

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs

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. NMNM012121
2. Name of Operator DEVON ENERGY PRODUCTION CO Contact: TRINA C COUCH Email: trina.couch@devn.com		6. If Indian, Allottee or Tribe Name
3a. Address 333 WEST SHERIDAN AVE OKLAHOMA CITY, OK 73102	3b. Phone No. (include area code) Ph: 405-228-7203	7. If Unit or CA/Agreement, Name and/or No. 891005247X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 25 T24S R31E NESW 2310FSL 2200FWL		8. Well Name and No. COTTON DRAW UNIT 167H
		9. API Well No. 30-015-41385-00-X1
		10. Field and Pool, or Exploratory PADUCA
		11. County or Parish, and State LEA COUNTY, NM Edm

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	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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.)

Devon Energy Production Company, L.P. respectfully requests to plug back and sidetrack the Cotton Draw Unit 167H due to pipe stuck in hole. The current/original hole is at 15,116 ft MD/8,230 TVD.

Devon will pump a neat H cement plug from the top of our fish, which is approximately 68 degrees in the curve at 8,467 ft MD, 8,214 ft TVD, up above our KOP to 7,475 MD/TV. We will run a whipstock above our original KOP and drill our curve/turn and lateral 150 ft. to the west of our original hole to 15,135 ft MD/8,210 ft TVD.

Attached is a wellbore schematic of what our current hole looks like with Devon's proposed cement plug. You will also find attached the new well design.

HOBBS OCD

AUG 27 2013

RECEIVED

Accepted for record
NMOC

RDade 8/29/2013

14. I hereby certify that the foregoing is true and correct. Electronic Submission #217426 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION CO LP, sent to the Hobbs Committed to AFMSS for processing by KURT SIMMONS on 08/19/2013 (13KMS2559SE)	
Name (Printed/Typed) TRINA C COUCH	Title REGULATORY ASSOCIATE
Signature (Electronic Submission)	Date 08/19/2013



THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CHRISTOPHER WALLS	Title PETROLEUM ENGINEER	Date 08/20/2013
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 Hobbs

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.

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



CURRENT WELLBORE SCHEMATIC

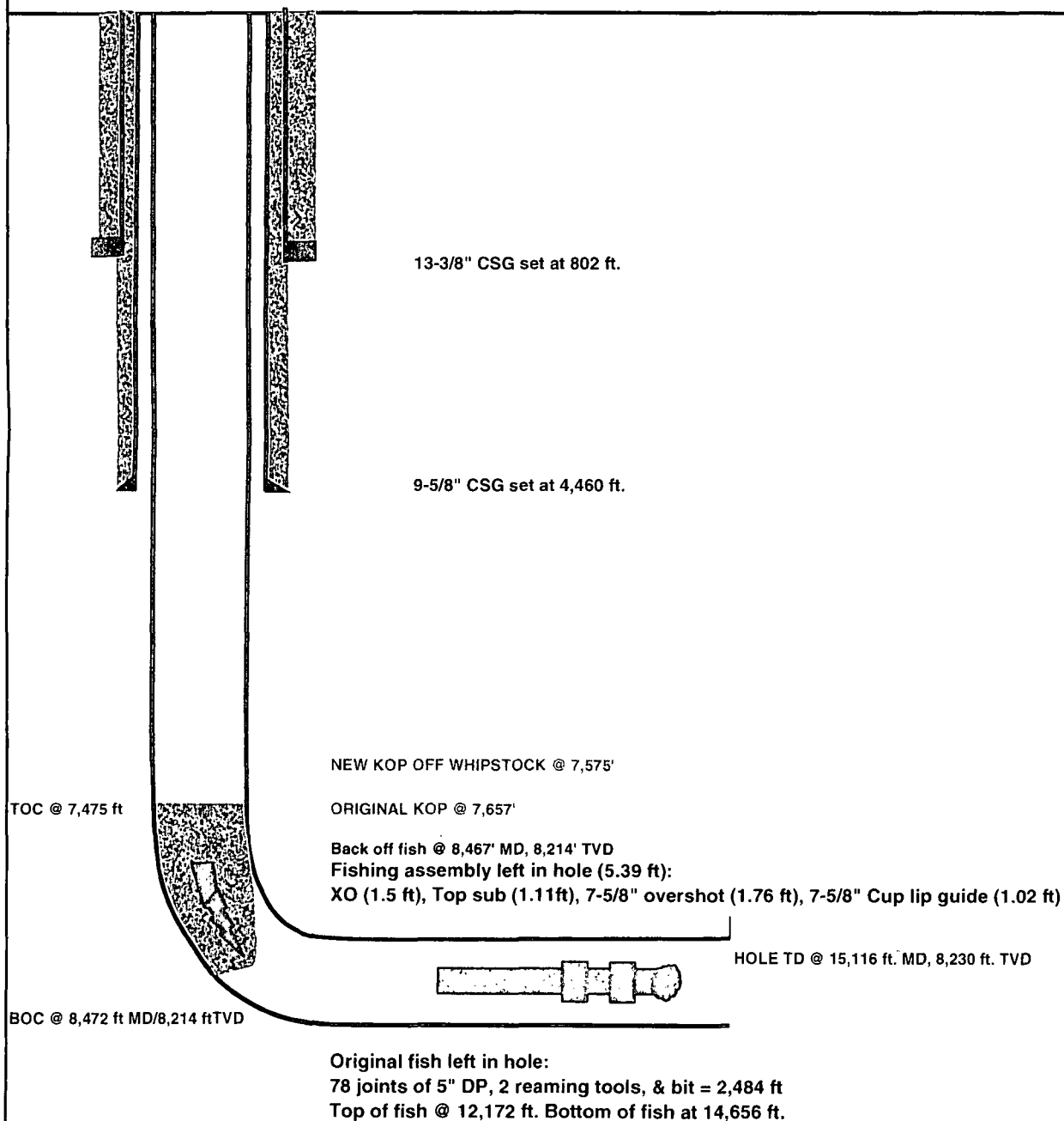
WELL: Cotton Draw Unit 167H

SHL: 2310' FSL and 2200' FWL Section 25-T24S-R31E

BHL: 330' FSL and 2235' FWL, Section 36-T24S-R31E

API NO.: 30-01541385

RIG : H&P 214



CEMENT PLUG PROPOSAL
COTTON DRAW UNIT 167H

FLUID SPECIFICATIONS

Spacer			= 15.0 bbls Mud Clean II
PLUG NO.	VOLUME CU-FT	VOLUME FACTOR	AMOUNT AND TYPE OF CEMENT
1	478	/ 1.18	= 405 sacks Class H Cement + 0.3% bwoc R-3 + 46.3% Fresh Water

CEMENT PROPERTIES

	PLUG NO.1
Slurry Weight (ppg)	15.60
Slurry Yield (cf/sack)	1.18
Amount of Mix Water (gps)	5.22
Estimated Pumping Time - 70 BC (HH:MM)	6:15
COMPRESSIVE STRENGTH	
8 hrs @ 143 ° F (psi)	500
12 hrs @ 143 ° F (psi)	1100
24 hrs @ 143 ° F (psi)	1800

PLUG GEOMETRY

	PLUG TOP		PLUG BOTTOM	
1	7475 ft	to	8467 ft	with 8.75 inch Open Hole PDSqT = 131 ° F PDST = 145.712 ° F

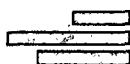


Weatherford®

Drilling Services



Proposal



devon

COTTON DRAW UNIT #167H

EDDY COUNTY, NM

WELL FILE: **PLAN ST01 P2**

AUGUST 15, 2013

Weatherford International, Ltd.

P.O. Box 61028

Midland, TX 79711 USA

+1.432.561.8892 Main

+1.432.561.8895 Fax

www.weatherford.com

devon

Cotton Draw #167H
Eddy Co., New Mexico



KB ELEV: 3551
GL ELEV: 3526

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7532.00	0.98	208.93	7530.46	-90.63	17.98	0.00	0.00	90.78	
2	7575.00	0.98	208.93	7573.45	-91.27	17.63	0.00	0.00	91.42	
3	7590.02	2.71	245.00	7588.47	-91.53	17.24	13.33	52.80	91.68	
4	7660.02	2.71	245.00	7658.39	-92.93	14.24	0.00	0.00	93.05	
5	8041.61	40.00	199.00	8008.15	-217.34	-35.72	10.00	311.55	217.02	
6	8568.59	90.13	180.00	8224.90	-673.59	-95.10	10.00	-24.16	672.73	
7	15135.00	90.13	180.00	8210.00	-7239.98	-95.00	0.00	0.00	7238.88	PBHL ST01

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
CDU #167H	0.00	0.00	432441.91	727076.36	32°11'14.758N	103°43'58.575W	N/A

TARGET DETAILS

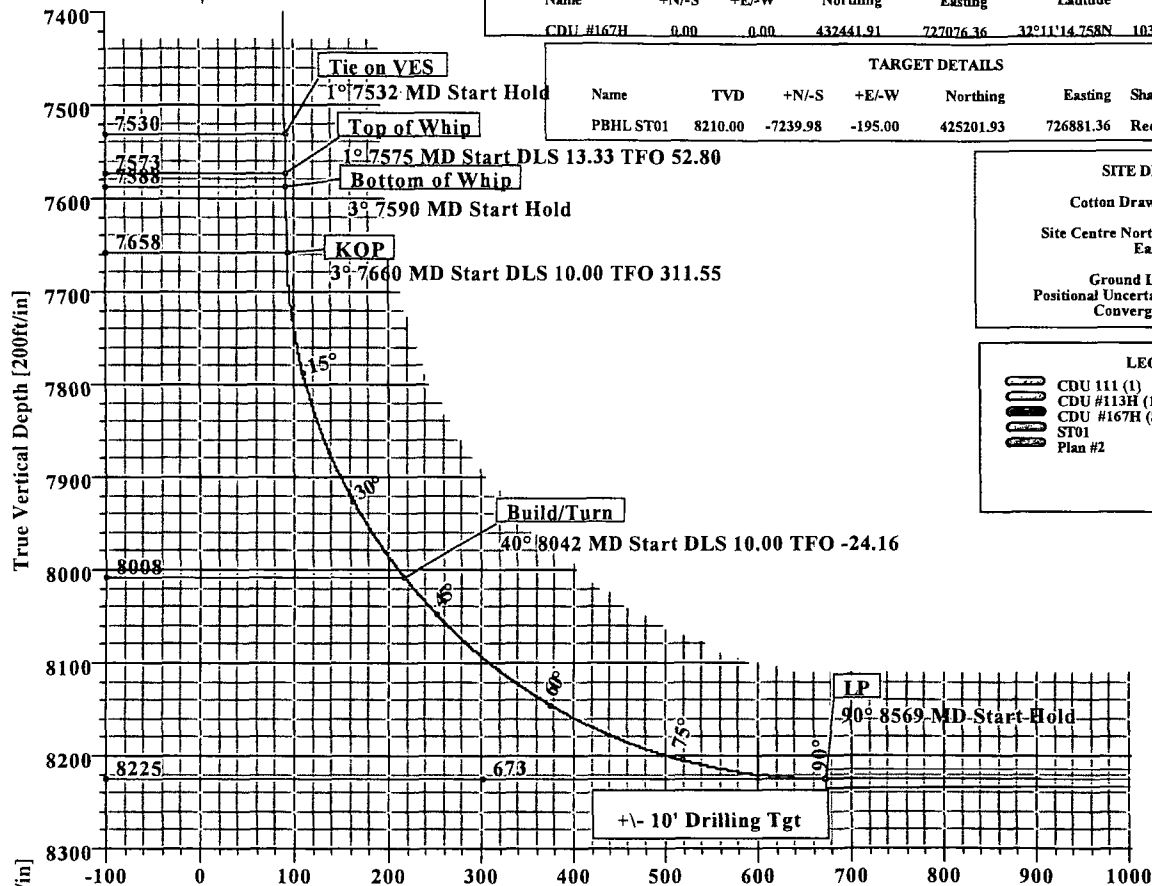
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL ST01	8210.00	-7239.98	-195.00	425201.93	726881.36	Rectangle (6566x50)

SITE DETAILS

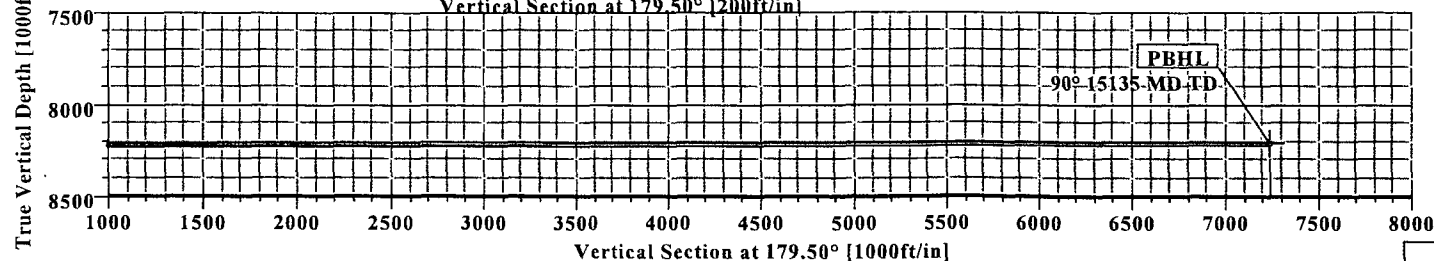
Cotton Draw Unit #167H
Site Centre Northing: 432441.91
Easting: 727076.36
Ground Level: 3526.00
Positional Uncertainty: 0.00
Convergence: 0.32

LEGEND

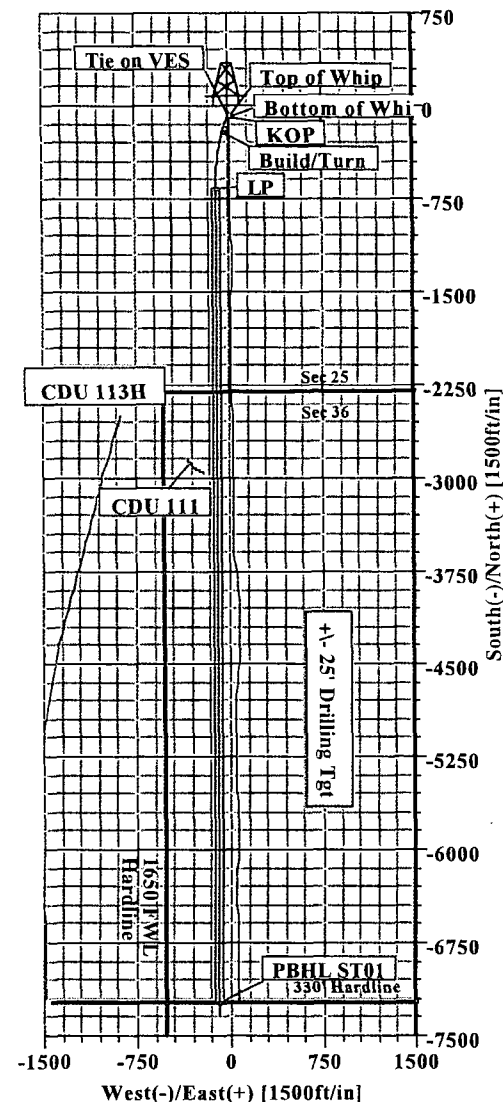
- CDU 111 (1)
- CDU #113H (1)
- CDU #167H (ST00)
- ST01
- Plan #2



Vertical Section at 179.50° [200ft/in]



Vertical Section at 179.50° [1000ft/in]



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Plan: Plan #2 (CDU #167H/ST01)

Created By: Russell W. Joyner

Date: 8/15/2013



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WFT Plan Report - X & Y's

**Weatherford**

Company: Devon Energy	Date: 8/15/2013	Time: 16:02:24	Page: 11
Field: Eddy Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: CDU #167H; Gnd North		
Site: Cotton Draw Unit #167H	Vertical (TVD) Reference: SITE 3551.0		
Well: CDU #167H	Section (VS) Reference: Well: (0.00N; 0.00E; 179.50Azi)		
Wellpath: ST01	Survey Calculation Method: Minimum Curvature		Db: Sybase

Plan: Plan #2	Date Composed: 8/15/2013
Principal: Yes	Version: 1
	Tied-to: From: Definitive Path

Field: Eddy Co., NM (NAD 83)	
Map System: US State Plane Coordinate System 1983	Map Zone: New Mexico, Eastern Zone
Geo Datum: GRS 1980	Coordinate System: Well Centre
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010

Site: Cotton Draw Unit #167H	
Site Position: Northing: 432441.91 ft Latitude: 32 11 14.758 N	
From: Map Easting: 727076.36 ft Longitude: 103 43 58.575 W	
Position Uncertainty: 0.00 ft North Reference: Grid	
Ground Level: 3526.00 ft Grid Convergence: 0.32 deg	

Well: CDU #167H	Slot Name:
Well Position: +N/-S 0.00 ft Northing: 432441.91 ft Latitude: 32 11 14.758 N	
+E/-W 0.00 ft Easting: 727076.36 ft Longitude: 103 43 58.575 W	
Position Uncertainty: 0.00 ft	

Wellpath: ST01	Drilled From: ST00
Current Datum: SITE	Tie-on Depth: 7532.00 ft
Magnetic Data: 8/13/2013	Above System Datum: Mean Sea Level
Field Strength: 48386 nT	Declination: 7.39 deg
Vertical Section: Depth From (TVD) ft	Mag Dip Angle: 60.07 deg
	+E/-W ft Direction deg
0.00	0.00 0.00 179.50

Plan Section Information											
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target	
7532.00	0.98	208.93	7530.46	-90.63	17.98	0.00	0.00	0.00	0.00	0.00	
7575.00	0.98	208.93	7573.45	-91.27	17.63	0.00	0.00	0.00	0.00	0.00	
7590.02	2.71	245.00	7588.47	-91.53	17.24	13.33	11.52	240.07	52.80		
7660.02	2.71	245.00	7658.39	-92.93	14.24	0.00	0.00	0.00	0.00		
8041.61	40.00	199.00	8008.15	-217.34	-35.72	10.00	9.77	-12.05	311.55		
8568.59	90.13	180.00	8224.90	-673.59	-95.10	10.00	9.51	-3.61	-24.16		
15135.00	90.13	180.00	8210.00	-7239.98	-95.00	0.00	0.00	0.00	0.00	PBHL ST01	

Survey											
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Comment	
7532.00	0.98	208.93	7530.46	-90.63	17.98	90.78	0.00	432351.28	727094.34	Tie on VES	
7575.00	0.98	208.93	7573.45	-91.27	17.63	91.42	0.00	432350.64	727093.99	Top of Whip	
7590.02	2.71	245.00	7588.47	-91.53	17.24	91.68	13.33	432350.38	727093.60	Bottom of Whip	
7600.02	2.71	245.00	7598.43	-91.73	16.81	91.88	0.00	432350.18	727093.17		
7660.02	2.71	245.00	7658.39	-92.93	14.24	93.05	0.00	432348.98	727090.60	KOP	
7700.00	6.14	215.80	7698.25	-95.07	12.13	95.17	10.00	432346.84	727088.49		
7800.00	15.92	203.71	7796.29	-112.01	3.47	112.03	10.00	432329.90	727079.83		
7900.00	25.87	200.77	7889.60	-145.05	-9.82	144.96	10.00	432296.86	727066.54		
8000.00	35.85	199.39	7975.34	-193.19	-27.32	192.94	10.00	432248.72	727049.04		
8041.61	40.00	199.00	8008.15	-217.34	-35.72	217.02	10.00	432224.57	727040.64	Build/Turn	
8100.00	45.38	195.65	8051.06	-255.12	-47.45	254.70	10.00	432186.79	727028.91		
8200.00	54.77	191.14	8115.19	-329.65	-64.98	329.07	10.00	432112.26	727011.38		
8300.00	64.29	187.58	8165.85	-414.60	-78.85	413.89	10.00	432027.31	726997.51		
8400.00	73.88	184.55	8201.52	-507.37	-88.63	506.58	10.00	431934.54	726987.73		
8500.00	83.51	181.81	8221.10	-605.16	-94.03	604.31	10.00	431836.75	726982.33		



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WFT Plan Report - X & Y's



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Company: Devon Energy Date: 8/15/2013 Time: 16:02:24 Page: 2
Field: Eddy Co. NM (NAD'83) Co-ordinate (NE) Reference: Well: CDU #167H, Grd. North
Site: Cotton Draw Unit #167H Vertical (TVD) Reference: SITE 3551.0
Well: CDU #167H Section (VS) Reference: Well (0.00N, 0.00E, 179.50Az)
Wellpath: ST01 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
8568.59	90.13	180.00	8224.90	-673.59	-95.10	672.73	10.00	431768.32	726981.26	LP
8600.00	90.13	180.00	8224.83	-705.00	-95.10	704.14	0.00	431736.91	726981.26	
8700.00	90.13	180.00	8224.60	-805.00	-95.10	804.14	0.00	431636.91	726981.26	
8800.00	90.13	180.00	8224.37	-905.00	-95.10	904.14	0.00	431536.91	726981.26	
8900.00	90.13	180.00	8224.15	-1005.00	-95.10	1004.13	0.00	431436.91	726981.26	
9000.00	90.13	180.00	8223.92	-1105.00	-95.10	1104.13	0.00	431336.91	726981.26	
9100.00	90.13	180.00	8223.69	-1205.00	-95.10	1204.12	0.00	431236.91	726981.26	
9200.00	90.13	180.00	8223.47	-1305.00	-95.09	1304.12	0.00	431136.91	726981.27	
9300.00	90.13	180.00	8223.24	-1405.00	-95.09	1404.12	0.00	431036.91	726981.27	
9400.00	90.13	180.00	8223.01	-1505.00	-95.09	1504.11	0.00	430936.91	726981.27	
9500.00	90.13	180.00	8222.78	-1605.00	-95.09	1604.11	0.00	430836.91	726981.27	
9600.00	90.13	180.00	8222.56	-1705.00	-95.09	1704.10	0.00	430736.91	726981.27	
9700.00	90.13	180.00	8222.33	-1805.00	-95.09	1804.10	0.00	430636.91	726981.27	
9800.00	90.13	180.00	8222.10	-1905.00	-95.08	1904.10	0.00	430536.91	726981.28	
9900.00	90.13	180.00	8221.88	-2005.00	-95.08	2004.09	0.00	430436.91	726981.28	
10000.00	90.13	180.00	8221.65	-2105.00	-95.08	2104.09	0.00	430336.91	726981.28	
10100.00	90.13	180.00	8221.42	-2205.00	-95.08	2204.08	0.00	430236.91	726981.28	
10200.00	90.13	180.00	8221.20	-2305.00	-95.08	2304.08	0.00	430136.91	726981.28	
10300.00	90.13	180.00	8220.97	-2405.00	-95.08	2404.08	0.00	430036.91	726981.28	
10400.00	90.13	180.00	8220.74	-2505.00	-95.08	2504.07	0.00	429936.91	726981.28	
10500.00	90.13	180.00	8220.52	-2605.00	-95.07	2604.07	0.00	429836.91	726981.29	
10600.00	90.13	180.00	8220.29	-2705.00	-95.07	2704.06	0.00	429736.91	726981.29	
10700.00	90.13	180.00	8220.06	-2805.00	-95.07	2804.06	0.00	429636.91	726981.29	
10800.00	90.13	180.00	8219.84	-2905.00	-95.07	2904.05	0.00	429536.91	726981.29	
10900.00	90.13	180.00	8219.61	-3004.99	-95.07	3004.05	0.00	429436.92	726981.29	
11000.00	90.13	180.00	8219.38	-3104.99	-95.07	3104.05	0.00	429336.92	726981.29	
11100.00	90.13	180.00	8219.15	-3204.99	-95.06	3204.04	0.00	429236.92	726981.30	
11200.00	90.13	180.00	8218.93	-3304.99	-95.06	3304.04	0.00	429136.92	726981.30	
11300.00	90.13	180.00	8218.70	-3404.99	-95.06	3404.03	0.00	429036.92	726981.30	
11400.00	90.13	180.00	8218.47	-3504.99	-95.06	3504.03	0.00	428936.92	726981.30	
11500.00	90.13	180.00	8218.25	-3604.99	-95.06	3604.03	0.00	428836.92	726981.30	
11600.00	90.13	180.00	8218.02	-3704.99	-95.06	3704.02	0.00	428736.92	726981.30	
11700.00	90.13	180.00	8217.79	-3804.99	-95.05	3804.02	0.00	428636.92	726981.31	
11800.00	90.13	180.00	8217.57	-3904.99	-95.05	3904.01	0.00	428536.92	726981.31	
11900.00	90.13	180.00	8217.34	-4004.99	-95.05	4004.01	0.00	428436.92	726981.31	
12000.00	90.13	180.00	8217.11	-4104.99	-95.05	4104.01	0.00	428336.92	726981.31	
12100.00	90.13	180.00	8216.89	-4204.99	-95.05	4204.00	0.00	428236.92	726981.31	
12200.00	90.13	180.00	8216.66	-4304.99	-95.05	4304.00	0.00	428136.92	726981.31	
12300.00	90.13	180.00	8216.43	-4404.99	-95.05	4403.99	0.00	428036.92	726981.31	
12400.00	90.13	180.00	8216.21	-4504.99	-95.04	4503.99	0.00	427936.92	726981.32	
12500.00	90.13	180.00	8215.98	-4604.99	-95.04	4603.99	0.00	427836.92	726981.32	
12600.00	90.13	180.00	8215.75	-4704.99	-95.04	4703.98	0.00	427736.92	726981.32	
12700.00	90.13	180.00	8215.52	-4804.99	-95.04	4803.98	0.00	427636.92	726981.32	
12800.00	90.13	180.00	8215.30	-4904.99	-95.04	4903.97	0.00	427536.92	726981.32	
12900.00	90.13	180.00	8215.07	-5004.99	-95.04	5003.97	0.00	427436.92	726981.32	
13000.00	90.13	180.00	8214.84	-5104.99	-95.03	5103.97	0.00	427336.92	726981.33	
13100.00	90.13	180.00	8214.62	-5204.99	-95.03	5203.96	0.00	427236.92	726981.33	
13200.00	90.13	180.00	8214.39	-5304.99	-95.03	5303.96	0.00	427136.92	726981.33	
13300.00	90.13	180.00	8214.16	-5404.99	-95.03	5403.95	0.00	427036.92	726981.33	
13400.00	90.13	180.00	8213.94	-5504.99	-95.03	5503.95	0.00	426936.92	726981.33	
13500.00	90.13	180.00	8213.71	-5604.99	-95.03	5603.95	0.00	426836.92	726981.33	
13600.00	90.13	180.00	8213.48	-5704.99	-95.02	5703.94	0.00	426736.92	726981.34	



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WFT Plan Report - X & Y's



Weatherford

Company: Devon Energy	Date: 8/15/2013	Time: 16:02:24	Page: 3
Field: Eddy Co. NM (NAD83)	Co-ordinate (NE) Reference:	Well: CDU #167H	Grid North
Site: Cotton Draw Unit #167H	Vertical (TVD) Reference:	SITE 3551.0	
Well: CDU #167H	Section (VS) Reference:	Well (0.00N 0.00E: 179.50Azi)	
Wellpath: ST01	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD	Incl	Azimuth	TVD	N/S	E/W	VS	DLS	MapN	MapE	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
13700.00	90.13	180.00	8213.26	-5804.99	-95.02	5803.94	0.00	426636.92	726981.34	
13800.00	90.13	180.00	8213.03	-5904.99	-95.02	5903.93	0.00	426536.92	726981.34	
13900.00	90.13	180.00	8212.80	-6004.99	-95.02	6003.93	0.00	426436.92	726981.34	
14000.00	90.13	180.00	8212.58	-6104.99	-95.02	6103.93	0.00	426336.92	726981.34	
14100.00	90.13	180.00	8212.35	-6204.99	-95.02	6203.92	0.00	426236.92	726981.34	
14200.00	90.13	180.00	8212.12	-6304.99	-95.01	6303.92	0.00	426136.92	726981.35	
14300.00	90.13	180.00	8211.89	-6404.99	-95.01	6403.91	0.00	426036.92	726981.35	
14400.00	90.13	180.00	8211.67	-6504.99	-95.01	6503.91	0.00	425936.92	726981.35	
14500.00	90.13	180.00	8211.44	-6604.99	-95.01	6603.90	0.00	425836.92	726981.35	
14600.00	90.13	180.00	8211.21	-6704.99	-95.01	6703.90	0.00	425736.92	726981.35	
14700.00	90.13	180.00	8210.99	-6804.99	-95.01	6803.90	0.00	425636.92	726981.35	
14800.00	90.13	180.00	8210.76	-6904.98	-95.01	6903.89	0.00	425536.93	726981.35	
14900.00	90.13	180.00	8210.53	-7004.98	-95.00	7003.89	0.00	425436.93	726981.36	
15000.00	90.13	180.00	8210.31	-7104.98	-95.00	7103.88	0.00	425336.93	726981.36	
15100.00	90.13	180.00	8210.08	-7204.98	-95.00	7203.88	0.00	425236.93	726981.36	
15135.00	90.13	180.00	8210.00	-7239.98	-95.00	7238.88	0.00	425201.93	726981.36	PBHL ST01

Targets

Name	Description	TVD	+N/-S	+E/-W	Map Northing	Map Easting	Latitude	Longitude
Dip	Dir.	ft	ft	ft	ft	ft	Deg Min Sec	Deg Min Sec
PBHL ST01		8210.00	-7239.98	-95.00	425201.93	726981.36	32 10 3.120 N	103 44 0.150 W
-Rectangle (6566x50)								

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD	TVD	
ft	ft	
7532.00	7530.46	Tie on VES
7575.00	7573.45	Top of Whip
7590.02	7588.47	Bottom of Whip
7660.02	7658.39	KOP
8041.61	8008.15	Build/Turn
8568.59	8224.90	LP
15134.99	8210.00	PBHL

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction



Weatherford Anticollision Report



Weatherford

Company: Devon Energy Date: 8/15/2013 Time: 16:01:47 Page: 1
Field: Eddy Co. NM (NAD 83)
Reference Site: Cotton Draw Unit #167H Co-ordinate (NE) Reference: Well: CDU #167H Grid North
Reference Well: CDU #167H Vertical (TVD) Reference: SITE 35510
Reference Wellpath: ST00 V1 Db: Sybase

NO GLOBAL SCAN: Using user defined selection & scan criteria
Interpolation Method MD + Stations Interval: 100.00 ft
Depth Range: 7500.00 to 15136.72 ft
Maximum Radius 0000.00 ft

Reference: Plan: Plan #2
Error Model: ISCWSA Ellipse
Scan Method: Closest Approach 3D
Error Surface: Ellipse

Plan: Plan #2

Date Composed: 8/15/2013

Principal: Yes

Version: 1

Tied-to: From: Definitive Path

Summary

Site	Offset Wellpath	Reference MD	Offset MD	Ctr-Ctr Edge Distance	Separation Distance	Factor	Warning
CDU 111	CDU 111	1 V0	10800.00	8165.52	236.17 178.14	4.07	
Cotton Draw Unit #11	CDU #113H	1 V0	10500.00	12969.00	794.00 662.38	6.03	
Cotton Draw Unit #16	CDU #167H	ST00 V1	7532.00	7532.00	0.00 -31.39	0.00	No Data

Site: CDU 111

Well: CDU 111

Wellpath: 1 V0

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr Edge		Separation	Warning
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
7500.00	7498.46	7464.04	7462.22	15.62	4.74	336.73	-2869.94	-319.19	2800.21	2781.73	151.50	
7532.00	7530.46	7495.09	7493.26	15.69	4.76	337.99	-2869.71	-319.54	2799.55	2780.98	150.77	
7575.00	7573.45	7536.72	7534.90	15.74	4.79	337.99	-2869.43	-320.01	2798.64	2780.01	150.22	
7590.02	7588.47	7551.27	7549.44	15.73	4.80	301.89	-2869.33	-320.17	2798.25	2779.62	150.17	
7600.00	7598.43	7560.92	7559.09	15.73	4.81	301.88	-2869.27	-320.28	2797.95	2779.32	150.13	
7660.02	7658.39	7619.71	7617.88	15.74	4.85	301.85	-2868.92	-320.98	2796.18	2777.52	149.87	
7700.00	7698.25	7659.79	7657.95	15.74	4.87	330.91	-2868.68	-321.47	2793.63	2774.99	149.88	
7750.00	7747.68	7709.27	7707.42	15.75	4.91	339.35	-2868.37	-322.09	2786.59	2768.04	150.25	
7800.00	7796.29	7757.05	7755.20	15.76	4.94	342.38	-2868.09	-322.71	2775.34	2756.96	151.00	
7850.00	7843.72	7803.49	7801.64	15.77	4.97	343.73	-2867.82	-323.33	2759.97	2741.82	152.06	
7900.00	7889.60	7846.53	7844.67	15.80	5.00	344.28	-2867.60	-323.92	2740.62	2722.76	153.45	
7950.00	7933.58	7887.82	7885.95	15.84	5.02	344.35	-2867.43	-324.49	2717.46	2699.94	155.14	
8000.00	7975.34	7927.39	7925.52	15.90	5.05	344.04	-2867.31	-325.04	2690.65	2673.51	157.00	
8041.61	8008.15	7958.65	7956.78	15.97	5.06	343.52	-2867.23	-325.48	2665.69	2648.88	158.58	
8050.00	8014.54	7964.74	7962.87	15.99	5.07	343.99	-2867.22	-325.56	2660.38	2643.65	158.97	
8100.00	8051.06	7999.57	7997.69	16.11	5.09	346.52	-2867.16	-326.06	2626.86	2610.58	161.42	
8150.00	8084.69	8032.49	8030.62	16.26	5.11	348.79	-2867.12	-326.51	2590.28	2574.48	163.88	
8200.00	8115.19	8062.36	8060.48	16.45	5.12	350.97	-2867.10	-326.89	2550.93	2535.61	166.55	
8250.00	8142.31	8088.94	8087.06	16.67	5.14	353.25	-2867.09	-327.21	2509.08	2494.26	169.33	
8300.00	8165.85	8111.41	8109.53	16.94	5.15	355.89	-2867.08	-327.47	2465.06	2450.74	172.18	
8350.00	8185.64	8129.86	8127.98	17.25	5.16	359.32	-2867.09	-327.69	2419.20	2405.32	174.29	
8400.00	8201.52	8144.72	8142.83	17.60	5.17	4.40	-2867.11	-327.88	2371.84	2358.23	174.26	
8450.00	8213.37	8155.85	8153.96	17.99	5.17	13.22	-2867.12	-328.03	2323.34	2309.49	167.80	
8500.00	8221.10	8163.15	8161.26	18.41	5.17	31.71	-2867.13	-328.13	2274.07	2258.11	142.52	
8550.00	8224.65	8166.55	8164.67	18.87	5.18	71.61	-2867.14	-328.17	2224.40	2203.23	105.08	
8568.59	8224.90	8166.82	8164.93	19.04	5.18	89.51	-2867.14	-328.18	2205.91	2183.87	100.10	
8600.00	8224.83	8166.80	8164.91	19.36	5.18	89.51	-2867.14	-328.18	2174.67	2152.32	97.30	
8700.00	8224.60	8166.74	8164.86	20.45	5.18	89.49	-2867.14	-328.18	2075.28	2051.86	88.62	
8800.00	8224.37	8166.69	8164.80	21.64	5.18	89.48	-2867.14	-328.18	1975.94	1951.36	80.38	
8900.00	8224.15	8166.63	8164.75	22.91	5.18	89.47	-2867.14	-328.18	1876.68	1850.85	72.66	
9000.00	8223.92	8166.58	8164.69	24.25	5.18	89.45	-2867.14	-328.17	1777.49	1750.35	65.48	
9100.00	8223.69	8166.52	8164.63	25.66	5.18	89.44	-2867.14	-328.17	1678.41	1649.89	58.86	
9200.00	8223.47	8166.47	8164.58	27.11	5.18	89.42	-2867.14	-328.17	1579.44	1549.51	52.77	
9300.00	8223.24	8166.41	8164.52	28.60	5.18	89.41	-2867.14	-328.17	1480.61	1449.22	47.17	
9400.00	8223.01	8166.35	8164.46	30.14	5.18	89.40	-2867.14	-328.17	1381.95	1349.07	42.04	
9500.00	8222.78	8166.29	8164.41	31.70	5.18	89.38	-2867.14	-328.17	1283.49	1249.11	37.33	



Weatherford Anticollision Report



Weatherford

Company: Devon Energy
Field: Eddy Co. NM (NAD 83)
Reference Site: Cotton Draw Unit #167H
Reference Well: CDU #167H
Reference Wellpath: T01
Date: 8/15/2013
Time: 16:01:47
Page: 2
Co-ordinate (NE) Reference: Well: CDU #167H; Gnd North
Vertical (TVD) Reference: SITE 3551.0
Db: Sybase

Site: CDU 111
Well: CDU 111
Wellpath: 1 V0

Inter-Site Error: 0.00 ft

Reference MD	TVD	Offset MD	TVD	Semi-Major Axis Ref	Offset	TFO-HS North	East	Ctr-Ctr Edge Distance	Separation Distance	Factor	Warning
9600.00	8222.56	8166.24	8164.35	33.29	5.18	89.37 -2867.14	-328.17	1185.29	1149.38	33.01	
9700.00	8222.33	8166.18	8164.29	34.90	5.18	89.35 -2867.13	-328.17	1087.42	1049.98	29.04	
9800.00	8222.10	8166.12	8164.23	36.53	5.18	89.34 -2867.13	-328.17	989.98	950.99	25.39	
9900.00	8221.88	8166.06	8164.17	38.18	5.18	89.32 -2867.13	-328.17	893.10	852.57	22.04	
10000.00	8221.65	8166.00	8164.12	39.85	5.18	89.31 -2867.13	-328.17	797.00	754.94	18.95	
10100.00	8221.42	8165.94	8164.06	41.53	5.18	89.30 -2867.13	-328.17	701.98	658.42	16.12	
10200.00	8221.20	8165.89	8164.00	43.22	5.18	89.28 -2867.13	-328.17	608.56	563.54	13.52	
10300.00	8220.97	8165.83	8163.94	44.92	5.18	89.27 -2867.13	-328.16	517.61	471.17	11.15	
10400.00	8220.74	8165.77	8163.88	46.63	5.18	89.25 -2867.13	-328.16	430.68	382.89	9.01	
10500.00	8220.52	8165.71	8163.82	48.35	5.18	89.24 -2867.13	-328.16	350.80	301.46	7.11	
10600.00	8220.29	8165.64	8163.76	50.08	5.18	89.22 -2867.13	-328.16	283.96	232.22	5.49	
10700.00	8220.06	8165.58	8163.69	51.81	5.18	89.21 -2867.13	-328.16	241.25	186.36	4.39	
10800.00	8219.84	8165.52	8163.63	53.55	5.18	89.19 -2867.13	-328.16	236.17	178.14	4.07	
10900.00	8219.61	8165.46	8163.57	55.30	5.18	89.18 -2867.13	-328.16	270.83	210.42	4.48	
11000.00	8219.38	8165.40	8163.51	57.05	5.18	89.16 -2867.13	-328.16	333.04	270.85	5.35	
11100.00	8219.15	8165.34	8163.45	58.80	5.18	89.15 -2867.13	-328.16	410.48	346.68	6.43	
11200.00	8218.93	8165.27	8163.38	60.56	5.18	89.13 -2867.13	-328.16	496.05	430.68	7.59	
11300.00	8218.70	8165.21	8163.32	62.33	5.18	89.12 -2867.13	-328.16	586.20	519.24	8.75	
11400.00	8218.47	8165.15	8163.26	64.09	5.18	89.10 -2867.13	-328.15	679.12	610.53	9.90	
11500.00	8218.25	8165.08	8163.19	65.86	5.17	89.08 -2867.13	-328.15	773.81	703.56	11.02	
11600.00	8218.02	8165.02	8163.13	67.63	5.17	89.07 -2867.13	-328.15	869.68	797.76	12.09	
11700.00	8217.79	8164.95	8163.07	69.41	5.17	89.05 -2867.13	-328.15	966.39	892.77	13.13	
11800.00	8217.57	8164.89	8163.00	71.19	5.17	89.04 -2867.13	-328.15	1063.72	988.38	14.12	
11900.00	8217.34	8164.82	8162.94	72.97	5.17	89.02 -2867.13	-328.15	1161.49	1084.44	15.07	
12000.00	8217.11	8164.76	8162.87	74.75	5.17	89.00 -2867.13	-328.15	1259.62	1180.83	15.99	
12100.00	8216.89	8164.69	8162.80	76.54	5.17	88.99 -2867.13	-328.15	1358.01	1277.49	16.86	
12200.00	8216.66	8164.63	8162.74	78.32	5.17	88.97 -2867.13	-328.15	1456.63	1374.35	17.70	
12300.00	8216.43	8164.56	8162.67	80.11	5.17	88.96 -2867.13	-328.15	1555.43	1471.39	18.51	
12400.00	8216.21	8164.49	8162.60	81.90	5.17	88.94 -2867.13	-328.15	1654.36	1568.57	19.28	
12500.00	8215.98	8164.43	8162.54	83.69	5.17	88.92 -2867.13	-328.14	1753.42	1665.87	20.03	
12600.00	8215.75	8164.36	8162.47	85.48	5.17	88.91 -2867.13	-328.14	1852.58	1763.26	20.74	
12700.00	8215.52	8164.29	8162.40	87.28	5.17	88.89 -2867.13	-328.14	1951.83	1860.73	21.43	
12800.00	8215.30	8164.22	8162.33	89.07	5.17	88.87 -2867.13	-328.14	2051.15	1958.28	22.09	
12900.00	8215.07	8164.15	8162.26	90.87	5.17	88.86 -2867.13	-328.14	2150.53	2055.88	22.72	
13000.00	8214.84	8164.08	8162.19	92.67	5.17	88.84 -2867.13	-328.14	2249.97	2153.54	23.33	
13100.00	8214.62	8164.01	8162.13	94.47	5.17	88.82 -2867.13	-328.14	2349.45	2251.24	23.92	
13200.00	8214.39	8163.94	8162.06	96.27	5.17	88.80 -2867.13	-328.14	2448.98	2348.98	24.49	
13300.00	8214.16	8163.87	8161.98	98.07	5.17	88.79 -2867.13	-328.14	2548.54	2446.76	25.04	
13400.00	8213.94	8163.80	8161.91	99.87	5.17	88.77 -2867.13	-328.14	2648.14	2544.56	25.57	
13500.00	8213.71	8163.73	8161.84	101.67	5.17	88.75 -2867.13	-328.14	2747.76	2642.40	26.08	
13600.00	8213.48	8163.66	8161.77	103.48	5.17	88.73 -2867.13	-328.13	2847.42	2740.26	26.57	
13700.00	8213.26	8163.59	8161.70	105.28	5.17	88.72 -2867.13	-328.13	2947.09	2838.14	27.05	
13800.00	8213.03	8163.51	8161.63	107.09	5.17	88.70 -2867.13	-328.13	3046.79	2936.04	27.51	
13900.00	8212.80	8163.44	8161.55	108.89	5.17	88.68 -2867.13	-328.13	3146.50	3033.96	27.96	
14000.00	8212.58	8163.37	8161.48	110.70	5.17	88.66 -2867.13	-328.13	3246.24	3131.90	28.39	
14100.00	8212.35	8163.29	8161.41	112.50	5.17	88.64 -2867.13	-328.13	3345.99	3229.85	28.81	
14200.00	8212.12	8163.22	8161.33	114.31	5.17	88.63 -2867.13	-328.13	3445.75	3327.82	29.22	
14300.00	8211.89	8163.14	8161.26	116.12	5.17	88.61 -2867.13	-328.13	3545.53	3425.79	29.61	
14400.00	8211.67	8163.07	8161.18	117.93	5.17	88.59 -2867.13	-328.13	3645.32	3523.78	29.99	
14500.00	8211.44	8162.99	8161.11	119.74	5.17	88.57 -2867.13	-328.12	3745.12	3621.78	30.36	
14600.00	8211.21	8162.92	8161.03	121.55	5.17	88.55 -2867.13	-328.12	3844.93	3719.79	30.72	



Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Eddy Co. NM (NAD 83)
Reference Site: Cotton Draw Unit #167H
Reference Well: CDU #167H
Reference Wellpath: BT01
Date: 8/15/2013
Time: 16:01:47
Page: 3
Co-ordinate (NE) Reference: Well: CDU #167H, Gnd North
Vertical (TVD) Reference: SITE 3551.0
Db: Sybase

Site: CDU 111
Well: CDU 111
Wellpath: 1 VO

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis		Offset Location		Ctr-Ctr Edge		Separation	Warning
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft	
14700.00	8210.99	8162.84	8160.95	123.36	5.17	88.53	-2867.13	-328.12	3944.75	3817.81	31.07
14800.00	8210.76	8162.76	8160.88	125.17	5.17	88.51	-2867.13	-328.12	4044.58	3915.83	31.41
14900.00	8210.53	8162.69	8160.80	126.98	5.17	88.49	-2867.13	-328.12	4144.42	4013.87	31.75
15000.00	8210.31	8162.61	8160.72	128.79	5.17	88.48	-2867.13	-328.12	4244.26	4111.91	32.07
15100.00	8210.08	8162.53	8160.64	130.60	5.17	88.46	-2867.13	-328.12	4344.12	4209.95	32.38
15135.00	8210.00	8162.50	8160.61	131.24	5.17	88.45	-2867.13	-328.12	4379.06	4244.27	32.49

Site: Cotton Draw Unit #113H
Well: CDU #113H
Wellpath: 1 VO

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis		Offset Location		Ctr-Ctr Edge		Separation	Warning
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft	
7500.00	7498.46	12969.00	8261.74	15.62	84.06	350.11	-2506.16	-877.25	2702.81	2642.84	45.07
7532.00	7530.46	12969.00	8261.74	15.69	84.06	351.36	-2506.16	-877.25	2692.83	2632.45	44.60
7575.00	7573.45	12969.00	8261.74	15.74	84.06	351.36	-2506.16	-877.25	2679.92	2619.00	43.99
7590.02	7588.47	12969.00	8261.74	15.73	84.06	314.75	-2506.16	-877.25	2675.44	2614.34	43.78
7600.00	7598.43	12969.00	8261.74	15.73	84.06	314.75	-2506.16	-877.25	2672.43	2611.21	43.65
7660.02	7658.39	12969.00	8261.74	15.74	84.06	314.75	-2506.16	-877.25	2655.03	2593.00	42.80
7700.00	7698.25	12969.00	8261.74	15.74	84.06	343.95	-2506.16	-877.25	2642.81	2580.17	42.19
7750.00	7747.68	12969.00	8261.74	15.75	84.06	352.68	-2506.16	-877.25	2624.58	2561.12	41.36
7800.00	7796.29	12969.00	8261.74	15.76	84.06	356.12	-2506.16	-877.25	2603.16	2538.78	40.44
7850.00	7843.72	12969.00	8261.74	15.77	84.06	358.01	-2506.16	-877.25	2578.62	2513.19	39.41
7900.00	7889.60	12969.00	8261.74	15.80	84.06	359.28	-2506.16	-877.25	2551.08	2484.42	38.27
7950.00	7933.58	12969.00	8261.74	15.84	84.06	0.25	-2506.16	-877.25	2520.65	2452.54	37.01
8000.00	7975.34	12969.00	8261.74	15.90	84.06	1.08	-2506.16	-877.25	2487.45	2417.66	35.64
8041.61	8008.15	12969.00	8261.74	15.97	84.06	1.73	-2506.16	-877.25	2457.82	2386.44	34.43
8050.00	8014.54	12969.00	8261.74	15.99	84.06	2.53	-2506.16	-877.25	2451.64	2379.91	34.18
8100.00	8051.06	12969.00	8261.74	16.11	84.06	7.33	-2506.16	-877.25	2413.56	2339.46	32.57
8150.00	8084.69	12969.00	8261.74	16.26	84.06	12.37	-2506.16	-877.25	2373.51	2296.60	30.86
8200.00	8115.19	12969.00	8261.74	16.45	84.06	17.99	-2506.16	-877.25	2331.69	2251.61	29.12
8250.00	8142.31	12969.00	8261.74	16.67	84.06	24.54	-2506.16	-877.25	2288.34	2204.85	27.41
8300.00	8165.85	12969.00	8261.74	16.94	84.06	32.44	-2506.16	-877.25	2243.71	2156.68	25.78
8350.00	8185.64	12969.00	8261.74	17.25	84.06	42.08	-2506.16	-877.25	2198.07	2107.50	24.27
8400.00	8201.52	12969.00	8261.74	17.60	84.06	53.65	-2506.16	-877.25	2151.72	2057.75	22.90
8450.00	8213.37	12969.00	8261.74	17.99	84.06	66.74	-2506.16	-877.25	2104.97	2008.04	21.72
8500.00	8221.10	12969.00	8261.74	18.41	84.06	80.24	-2506.16	-877.25	2058.16	1959.10	20.78
8550.00	8224.65	12969.00	8261.74	18.87	84.06	92.70	-2506.16	-877.25	2011.66	1911.46	20.08
8568.59	8224.90	12969.00	8261.74	19.04	84.06	96.85	-2506.16	-877.25	1994.53	1894.13	19.87
8600.00	8224.83	12969.00	8261.74	19.36	84.06	96.85	-2506.16	-877.25	1965.71	1864.86	19.49
8700.00	8224.60	12969.00	8261.74	20.45	84.06	96.85	-2506.16	-877.25	1874.52	1772.24	18.33
8800.00	8224.37	12969.00	8261.74	21.64	84.06	96.85	-2506.16	-877.25	1784.27	1680.55	17.20
8900.00	8224.15	12969.00	8261.74	22.91	84.06	96.85	-2506.16	-877.25	1695.12	1589.91	16.11
9000.00	8223.92	12969.00	8261.74	24.25	84.06	96.85	-2506.16	-877.25	1607.25	1500.53	15.06
9100.00	8223.69	12969.00	8261.74	25.66	84.06	96.85	-2506.16	-877.25	1520.88	1412.61	14.05
9200.00	8223.47	12969.00	8261.74	27.11	84.06	96.85	-2506.16	-877.25	1436.27	1326.44	13.08
9300.00	8223.24	12969.00	8261.74	28.60	84.06	96.85	-2506.16	-877.25	1353.77	1242.35	12.15
9400.00	8223.01	12969.00	8261.74	30.14	84.06	96.85	-2506.16	-877.25	1273.77	1160.74	11.27
9500.00	8222.78	12969.00	8261.74	31.70	84.06	96.85	-2506.16	-877.25	1196.79	1082.13	10.44
9600.00	8222.56	12969.00	8261.74	33.29	84.06	96.85	-2506.16	-877.25	1123.44	1007.14	9.66
9700.00	8222.33	12969.00	8261.74	34.90	84.06	96.85	-2506.16	-877.25	1054.49	936.52	8.94
9800.00	8222.10	12969.00	8261.74	36.53	84.06	96.85	-2506.16	-877.25	990.83	871.19	8.28



Weatherford Anticollision Report



Company:	Devon Energy	Date:	8/15/2013	Time:	16:01:47	Page:	4
Field:	Eddy Co. NM (NAD 83)						
Reference Site:	Cotton Draw Unit #167H	Co-ordinate (NE) Reference:	Well: CDU #167H	Grid North:			
Reference Well:	CDU #167H	Vertical (TVD) Reference:	SITE 35510				
Reference Wellpath:	ST01					Db:	Sybase

Site: Cotton Draw Unit #113H
Well: CDU #113H
Wellpath: 1 V0

Inter-Site Error: 0.00 ft

Reference MD	TVD	Offset MD	TVD	Semi-Major Axis Ref	Offset TFO	Major Axis HS	North	East	Ctr-Ctr Distance	Edge Distance	Separation Factor	Warning
9900.00	8221.88	12969.00	8261.74	38.18	84.06	96.85	-2506.16	-877.25	933.58	812.25	7.69	
10000.00	8221.65	12969.00	8261.74	39.85	84.06	96.85	-2506.16	-877.25	883.96	760.93	7.19	
10100.00	8221.42	12969.00	8261.74	41.53	84.06	96.85	-2506.16	-877.25	843.32	718.59	6.76	
10200.00	8221.20	12969.00	8261.74	43.22	84.06	96.85	-2506.16	-877.25	813.02	686.58	6.43	
10300.00	8220.97	12969.00	8261.74	44.92	84.06	96.85	-2506.16	-877.25	794.24	666.08	6.20	
10400.00	8220.74	12969.00	8261.74	46.63	84.06	96.85	-2506.16	-877.25	787.80	657.91	6.07	
10500.00	8220.52	12969.00	8261.74	48.35	84.06	96.85	-2506.16	-877.25	794.00	662.38	6.03	
10600.00	8220.29	12969.00	8261.74	50.08	84.06	96.85	-2506.16	-877.25	812.56	679.20	6.09	
10700.00	8220.06	12890.99	8262.25	51.81	82.68	96.72	-2581.35	-898.06	838.97	705.22	6.27	
10800.00	8219.84	12803.16	8262.15	53.55	81.02	96.54	-2665.83	-922.03	866.11	732.22	6.47	
10900.00	8219.61	12706.51	8260.97	55.30	79.39	96.27	-2758.57	-949.21	893.97	759.92	6.67	
11000.00	8219.38	12597.76	8260.57	57.05	77.76	96.05	-2863.24	-978.73	920.97	786.78	6.86	
11100.00	8219.15	12501.05	8262.18	58.80	76.08	96.00	-2956.59	-1003.93	947.08	812.80	7.05	
11200.00	8218.93	12394.63	8262.54	60.56	74.32	95.86	-3059.36	-1031.56	972.98	838.67	7.24	
11300.00	8218.70	12301.62	8261.16	62.33	72.63	95.64	-3149.26	-1055.40	998.38	863.92	7.43	
11400.00	8218.47	12192.03	8257.42	64.09	70.93	95.28	-3255.18	-1083.22	1023.39	888.80	7.60	
11500.00	8218.25	12104.33	8254.30	65.86	69.45	95.00	-3339.99	-1105.35	1048.26	913.34	7.77	
11600.00	8218.02	12018.32	8253.43	67.63	67.94	94.86	-3423.04	-1127.66	1074.05	938.88	7.95	
11700.00	8217.79	11924.33	8254.19	69.41	66.27	94.80	-3513.69	-1152.49	1100.46	965.17	8.13	
11800.00	8217.57	11825.27	8253.94	71.19	64.57	94.68	-3609.21	-1178.72	1126.85	991.46	8.32	
11900.00	8217.34	11736.36	8252.79	72.97	63.02	94.53	-3694.88	-1202.48	1153.43	1017.77	8.50	
12000.00	8217.11	11643.86	8251.17	74.75	61.51	94.36	-3783.86	-1227.70	1180.51	1044.56	8.68	
12100.00	8216.89	11534.06	8250.81	76.54	59.83	94.24	-3889.64	-1257.12	1207.23	1071.18	8.87	
12200.00	8216.66	11433.68	8250.85	78.32	58.11	94.16	-3986.57	-1283.22	1233.18	1097.04	9.06	
12300.00	8216.43	11338.39	8249.59	80.11	56.46	94.03	-4078.56	-1308.04	1259.11	1122.80	9.24	
12400.00	8216.21	11218.96	8247.62	81.90	54.64	93.85	-4193.96	-1338.71	1284.75	1148.45	9.43	
12500.00	8215.98	11088.95	8247.99	83.69	52.70	93.79	-4320.64	-1367.96	1307.06	1170.91	9.60	
12600.00	8215.75	10949.06	8248.45	85.48	50.59	93.74	-4457.64	-1396.16	1327.19	1191.36	9.77	
12700.00	8215.52	10847.71	8248.09	87.28	48.86	93.68	-4557.25	-1414.87	1345.60	1209.69	9.90	
12800.00	8215.30	10748.67	8246.52	89.07	47.20	93.58	-4654.53	-1433.37	1364.17	1228.11	10.03	
12900.00	8215.07	10632.93	8245.33	90.87	45.39	93.48	-4768.39	-1454.07	1381.98	1245.94	10.16	
13000.00	8214.84	10528.82	8246.44	92.67	43.65	93.49	-4871.03	-1471.51	1398.77	1262.66	10.28	
13100.00	8214.62	10276.55	8245.92	94.47	39.88	93.43	-5121.51	-1500.01	1409.98	1275.83	10.51	
13200.00	8214.39	10144.10	8246.26	96.27	37.70	93.44	-5253.83	-1505.90	1414.34	1280.57	10.57	
13300.00	8214.16	10047.52	8247.57	98.07	35.99	93.49	-5350.34	-1509.36	1418.02	1284.17	10.59	
13400.00	8213.94	9946.16	8247.28	99.87	34.18	93.48	-5451.62	-1513.27	1421.87	1288.02	10.62	
13500.00	8213.71	9839.54	8245.18	101.67	32.35	93.39	-5558.15	-1517.25	1425.50	1291.67	10.65	
13600.00	8213.48	9651.24	8243.91	103.48	29.18	93.36	-5746.39	-1518.01	1426.03	1293.55	10.76	
13700.00	8213.26	9559.40	8244.41	105.28	27.54	93.39	-5838.20	-1515.61	1423.46	1290.83	10.73	
13800.00	8213.03	9454.72	8243.48	107.09	25.75	93.37	-5942.84	-1513.00	1420.94	1288.28	10.71	
13900.00	8212.80	9354.94	8242.15	108.89	24.05	93.33	-6042.58	-1510.45	1418.32	1285.56	10.68	
14000.00	8212.58	9250.90	8240.55	110.70	22.29	93.28	-6146.56	-1507.66	1415.57	1282.75	10.66	
14100.00	8212.35	9137.47	8239.32	112.50	20.42	93.25	-6259.93	-1503.99	1412.31	1279.56	10.64	
14200.00	8212.12	9031.54	8240.87	114.31	19.32	93.34	-6365.75	-1499.36	1408.03	1275.29	10.61	
14300.00	8211.89	8921.34	8241.86	116.12	18.95	93.40	-6475.82	-1494.26	1403.49	1270.96	10.59	
14400.00	8211.67	8827.92	8241.98	117.93	18.74	93.42	-6569.13	-1489.67	1398.62	1265.93	10.54	
14500.00	8211.44	8720.79	8241.44	119.74	18.53	93.42	-6676.14	-1484.57	1393.85	1261.27	10.51	
14600.00	8211.21	8647.09	8238.24	121.55	18.35	93.31	-6749.68	-1481.42	1389.44	1256.35	10.44	
14700.00	8210.99	8583.46	8230.75	123.36	18.11	93.01	-6812.85	-1480.88	1387.80	1254.00	10.37	
14800.00	8210.76	8481.45	8211.17	125.17	17.68	92.21	-6912.94	-1481.34	1387.39	1253.51	10.36	
14900.00	8210.53	8426.27	8195.97	126.98	17.24	91.58	-6965.96	-1482.27	1388.35	1253.55	10.30	



Weatherford Anticollision Report

**Weatherford**

Company: Devon Energy
Field: Eddy Co. NM (NAD 83)
Reference Site: Cotton Draw Unit #167H
Reference Well: CDU #167H
Reference Wellpath: ST01
Date: 8/15/2013
Time: 16:01:47
Page: 5
Co-ordinate (NE) Reference: Well: CDU #167H, Grid North
Vertical (TVD) Reference: SITE 3551.0
Db: Sybase

Site: Cotton Draw Unit #113H
Well: CDU #113H
Wellpath: 1 V0

Inter-Site Error: 0.00 ft

Reference MD	TVD	Offset MD	TVD	Semi-Major Axis Ref	Offset	TFO-HS	North	East	Ctr-Ctr Edge Distance	Separation Distance	Factor	Warning
15000.00	8210.31	8340.89	8167.78	128.79	17.01	90.43	-7046.47	-1485.69	1391.96	1256.69	10.29	
15100.00	8210.08	8244.86	8135.18	130.60	16.83	89.09	-7136.71	-1489.71	1396.55	1261.02	10.30	
15135.00	8210.00	8216.84	8124.88	131.24	16.58	88.67	-7162.74	-1490.86	1398.37	1262.66	10.30	

Site: Cotton Draw Unit #167H
Well: CDU #167H
Wellpath: ST00 V1

Inter-Site Error: 0.00 ft

Reference MD	TVD	Offset MD	TVD	Semi-Major Axis Ref	Offset	TFO-HS	North	East	Ctr-Ctr Edge Distance	Separation Distance	Factor	Warning
7500.00	7498.46	7500.00	7498.46	15.62	15.62	0.00	-90.18	18.24	0.00	-31.23	0.00	No Data
7532.00	7530.46	7532.00	7530.46	15.69	15.69	0.00	-90.63	17.98	0.00	-31.39	0.00	No Data
7575.00	7573.45	7575.00	7573.45	15.74	15.75	0.00	-91.24	17.67	0.05	-31.44	0.00	Level 1
7590.02	7588.47	7590.02	7588.47	15.73	15.75	191.55	-91.45	17.57	0.34	-31.14	0.01	Level 1
7600.00	7598.43	7599.99	7598.44	15.73	15.75	194.65	-91.61	17.50	0.70	-30.79	0.02	Level 1
7660.02	7658.39	7659.99	7658.38	15.74	15.75	229.30	-93.93	16.46	2.43	-29.05	0.08	Level 1
7700.00	7698.25	7699.63	7697.68	15.74	15.75	284.72	-98.78	15.26	4.89	-26.53	0.16	Level 1
7750.00	7747.68	7748.60	7745.37	15.75	15.76	298.53	-109.79	14.46	10.54	-20.69	0.34	Level 1
7800.00	7796.29	7796.84	7791.13	15.76	15.77	299.12	-125.00	14.56	17.85	-13.18	0.58	Level 1
7850.00	7843.72	7844.49	7834.79	15.77	15.79	297.08	-144.02	15.59	26.76	-4.11	0.87	Level 1
7900.00	7889.60	7892.63	7877.04	15.80	15.83	296.74	-167.06	15.59	35.89	5.09	1.17	Level 2
7950.00	7933.58	7940.08	7916.53	15.84	15.88	297.63	-193.28	13.83	44.53	13.88	1.45	Level 3
8000.00	7975.34	7986.70	7953.49	15.90	15.95	297.11	-221.62	12.18	53.34	22.77	1.74	
8041.61	8008.15	8024.17	7981.75	15.97	16.03	295.75	-246.21	11.56	61.38	30.80	2.01	
8050.00	8014.54	8031.73	7987.25	15.99	16.05	295.76	-251.40	11.52	63.09	32.50	2.06	
8100.00	8051.06	8077.29	8019.02	16.11	16.17	295.77	-284.04	11.55	73.10	42.39	2.38	
8150.00	8084.69	8124.57	8050.16	16.26	16.33	295.12	-319.62	11.84	81.89	50.87	2.64	
8200.00	8115.19	8171.66	8079.64	16.45	16.52	293.82	-356.32	11.87	88.77	57.31	2.82	
8250.00	8142.31	8218.27	8106.50	16.67	16.74	292.29	-394.41	11.98	94.61	62.60	2.96	
8300.00	8165.85	8266.74	8132.25	16.94	17.00	290.16	-435.47	11.96	99.05	66.31	3.03	
8350.00	8185.64	8314.61	8156.18	17.25	17.29	287.10	-476.92	11.61	101.69	68.05	3.02	
8400.00	8201.52	8361.64	8177.12	17.60	17.62	283.67	-519.03	11.33	103.55	68.93	2.99	
8450.00	8213.37	8407.69	8195.87	17.99	17.98	279.34	-561.07	11.75	105.24	69.57	2.95	
8500.00	8221.10	8455.02	8212.54	18.41	18.38	274.36	-605.35	12.77	107.14	70.41	2.92	
8550.00	8224.65	8505.65	8225.41	18.87	18.85	269.58	-654.28	13.70	108.73	71.02	2.88	
8568.59	8224.90	8525.89	8229.14	19.04	19.05	267.77	-674.17	13.62	108.81	70.74	2.86	
8600.00	8224.83	8558.29	8233.36	19.36	19.37	265.49	-706.28	13.08	108.52	69.88	2.81	
8700.00	8224.60	8655.68	8235.37	20.45	20.46	264.31	-803.60	12.93	108.58	67.83	2.66	
8800.00	8224.37	8752.70	8231.57	21.64	21.56	266.29	-900.50	15.88	111.31	68.18	2.58	
8900.00	8224.15	8853.06	8230.52	22.91	22.67	266.82	-1000.77	19.51	114.86	69.34	2.52	
9000.00	8223.92	8952.18	8232.48	24.25	23.82	265.89	-1099.77	23.89	119.41	71.43	2.49	
9100.00	8223.69	9056.48	8233.13	25.66	25.19	265.57	-1204.02	26.78	122.25	71.52	2.41	
9200.00	8223.47	9159.28	8231.86	27.11	26.61	266.03	-1306.81	25.89	121.29	67.67	2.26	
9300.00	8223.24	9259.49	8229.70	28.60	28.02	266.91	-1406.98	24.55	119.83	63.27	2.12	
9400.00	8223.01	9359.02	8228.21	30.14	29.40	267.48	-1506.49	22.98	118.19	58.71	1.99	
9500.00	8222.78	9459.14	8228.96	31.70	30.78	266.97	-1606.60	21.82	117.08	54.67	1.88	
9600.00	8222.56	9560.38	8231.02	33.29	32.22	265.79	-1707.80	19.82	115.25	49.88	1.76	
9700.00	8222.33	9658.36	8232.36	34.90	33.70	264.92	-1805.74	17.87	113.40	45.00	1.66	
9800.00	8222.10	9758.52	8231.36	36.53	35.26	265.30	-1905.90	17.48	112.95	41.34	1.58	
9900.00	8221.88	9859.84	8229.92	38.18	36.84	265.86	-2007.20	16.21	111.60	36.73	1.49	Level 3
10000.00	8221.65	9956.26	8229.18	39.85	38.34	266.12	-2103.61	15.80	111.14	33.10	1.42	Level 3



Weatherford Anticollision Report



Weatherford

Company: Devon Energy Date: 8/15/2013 Time: 16:01:47 Page: 6
Field: Eddy Co. NM (NAD:83)
Reference Site: Cotton Draw Unit #167H Co-ordinate (NE) Reference: Well: CDU #167H Gnd North
Reference Well: CDU #167H Vertical (TVD) Reference: SITE 3551.0
Reference Wellpath: ST00 V1 Db: Sybase

Site: Cotton Draw Unit #167H
Well: CDU #167H
Wellpath: ST00 V1

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis		Offset Location		Ctr-Ctr Edge		Separation		
MD	TVD	MD	TVD	Ref	Offset	TFO-HS North	East	Distance	Distance	Factor	Warning	
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
10100.00	8221.42	10055.45	8230.02	41.53	39.85	265.63	-2202.78	17.40	112.83	31.64	1.39	Level 3
10200.00	8221.20	10156.52	8229.88	43.22	41.46	265.64	-2303.84	18.77	114.18	29.70	1.35	Level 3
10300.00	8220.97	10254.06	8228.50	44.92	43.02	266.29	-2401.34	21.02	116.40	28.60	1.33	Level 3
10400.00	8220.74	10353.91	8227.18	46.63	44.61	266.92	-2501.14	24.18	119.49	28.35	1.31	Level 3
10500.00	8220.52	10453.41	8225.15	48.35	46.23	267.85	-2600.53	28.07	123.31	28.78	1.30	Level 3
10600.00	8220.29	10556.81	8220.54	50.08	47.96	269.89	-2703.80	30.31	125.39	27.35	1.28	Level 3
10700.00	8220.06	10657.66	8215.40	51.81	49.61	272.12	-2804.52	30.65	125.81	24.45	1.24	Level 2
10800.00	8219.84	10756.62	8212.42	53.55	51.20	273.36	-2903.43	31.24	126.54	21.94	1.21	Level 2
10900.00	8219.61	10857.55	8213.34	55.30	52.83	272.81	-3004.34	32.68	127.91	19.90	1.18	Level 2
11000.00	8219.38	10961.69	8214.85	57.05	54.52	272.04	-3108.46	31.66	126.85	15.35	1.14	Level 2
11100.00	8219.15	11063.27	8215.26	58.80	56.17	271.81	-3209.96	27.84	123.07	8.14	1.07	Level 2
11200.00	8218.93	11161.52	8215.88	60.56	57.80	271.46	-3308.14	24.36	119.50	1.18	1.01	Level 2
11300.00	8218.70	11255.67	8217.28	62.33	59.33	270.69	-3402.28	23.83	118.93	-2.72	0.98	Level 1
11400.00	8218.47	11352.63	8218.69	64.09	60.93	269.90	-3499.14	27.76	122.96	-2.06	0.98	Level 1
11500.00	8218.25	11452.71	8217.26	65.86	62.62	270.45	-3599.09	32.58	127.78	-0.70	0.99	Level 1
11600.00	8218.02	11542.71	8216.15	67.63	63.76	270.81	-3688.80	39.36	135.40	4.02	1.03	Level 2
11700.00	8217.79	11636.51	8216.00	69.41	65.12	270.71	-3781.61	52.94	149.84	15.32	1.11	Level 2
11800.00	8217.57	11742.20	8217.10	71.19	67.25	270.18	-3886.21	67.95	164.08	25.64	1.19	Level 2
11900.00	8217.34	11853.99	8217.98	72.97	69.47	269.79	-3997.62	76.77	171.98	29.54	1.21	Level 2
12000.00	8217.11	11963.01	8217.92	74.75	71.34	269.73	-4106.62	78.20	173.26	27.18	1.19	Level 2
12100.00	8216.89	12062.85	8216.47	76.54	73.03	270.14	-4206.43	76.73	171.79	22.22	1.15	Level 2
12200.00	8216.66	12159.64	8218.32	78.32	74.69	269.45	-4303.19	77.60	172.66	19.66	1.13	Level 2
12300.00	8216.43	12267.55	8219.07	80.11	76.42	269.11	-4411.08	76.49	171.66	15.14	1.10	Level 2
12400.00	8216.21	12373.14	8218.64	81.90	78.06	269.15	-4516.49	70.40	165.86	5.91	1.04	Level 2
12500.00	8215.98	12475.00	8219.05	83.69	79.68	268.88	-4618.05	62.66	158.27	-5.07	0.97	Level 1
12600.00	8215.75	12572.52	8216.01	85.48	81.39	269.89	-4715.21	54.95	150.34	-16.53	0.90	Level 1
12700.00	8215.52	12669.35	8214.86	87.28	83.10	270.26	-4811.86	49.23	144.43	-25.95	0.85	Level 1
12800.00	8215.30	12765.93	8215.37	89.07	84.80	269.97	-4908.38	45.87	140.95	-32.92	0.81	Level 1
12900.00	8215.07	12864.28	8217.32	90.87	86.48	269.07	-5006.69	44.24	139.30	-38.03	0.79	Level 1
13000.00	8214.84	12964.38	8217.90	92.67	88.18	268.73	-5106.79	43.08	138.16	-42.65	0.76	Level 1
13100.00	8214.62	13061.78	8218.45	94.47	89.85	268.40	-5204.18	42.39	137.48	-46.78	0.75	Level 1
13200.00	8214.39	13156.85	8219.25	96.27	91.40	268.01	-5299.22	44.51	139.75	-47.83	0.75	Level 1
13300.00	8214.16	13256.89	8218.87	98.07	93.13	268.14	-5399.14	49.13	144.35	-46.76	0.76	Level 1
13400.00	8213.94	13358.66	8216.53	99.87	94.93	269.00	-5500.83	52.66	147.77	-47.01	0.76	Level 1
13500.00	8213.71	13457.11	8213.43	101.67	96.61	270.11	-5599.18	55.83	150.97	-47.32	0.76	Level 1
13600.00	8213.48	13560.64	8211.72	103.48	98.41	270.66	-5702.64	58.75	153.80	-48.07	0.76	Level 1
13700.00	8213.26	13662.27	8211.97	105.28	100.14	270.48	-5804.26	59.79	154.82	-50.59	0.75	Level 1
13800.00	8213.03	13764.78	8211.45	107.09	101.90	270.58	-5906.78	59.37	154.41	-54.56	0.74	Level 1
13900.00	8212.80	13866.09	8210.63	108.89	103.62	270.81	-6008.07	57.75	152.81	-59.68	0.72	Level 1
14000.00	8212.58	13966.85	8209.79	110.70	105.33	271.06	-6108.80	55.35	150.45	-65.55	0.70	Level 1
14100.00	8212.35	14066.84	8209.18	112.50	107.03	271.22	-6208.75	52.83	147.93	-71.56	0.67	Level 1
14200.00	8212.12	14164.78	8212.27	114.31	108.70	269.94	-6306.60	50.62	145.64	-77.37	0.65	Level 1
14300.00	8211.89	14260.19	8216.59	116.12	110.32	268.16	-6401.91	51.15	146.27	-80.08	0.65	Level 1
14400.00	8211.67	14358.13	8218.87	117.93	111.97	267.24	-6499.78	54.10	149.38	-80.30	0.65	Level 1
14500.00	8211.44	14459.14	8217.05	119.74	113.73	267.90	-6600.71	57.52	152.69	-80.65	0.65	Level 1
14600.00	8211.21	14560.03	8213.80	121.55	115.49	269.05	-6701.51	59.99	155.06	-81.95	0.65	Level 1
14700.00	8210.99	14660.65	8212.49	123.36	117.22	269.46	-6802.10	62.12	157.16	-83.40	0.65	Level 1
14800.00	8210.76	14761.18	8212.51	125.17	118.93	269.37	-6902.62	63.76	158.79	-85.29	0.65	Level 1
14900.00	8210.53	14865.92	8212.63	126.98	120.69	269.24	-7007.35	64.09	159.12	-88.53	0.64	Level 1
15000.00	8210.31	14970.40	8213.12	128.79	122.36	268.96	-7111.78	60.97	156.14	-94.98	0.62	Level 1
15100.00	8210.08	15070.30	8215.21	130.60	124.05	268.06	-7211.56	56.55	151.78	-102.76	0.60	Level 1



Weatherford Anticollision Report



Weatherford

Company: Devon Energy Date: 8/15/2013 Time: 16:01:47 Page: 7
Field: Eddy Co. NM (NAD 83)
Reference Site: Cotton Draw Unit #167H Co-ordinate (NE) Reference: Well: CDU #167H Gnd North
Reference Well: CDU #167H Vertical (TVD) Reference: SITE 35510
Reference Wellpath: ST00 V1 Db: Sybase

Site: Cotton Draw Unit #167H
Well: CDU #167H
Wellpath: ST00 V1

Inter-Site Error: 0.00 ft

Reference		Offset		Semi-Major Axis			Offset Location		Ctr-Ctr Edge		Separation	
MD	TVD	MD	TVD	Ref	Offset	TFO-HS	North	East	Distance	Distance	Factor	Warning
ft	ft	ft	ft	ft	ft	deg	ft	ft	ft	ft		
15135.00	8210.00	15105.25	8216.02	131.24	124.64	267.70	-7246.47	55.00	150.27	-105.45	0.59	Level 1

**Weatherford****Weatherford Drilling Services**

GeoDec v5.03

Report Date: July 21, 2013
Job Number: _____
Customer: Devon Energy
Well Name: Cotton Draw Unit #167H
API Number: _____
Rig Name: _____
Location: Eddy Co., NM
Block: _____
Engineer: RWJ

US State Plane 1983	Geodetic Latitude / Longitude
System: New Mexico Eastern Zone	System: Latitude / Longitude
Projection: Transverse Mercator/Gauss Kruger	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
North/South 432441.910 USFT	Latitude 32.1874352 DEG
East/West 727076.360 USFT	Longitude -103.7329328 DEG
Grid Convergence: .32°	
Total Correction: +7.19°	

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude =	32.18744° N	32° 11 min 14.767 sec
Longitude =	103.73293° W	103° 43 min 58.558 sec

Magnetic Declination =	7.51°	[True North Offset]
Local Gravity =	.9988 g	Checksum = 6594
Local Field Strength =	48381 nT	Magnetic Vector X = 23939 nT
Magnetic Dip =	60.06°	Magnetic Vector Y = 3155 nT
Magnetic Model =	bggm2013	Magnetic Vector Z = 41925 nT
Spud Date =	Jul 21, 2013	Magnetic Vector H = 24146 nT

Signed: _____

Date: _____