/2015	14,562.00	87.83	182.03	8,284.40	6,553.81	-6,509.39	-762.72	0.55	MWD	WEATHERFORD
4/18/2015	14,657.00	91.33	184.17	8,285.09	6,648.63	-6,604.23	-767.86	4.32	MWD	WEATHERFORD
4/18/2015	14,752.00	89.72	184.12	8,284.22	6,743.55	-6,698.97	-774.72	1.70	MWD	WEATHERFORD
4/18/2015	14,847.00	89.30	184.84	8,285.04	6,838.50	-6,793.68	-782.14	0.88	MWD	WEATHERFORD
4/18/2015	14,943.00	90.91	186.33	8,284.86	6,934.49	-6,889.22	-791.48	2.29	MWD	WEATHERFORD
4/18/2015	15,038.00	90.14	186.38	8,283.99	7,029.48	-6,983.63	-802.00	0.81	MWD	WEATHERFORD
4/18/2015	15,133.00	88.95	183.73	8,284.74	7,124.44	-7,078.25	-810.37	3.06	MWD	WEATHERFORD
4/18/2015	15,227.00	88.25	183.49	8,287.04	7,218.31	-7,172.03	-816.29	0.79	MWD	WEATHERFORD
4/18/2015	15,260.00	88.74	184.06	8,287.91	7,251.26	-7,204.95	-818.46	2.28	MWD	WEATHERFORD
4/18/2015	15,330.00	88.74	184.06	8,289.45	7,321.19	-7,274.76	-823.41	0.00	BIT	WEATHERFORD