

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

JAN 27 2009

FORM APPROVED
OMB NO. 1004-0137
EXPIRES: March 31, 2007

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other	5. Lease Serial No. NM-97133
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr., ☐ Other	6. If Indian, Allottee or Tribe Name
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY, LP	7. Unit or CA Agreement Name and No.
3. Address 20 North Broadway, Oklahoma City, OK 73102-8260	8. Lease Name and Well No. Black Jack 1 Federal 3H
3a. Phone No. (include area code) 405-235-3611	9. API Well No. 30-015-35797
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At Surface 660 FSL 430 FEL At top prod. Interval reported below PP: 660 FSL & 430 FEL At total Depth 330 FNL & 660 FEL	10. Field and Pool, or Exploratory Ingle Wells; Delaware 33745 11. Sec. T., R., M., on Block and Survey or Area P SEC 1 T24S R30E 12. County or Parish Eddy 13. State NM
14. Date Spudded 9/15/2008	17. Elevations (DR, RKB, RT, GL)* 3438'
15. Date T.D. Reached 10/9/2008	
16. Date Completed 12/20/2008 ☐ D & A ☒ Ready to Prod.	
18. Total Depth: MD 12,025' TVD 7290'	20. Depth Bridge Plug Set: MD 12,024' TVI
19. Plug Back T.D.: MD 12,024' TVI	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each)	22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit report) Directional Survey? ☐ No ☒ Yes (Submit copy)
HI/RES LATEROLOG ARRAY/MICRO/CFL/GR & THREE DET/LITHO/DENS/COMP/NEUTRON	
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 Sk. & Type Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pul
17 1/2"	13 3/8" H40	48#	0	600'		610 sx CI C		Surface	
12 1/4"	9 5/8" K-55	40#	0	4005'		1425 sx CI C; Circ 265 pit		Surface	
8 1/2"	5 1/2" J-55	17#	0	12,024'		2130 sx CI C; Circ 150 sx		TOC 2966'	CBL

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"	10,300'							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
Brushy Canyon	10303	12020	10303-12020		48	Producing
Brushy Canyon	8138	9803	8138-9803		48	Producing
Brushy Canyon	7818	8054	7048-8054		66	Producing
Brushy Canyon	7048	7152	7048-7152		46	Producing

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

Depth Interval	Amount and Type of Material
10303-12020	Pump 500 g rust buster Spot 1800 g acid Acidize w/ 4K gals 7 1/2% HCL & 96 BS frac w/ 310,086 g Spectra Star 280 gel 12,500# 100 mesh sd, 370,620# 20/40 white sd, 112,085# 16/30 Siberprop sd & FL w/ 9954 g 10# Linear Gel.
8138-9803	Acidize w/ 4K g 7 1/2% HCL & 96 BS.Frac Brushy Canyon 8138-9803' w/ 302K g Spectra Star 2800 gel, 12K# 100 me sd, 374,011# 20/40 white sd, 99,680# 16/30 Siberprop sd. FL w/ 7900 g 10# Linear Gel.
7818-8054	Acidize w/ 3800 g 7 1/2% HCL & 100 BS.
7048-7152	Acidize w/ 2500 g 7 1/2% Pentol & 70 BS. Frac w/ 58K g Spectra Star 2500 gel, 92,108# 20/40 wh sd, 15,703# 16/30 Siberprop sd, FL w/ 6800 g 10# linear gel. Pump 220 g Technihib 756.

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
12/20/2008	12/20/2008	24	→	405	239	1356			Pumping
Choke Size	Tbg. Press. Flwg SI	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→	405	239	1356	590		

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg SI	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→						

Accepted for record - NMOCD

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	Ibg. 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	Ibg. Press. Flwg SI	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas : Oil Ratio	Well Status	
			→						

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

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

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 Salado Delaware Bell Canyon Cherry Canyon Brushy Canyon	502' 935' 4130' 4165' 5095' 6376'

Additional remarks (include plugging procedure):

Perfs: 6832-6980' @ 2 spf: total 50 shots

Perfs: 6416-6503' @ 2 spf: total 46 shots Swab, Frac /w 46,500 g Spectra Star 2500 gel, 69,505# 20/40 wh sd, 14,181# 16/30 Siberprop sd. FL w/ 6178 g 10# Linear gel. Pump 220 g Technihib 756 ahead of frac.

Circle enclosed attachments:

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

- ☒ Electrical/Mechanical Logs (1 full set req'd)
 ☐ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
- ☐ Sundry Notice for plugging and cement verification
 ☐ Core Analysis
 ☐ Other

Name (Please print) Judy A. Barnett X8699

Title Regulatory Analyst

Signature

Date 1/8/2009

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.

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL

Well Name and Num: Blackjack 1 Federal 3H
Location: Sec 1, T24S, R30E
Operator: Devon Energy
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.62	200	77.00	8114	91.90	11717
0.12	600	86.20	8208	92.70	11782
0.76	838	87.80	8291	92.00	11920
0.22	1208	90.80	8430		
0.43	1708	90.70	8716		
0.60	2200	89.90	8854		
0.86	2514	90.10	8933		
1.26	2867	91.90	9127		
0.64	3117	90.90	9318		
1.36	4205	87.60	9412		
1.26	6212	86.60	9507		
0.61	6722	91.00	9798		
1.00	7351	93.80	9892		
14.50	7475	94.90	9987		
31.60	7638	89.50	10467		
38.40	7701	88.90	10499		
56.40	7924	88.30	10980		
62.70	7988	89.70	11012		
66.10	8019	89.60	11097		
69.20	8051	90.4	11621		

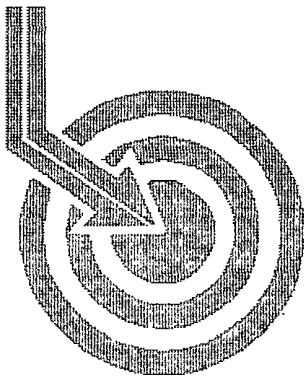
Drilling Contractor: McVay Drilling Company

By: Harold [Signature]

Subscribed and sworn to before me this 16th day of October, 2008

[Signature]
Notary Public

My Commission Expires: 8-16-09 Lea County, New Mexico



Scientific Drilling

DEVON ENERGY

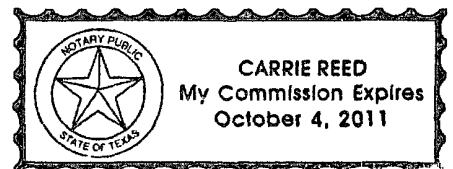
Field: Sand Dunes
Site: Eddy County, NM
Well: Black Jack 1 Federal #3H
Wellpath: VH - Job #32K0908742
Survey: 09/24/08

This survey is correct to the best of my knowledge
and is supported by actual field data.

Shubarta.....Company Representative

Notorized this date 17th of October, 2008.

Carrie Reed
Notary Signature
County of Midland
State of Texas





Scientific Drilling International Survey Report

Company: DEVON ENERGY
Field: Sand Dunes
Site: Eddy County, NM
Well: Black Jack 1 Federal #3H
Wellpath: VH - Job #32K0908742
Date: 10/16/2008
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,356.93Azi)
Survey Calculation Method: Minimum Curvature
Db: Sybase
Time: 20:29:52
Page: 1

Survey: 09/24/08
Start Date: 09/24/2008
Company: Scientific Drilling Internatio
Engineer: Madrid w/GeoGyro
Tool: Keeper;Keeper Gyro
Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	356.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.60	48.54	100.00	0.33	0.35	0.39	0.60	0.52	48.54
200.00	0.17	65.18	200.00	0.71	0.76	0.92	0.44	1.19	50.59
300.00	0.22	60.40	300.00	0.85	0.91	1.22	0.05	1.52	53.22
400.00	0.31	50.87	399.99	1.09	1.18	1.60	0.10	1.99	53.59
500.00	0.18	43.59	499.99	1.36	1.46	1.92	0.13	2.41	52.64
600.00	0.27	176.56	599.99	1.23	1.34	2.04	0.41	2.44	56.65
700.00	0.61	203.20	699.99	0.52	0.62	1.84	0.39	1.94	71.49
800.00	0.84	215.14	799.98	-0.54	-0.47	1.21	0.27	1.30	111.28
900.00	1.01	219.81	899.97	-1.76	-1.75	0.23	0.19	1.76	172.67
1000.00	0.98	220.18	999.95	-3.03	-3.08	-0.89	0.03	3.20	196.14
1100.00	0.68	215.80	1099.94	-4.11	-4.21	-1.79	0.31	4.58	203.02
1200.00	0.60	225.56	1199.94	-4.92	-5.06	-2.51	0.13	5.65	206.39
1300.00	0.69	216.06	1299.93	-5.73	-5.91	-3.24	0.14	6.74	208.71
1400.00	0.32	199.40	1399.93	-6.46	-6.66	-3.69	0.39	7.62	208.95
1500.00	0.15	209.16	1499.93	-6.83	-7.04	-3.84	0.17	8.02	208.62
1600.00	0.15	243.91	1599.93	-6.99	-7.21	-4.02	0.09	8.26	209.15
1700.00	0.06	355.30	1699.93	-6.99	-7.22	-4.15	0.18	8.33	209.87
1800.00	0.33	10.69	1799.92	-6.66	-6.88	-4.10	0.27	8.01	210.76
1900.00	0.43	12.91	1899.92	-6.01	-6.24	-3.96	0.10	7.39	212.41
2000.00	0.53	16.52	1999.92	-5.22	-5.43	-3.74	0.10	6.59	214.60
2100.00	0.37	14.37	2099.92	-4.47	-4.67	-3.53	0.16	5.86	217.10
2200.00	0.46	29.33	2199.91	-3.83	-4.01	-3.26	0.14	5.16	219.09
2300.00	0.56	28.66	2299.91	-3.07	-3.23	-2.82	0.10	4.29	221.18
2400.00	0.52	21.57	2399.90	-2.24	-2.38	-2.42	0.08	3.40	225.54
2500.00	0.88	22.49	2499.90	-1.14	-1.25	-1.96	0.36	2.33	237.58
2600.00	1.04	17.79	2599.88	0.40	0.33	-1.39	0.18	1.43	283.22
2700.00	0.88	8.14	2699.87	2.00	1.95	-1.01	0.23	2.20	332.73
2800.00	1.20	11.31	2799.85	3.77	3.74	-0.69	0.33	3.80	349.51
2900.00	1.25	6.98	2899.83	5.86	5.85	-0.35	0.11	5.86	356.54
3000.00	0.75	345.64	2999.81	7.57	7.56	-0.38	0.62	7.57	357.10
3100.00	0.55	306.70	3099.81	8.52	8.49	-0.93	0.47	8.54	353.74
3200.00	0.70	290.09	3199.80	9.07	8.98	-1.89	0.23	9.18	348.12
3300.00	1.17	259.00	3299.79	9.17	9.00	-3.47	0.68	9.64	338.94
3400.00	0.70	241.02	3399.78	8.76	8.51	-5.00	0.55	9.87	329.54
3500.00	1.58	157.23	3499.76	7.20	6.94	-5.00	1.66	8.55	324.21
3600.00	1.98	153.11	3599.71	4.32	4.13	-3.69	0.42	5.53	318.22
3700.00	2.55	148.41	3699.63	0.78	0.69	-1.74	0.60	1.87	291.66
3800.00	3.95	153.15	3799.47	-4.32	-4.28	0.98	1.42	4.39	167.09
3900.00	4.34	155.93	3899.21	-11.01	-10.80	4.08	0.44	11.55	159.32
4000.00	2.83	157.25	3999.01	-16.86	-16.54	6.58	1.51	17.80	158.31
4100.00	1.80	165.52	4098.93	-20.73	-20.33	7.92	1.08	21.82	158.71
4200.00	1.06	165.47	4198.90	-23.17	-22.75	8.55	0.74	24.30	159.40
4300.00	1.07	172.03	4298.88	-25.01	-24.57	8.91	0.12	26.14	160.07
4400.00	0.97	175.55	4398.86	-26.79	-26.34	9.11	0.12	27.87	160.93
4500.00	0.91	182.38	4498.85	-28.42	-27.98	9.14	0.13	29.43	161.91
4600.00	0.81	182.15	4598.84	-29.92	-29.48	9.08	0.10	30.84	162.88
4700.00	0.87	205.57	4698.83	-31.29	-30.87	8.72	0.35	32.08	164.22
4800.00	1.04	213.14	4798.81	-32.69	-32.31	7.90	0.21	33.26	166.26



Scientific
Drilling

Scientific Drilling International

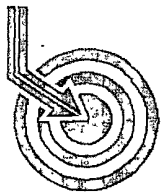
Survey Report

Company: DEVON ENERGY
Field: Sand Dunes
Site: Eddy County, NM
Well: Black Jack 1 Federal #3H
Wellpath: VH - Job #32K0908742

Date: 10/16/2008 **Time:** 20:29:52 **Page:** 2
Co-ordinate(NE) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,356.93Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

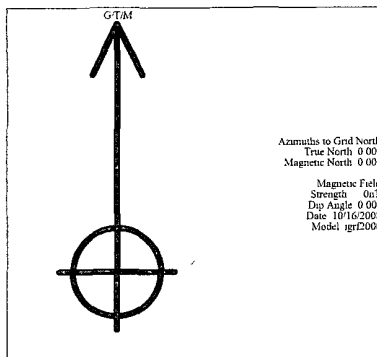
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.00	1.30	212.02	4898.79	-34.35	-34.03	6.80	0.26	34.71	168.70
5000.00	1.25	207.13	4998.77	-36.22	-35.97	5.70	0.12	36.41	170.99
5100.00	1.22	209.10	5098.74	-38.06	-37.87	4.69	0.05	38.16	172.94
5200.00	1.24	210.71	5198.72	-39.86	-39.73	3.62	0.04	39.89	174.79
5300.00	1.20	210.12	5298.70	-41.64	-41.56	2.54	0.04	41.64	176.50
5400.00	1.18	208.74	5398.68	-43.39	-43.37	1.52	0.03	43.40	177.99
5500.00	1.27	210.66	5498.65	-45.19	-45.23	0.46	0.10	45.23	179.42
5600.00	1.28	205.84	5598.63	-47.09	-47.19	-0.59	0.11	47.19	180.72
5700.00	1.44	209.31	5698.60	-49.13	-49.29	-1.69	0.18	49.32	181.97
5800.00	1.37	212.32	5798.57	-51.16	-51.39	-2.95	0.10	51.48	183.28
5900.00	1.31	204.70	5898.54	-53.15	-53.44	-4.06	0.19	53.60	184.35
6000.00	1.36	203.35	5998.52	-55.22	-55.57	-5.01	0.06	55.80	185.15
6100.00	1.30	202.48	6098.49	-57.31	-57.71	-5.92	0.06	58.01	185.85
6200.00	1.42	196.46	6198.46	-59.50	-59.94	-6.70	0.19	60.32	186.38
6300.00	1.61	190.56	6298.43	-62.03	-62.51	-7.31	0.25	62.94	186.67
6400.00	1.72	194.14	6398.38	-64.83	-65.35	-7.93	0.15	65.83	186.92
6500.00	1.73	196.18	6498.34	-67.69	-68.25	-8.72	0.06	68.81	187.28
6600.00	1.55	194.28	6598.30	-70.41	-71.01	-9.48	0.19	71.64	187.60
6700.00	1.32	189.34	6698.27	-72.82	-73.46	-10.00	0.26	74.14	187.75
6800.00	1.16	180.88	6798.24	-74.96	-75.61	-10.20	0.24	76.30	187.68
6900.00	1.04	167.90	6898.23	-76.86	-77.51	-10.02	0.28	78.16	187.37
7000.00	1.24	166.50	6998.21	-78.82	-79.45	-9.58	0.20	80.03	186.88
7100.00	1.02	160.91	7098.19	-80.74	-81.34	-9.04	0.25	81.84	186.34
7200.00	1.10	157.73	7198.17	-82.50	-83.07	-8.38	0.10	83.49	185.76
7292.00	1.15	161.71	7290.15	-84.23	-84.77	-7.76	0.10	85.12	185.23

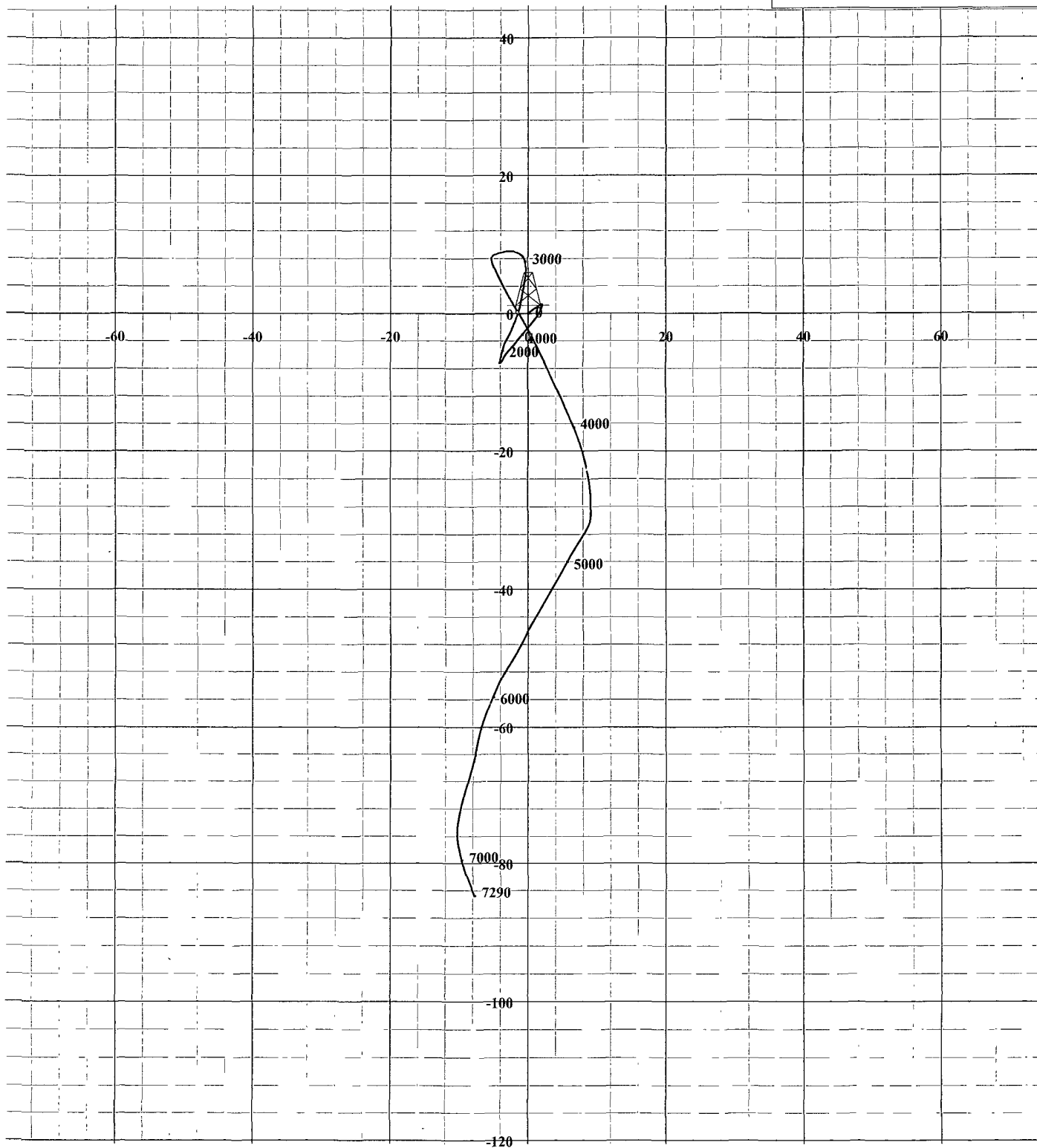


Scientific
Drilling

Field: Sand Dunes
Site: Eddy County, NM
Well: Black Jack 1 Federal #3H
Wellpath: VH - Job #32K0908742
Survey: 09/24/08



South(-)/North(+) [20ft/in]



West(-)/East(+) [20ft/in]

Devon Energy

Eddy County (NM83E)

Sec. 1-T24S-R30E

Black Jack #1 Fed #3H

Wellbore #1

Design: Final Surveys

Standard Survey Report

10 October, 2008



Project Eddy County (NM83E)
 Site Sec 1-T24S-R30E
 Well Black Jack #1 Fed #3H
 Wellbore Wellbore #1
 Design Plan #3
 Plan Version

devon

FINAL PVA

PLAN DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	8239.0	87.20	356.40	7911.9	487.4	-33.1	0.00	0.00	487.4	
2	8530.7	90.00	357.07	7919.0	778.5	-49.7	0.99	13.47	778.5	
3	12046.8	90.00	357.07	7919.0	4290.0	-229.4	0.00	0.00	4290.0	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL BJ #1 Fed #3H	7919.0	4290.0	-230.0	456247.07	697613.08

WELL DETAILS: Black Jack #1 Fed #3H

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude
0.0	0.0	451958.20	697863.30	3438.0	32° 14' 29.381 N	103° 49' 37.428 W

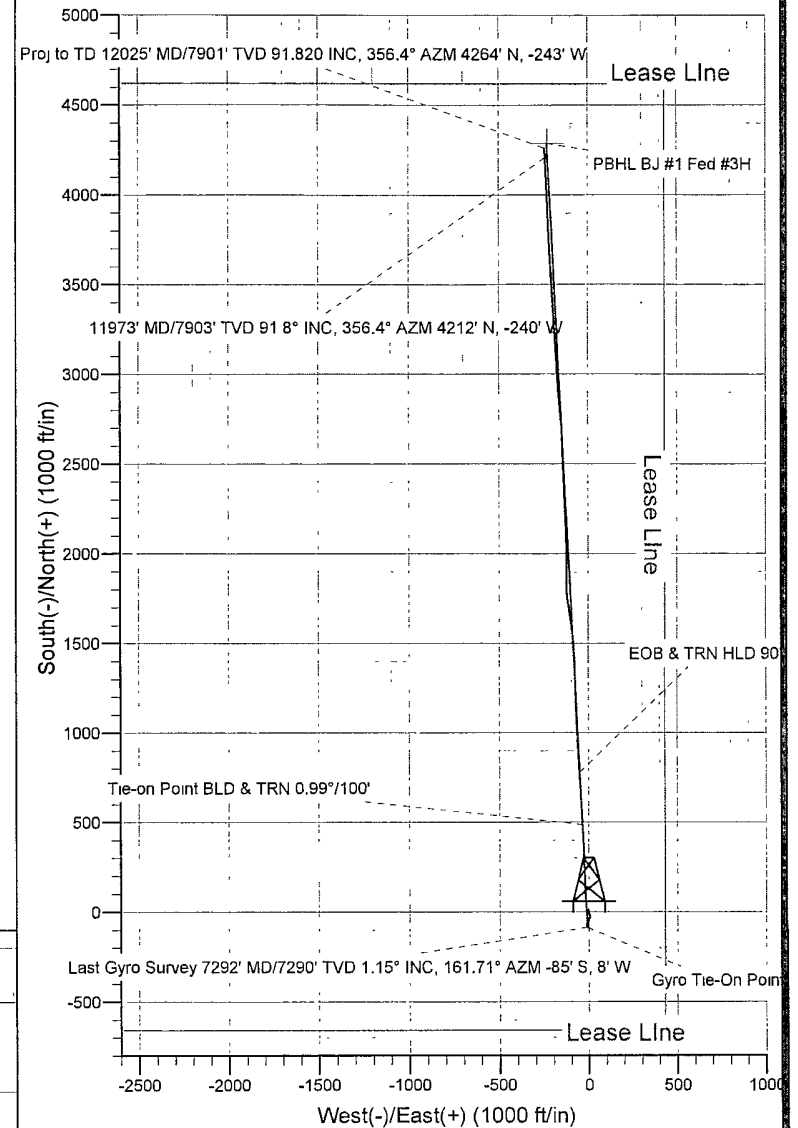
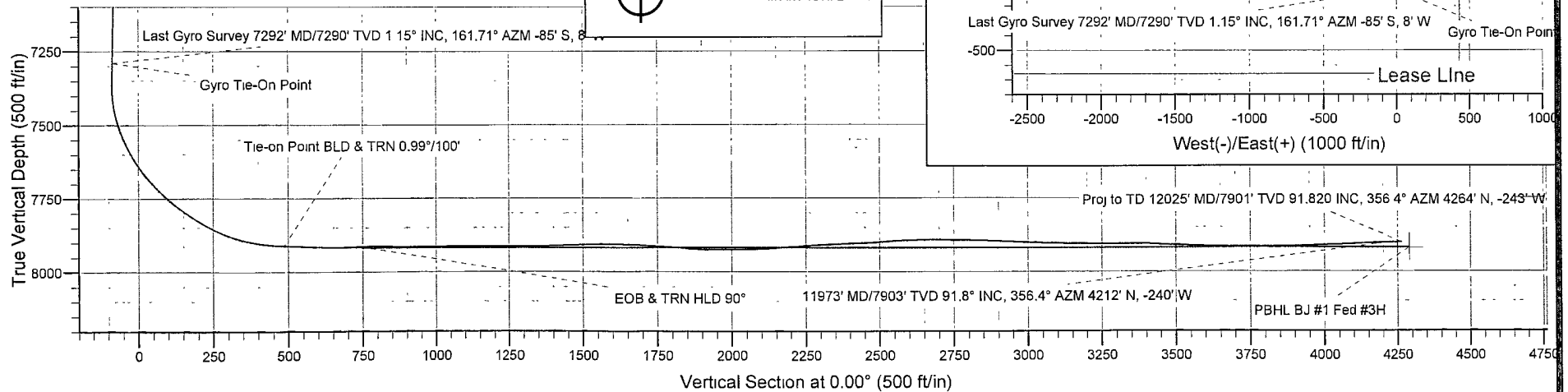
LEGEND

- Black Jack #1 Fed #3H, Wellbore #1, Final Surveys V0
- Plan #3



Azimuths to True North
 Convert to True North 8.02°

Magnetic Field
 Strength 48899.5nT
 Dip Angle 60.24°
 Date 2008/09/12
 Model IGRF200510



Quantum Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Black Jack #1 Fed #3H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 3462.0ft (Original Well Elev)
Site:	Sec. 1-T24S-R30E	MD Reference:	WELL @ 3462.0ft (Original Well Elev)
Well:	Black Jack #1 Fed #3H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 2003.16 Single User Db

Project:	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:		Sec. 1-T24S-R30E			
Site Position:		Northing:	451,958.20ft	Latitude:	32° 14' 29.381 N
From:	Map	Easting:	697,863.30ft	Longitude:	103° 49' 37.428 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.27 °

Well:	Black Jack #1 Fed #3H				
Well Position	+N/-S	0.0 ft	Northing:	451,958.20 ft	Latitude: 32° 14' 29.381 N
	+E/-W	0.0 ft	Easting:	697,863.30 ft	Longitude: 103° 49' 37.428 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level: 3,438.0 ft

Wellbore:	Wellbore #1
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	2008/09/12	8.02	60.24	48,900

Design:	Final Surveys
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Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	356.81

Survey Program	Date	From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
	2008/10/10	100.0	7,292.0	Scientific Gyro Survey (Wellbore #1)	MWD	MWD - Standard
		7,351.0	12,025.0	Quantum Surveys (Wellbore #1)	MWD	MWD - Standard

Survey	Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
	100.0	0.60	48.54	100.0	0.3	0.4	0.3	0.60	0.60	0.00
	200.0	0.17	65.18	200.0	0.8	0.9	0.7	0.44	-0.43	16.64
	300.0	0.22	60.40	300.0	0.9	1.2	0.8	0.05	0.05	-4.78
	400.0	0.31	50.87	400.0	1.2	1.6	1.1	0.10	0.09	-9.53
	500.0	0.18	43.59	500.0	1.5	1.9	1.4	0.13	-0.13	-7.28
	600.0	0.27	176.56	600.0	1.3	2.0	1.2	0.41	0.09	132.97
	700.0	0.61	203.20	700.0	0.6	1.8	0.5	0.39	0.34	26.64
	800.0	0.84	215.14	800.0	-0.5	1.2	-0.5	0.27	0.23	11.94
	900.0	1.01	219.81	900.0	-1.7	0.2	-1.8	0.19	0.17	4.67
	1,000.0	0.98	220.18	1,000.0	-3.1	-0.9	-3.0	0.03	-0.03	0.37
	1,100.0	0.68	215.80	1,099.9	-4.2	-1.8	-4.1	0.31	-0.30	-4.38
	1,200.0	0.60	225.56	1,199.9	-5.1	-2.5	-4.9	0.13	-0.08	9.76

Quantum Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Black Jack #1 Fed #3H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 3462.0ft (Original Well Elev)
Site:	Sec. 1-T24S-R30E	MD Reference:	WELL @ 3462.0ft (Original Well Elev)
Well:	Black Jack #1 Fed #3H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,300.0	0.69	216.06	1,299.9	-5.9	-3.2	-5.7	0.14	0.09	-9.50
1,400.0	0.32	199.40	1,399.9	-6.7	-3.7	-6.4	0.39	-0.37	-16.66
1,500.0	0.15	209.16	1,499.9	-7.0	-3.8	-6.8	0.17	-0.17	9.76
1,600.0	0.15	243.91	1,599.9	-7.2	-4.0	-7.0	0.09	0.00	34.75
1,700.0	0.06	355.30	1,699.9	-7.2	-4.1	-7.0	0.18	-0.09	111.39
1,800.0	0.33	10.69	1,799.9	-6.9	-4.1	-6.6	0.27	0.27	15.39
1,900.0	0.43	12.91	1,899.9	-6.2	-4.0	-6.0	0.10	0.10	2.22
2,000.0	0.53	16.52	1,999.9	-5.4	-3.7	-5.2	0.10	0.10	3.61
2,100.0	0.37	14.37	2,099.9	-4.7	-3.5	-4.5	0.16	-0.16	-2.15
2,200.0	0.46	29.33	2,199.9	-4.0	-3.3	-3.8	0.14	0.09	14.96
2,300.0	0.56	28.66	2,299.9	-3.2	-2.8	-3.1	0.10	0.10	-0.67
2,400.0	0.52	21.57	2,399.9	-2.4	-2.4	-2.2	0.08	-0.04	-7.09
2,500.0	0.88	22.49	2,499.9	-1.2	-2.0	-1.1	0.36	0.36	0.92
2,600.0	1.04	17.79	2,599.9	0.3	-1.4	0.4	0.18	0.16	-4.70
2,700.0	0.88	8.14	2,699.9	2.0	-1.0	2.0	0.23	-0.16	-9.65
2,800.0	1.20	11.31	2,799.9	3.7	-0.7	3.8	0.33	0.32	3.17
2,900.0	1.25	6.98	2,899.8	5.8	-0.4	5.9	0.11	0.05	-4.33
3,000.0	0.75	345.64	2,999.8	7.6	-0.4	7.6	0.62	-0.50	-21.34
3,100.0	0.55	306.70	3,099.8	8.5	-0.9	8.5	0.47	-0.20	-38.94
3,200.0	0.70	290.09	3,199.8	9.0	-1.9	9.1	0.23	0.15	-16.61
3,300.0	1.17	259.00	3,299.8	9.0	-3.5	9.2	0.68	0.47	-31.09
3,400.0	0.70	241.02	3,399.8	8.5	-5.0	8.8	0.55	-0.47	-17.98
3,500.0	1.58	157.23	3,499.8	6.9	-5.0	7.2	1.66	0.88	-83.79
3,600.0	1.98	153.11	3,599.7	4.1	-3.7	4.3	0.42	0.40	-4.12
3,700.0	2.55	148.41	3,699.6	0.7	-1.7	0.8	0.60	0.57	-4.70
3,800.0	3.95	153.15	3,799.5	-4.3	1.0	-4.3	1.42	1.40	4.74
3,900.0	4.34	155.93	3,899.2	-10.8	4.1	-11.0	0.44	0.39	2.78
4,000.0	2.83	157.25	3,999.0	-16.5	6.6	-16.9	1.51	-1.51	1.32
4,100.0	1.80	165.52	4,098.9	-20.3	7.9	-20.7	1.08	-1.03	8.27
4,200.0	1.06	165.47	4,198.9	-22.7	8.5	-23.2	0.74	-0.74	-0.05
4,300.0	1.07	172.03	4,298.9	-24.6	8.9	-25.0	0.12	0.01	6.56
4,400.0	0.97	175.55	4,398.9	-26.3	9.1	-26.8	0.12	-0.10	3.52
4,500.0	0.91	182.38	4,498.8	-28.0	9.1	-28.4	0.13	-0.06	6.83
4,600.0	0.81	182.15	4,598.8	-29.5	9.1	-29.9	0.10	-0.10	-0.23
4,700.0	0.87	205.57	4,698.8	-30.9	8.7	-31.3	0.35	0.06	23.42
4,800.0	1.04	213.14	4,798.8	-32.3	7.9	-32.7	0.21	0.17	7.57
4,900.0	1.30	212.02	4,898.8	-34.0	6.8	-34.4	0.26	0.26	-1.12
5,000.0	1.25	207.13	4,998.8	-36.0	5.7	-36.2	0.12	-0.05	-4.89
5,100.0	1.22	209.10	5,098.7	-37.9	4.7	-38.1	0.05	-0.03	1.97
5,200.0	1.24	210.71	5,198.7	-39.7	3.6	-39.9	0.04	0.02	1.61
5,300.0	1.20	210.12	5,298.7	-41.6	2.5	-41.6	0.04	-0.04	-0.59
5,400.0	1.18	208.74	5,398.7	-43.4	1.5	-43.4	0.03	-0.02	-1.38
5,500.0	1.27	210.66	5,498.7	-45.2	0.5	-45.2	0.10	0.09	1.92
5,600.0	1.28	205.84	5,598.6	-47.2	-0.6	-47.1	0.11	0.01	-4.82
5,700.0	1.44	209.31	5,698.6	-49.3	-1.7	-49.1	0.18	0.16	3.47
5,800.0	1.37	212.32	5,798.6	-51.4	-2.9	-51.1	0.10	-0.07	3.01
5,900.0	1.31	204.70	5,898.5	-53.4	-4.1	-53.1	0.19	-0.06	-7.62
6,000.0	1.36	203.35	5,998.5	-55.6	-5.0	-55.2	0.06	0.05	-1.35
6,100.0	1.30	202.48	6,098.5	-57.7	-5.9	-57.3	0.06	-0.06	-0.87
6,200.0	1.42	196.46	6,198.5	-59.9	-6.7	-59.5	0.19	0.12	-6.02
6,300.0	1.61	190.56	6,298.4	-62.5	-7.3	-62.0	0.25	0.19	-5.90
6,400.0	1.72	194.14	6,398.4	-65.3	-7.9	-64.8	0.15	0.11	3.58
6,500.0	1.73	196.18	6,498.3	-68.3	-8.7	-67.7	0.06	0.01	2.04
6,600.0	1.55	194.28	6,598.3	-71.0	-9.5	-70.4	0.19	-0.18	-1.90

Quantum Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Black Jack #1 Fed #3H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 3462.0ft (Original Well Elev)
Site:	Sec. 1-T24S-R30E	MD Reference:	WELL @ 3462.0ft (Original Well Elev)
Well:	Black Jack #1 Fed #3H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,700.0	1.32	189.34	6,698.3	-73.5	-10.0	-72.8	0.26	-0.23	-4.94
6,800.0	1.16	180.88	6,798.2	-75.6	-10.2	-74.9	0.24	-0.16	-8.46
6,900.0	1.04	167.90	6,898.2	-77.5	-10.0	-76.8	0.28	-0.12	-12.98
7,000.0	1.24	166.50	6,998.2	-79.4	-9.6	-78.8	0.20	0.20	-1.40
7,100.0	1.02	160.91	7,098.2	-81.3	-9.0	-80.7	0.25	-0.22	-5.59
7,200.0	1.10	157.73	7,198.2	-83.1	-8.4	-82.5	0.10	0.08	-3.18
7,292.0	1.20	161.71	7,290.2	-84.8	-7.7	-84.2	0.14	0.11	4.33
Last Gyro Survey 7292' MD/7290' TVD 1.15° INC, 161.71° AZM -85° S, 8' W - Gyro Tie-On Point									
7,351.0	1.00	161.00	7,349.1	-85.9	-7.4	-85.3	0.34	-0.34	-1.20
7,383.0	1.10	356.40	7,381.1	-85.8	-7.3	-85.3	6.50	0.31	-514.37
7,415.0	5.50	353.30	7,413.1	-84.0	-7.5	-83.5	13.76	13.75	-9.69
7,447.0	10.10	355.10	7,444.8	-79.7	-7.9	-79.1	14.39	14.37	5.62
7,479.0	14.50	357.10	7,476.0	-72.9	-8.4	-72.3	13.81	13.75	6.25
7,510.0	18.30	358.60	7,505.8	-64.1	-8.7	-63.6	12.33	12.26	4.84
7,542.0	21.10	359.80	7,535.9	-53.4	-8.8	-52.8	8.84	8.75	3.75
7,574.0	24.00	359.50	7,565.4	-41.1	-8.9	-40.5	9.07	9.06	-0.94
7,606.0	27.80	358.80	7,594.2	-27.1	-9.1	-26.6	11.91	11.87	-2.19
7,638.0	31.60	357.60	7,622.0	-11.3	-9.6	-10.7	12.02	11.87	-3.75
7,669.0	35.10	355.90	7,647.9	5.7	-10.6	6.3	11.68	11.29	-5.48
7,701.0	38.50	355.80	7,673.5	24.9	-12.0	25.5	10.63	10.62	-0.31
7,733.0	41.70	356.10	7,698.0	45.4	-13.4	46.1	10.02	10.00	0.94
7,765.0	44.70	356.00	7,721.3	67.3	-15.0	68.0	9.38	9.37	-0.31
7,797.0	46.80	356.50	7,743.6	90.1	-16.5	90.9	6.66	6.56	1.56
7,828.0	50.00	356.80	7,764.2	113.3	-17.8	114.1	10.35	10.32	0.97
7,860.0	53.30	357.80	7,784.1	138.3	-19.0	139.2	10.60	10.31	3.12
7,892.0	55.60	358.30	7,802.7	164.4	-19.9	165.2	7.30	7.19	1.56
7,924.0	56.40	358.40	7,820.6	190.9	-20.6	191.7	2.51	2.50	0.31
7,956.0	59.30	358.40	7,837.6	218.0	-21.4	218.8	9.06	9.06	0.00
7,988.0	62.70	358.40	7,853.1	245.9	-22.2	246.8	10.62	10.62	0.00
8,019.0	66.10	358.10	7,866.5	273.9	-23.0	274.7	11.00	10.97	-0.97
8,051.0	69.20	357.60	7,878.7	303.4	-24.1	304.3	9.79	9.69	-1.56
8,082.0	73.30	357.60	7,888.6	332.8	-25.4	333.7	13.23	13.23	0.00
8,114.0	77.00	357.50	7,896.8	363.7	-26.7	364.6	11.57	11.56	-0.31
8,146.0	80.70	357.20	7,903.0	395.0	-28.1	396.0	11.60	11.56	-0.94
8,208.0	86.20	356.90	7,910.1	456.5	-31.3	457.5	8.88	8.87	-0.48
8,239.0	87.20	356.40	7,911.9	487.4	-33.1	488.5	3.61	3.23	-1.61
8,271.0	87.70	356.80	7,913.3	519.3	-35.0	520.5	2.00	1.56	1.25
8,302.0	87.90	356.20	7,914.5	550.2	-36.9	551.4	2.04	0.65	-1.94
8,334.0	88.20	356.20	7,915.6	582.1	-39.0	583.4	0.94	0.94	0.00
8,366.0	88.40	356.00	7,916.5	614.1	-41.2	615.4	0.88	0.62	-0.62
8,398.0	89.10	356.20	7,917.2	646.0	-43.4	647.4	2.27	2.19	0.62
8,430.0	90.80	355.80	7,917.3	677.9	-45.6	679.4	5.46	5.31	-1.25
8,462.0	92.20	356.00	7,916.4	709.8	-47.9	711.4	4.42	4.37	0.62
8,493.0	93.10	356.00	7,915.0	740.7	-50.1	742.3	2.90	2.90	0.00
8,525.0	92.00	356.90	7,913.6	772.6	-52.0	774.3	4.44	-3.44	2.81
8,557.0	88.80	357.30	7,913.3	804.6	-53.7	806.3	10.08	-10.00	1.25
8,589.0	88.70	357.50	7,914.0	836.5	-55.1	838.3	0.70	-0.31	0.62
8,621.0	89.80	357.50	7,914.5	868.5	-56.5	870.3	3.44	3.44	0.00
8,653.0	90.10	357.40	7,914.5	900.4	-57.9	902.3	0.99	0.94	-0.31
8,685.0	90.10	357.10	7,914.4	932.4	-59.5	934.3	0.94	0.00	-0.94
8,716.0	90.70	356.70	7,914.2	963.4	-61.1	965.3	2.33	1.94	-1.29
8,748.0	90.70	356.70	7,913.8	995.3	-63.0	997.3	0.00	0.00	0.00
8,844.0	89.90	356.90	7,913.3	1,091.2	-68.3	1,093.3	0.86	-0.83	0.21
8,936.0	90.10	358.30	7,913.3	1,183.1	-72.2	1,185.3	1.54	0.22	1.52

Quantum Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Black Jack #1 Fed #3H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 3462.0ft (Original Well Elev)
Site:	Sec. 1-T24S-R30E	MD Reference:	WELL @ 3462.0ft (Original Well Elev)
Well:	Black Jack #1 Fed #3H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 2003.16 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,031.0	89.10	358.30	7,914.0	1,278.0	-75.0	1,280.2	1.05	-1.05	0.00
9,127.0	91.90	358.50	7,913.1	1,374.0	-77.7	1,376.2	2.92	2.92	0.21
9,222.0	92.10	356.60	7,909.8	1,468.8	-81.7	1,471.1	2.01	0.21	-2.00
9,318.0	90.90	352.70	7,907.3	1,564.4	-90.7	1,567.0	4.25	-1.25	-4.06
9,412.0	87.60	351.40	7,908.5	1,657.4	-103.7	1,660.6	3.77	-3.51	-1.38
9,507.0	86.60	353.40	7,913.4	1,751.5	-116.2	1,755.2	2.35	-1.05	2.11
9,607.0	84.50	359.40	7,921.1	1,850.9	-122.5	1,854.9	6.34	-2.10	6.00
9,703.0	89.80	0.30	7,925.9	1,946.8	-122.8	1,950.6	5.60	5.52	0.94
9,796.0	91.00	359.10	7,925.2	2,039.8	-123.2	2,043.5	1.82	1.29	-1.29
9,892.0	93.80	357.80	7,921.2	2,135.6	-125.8	2,139.3	3.22	2.92	-1.35
9,987.0	94.90	357.70	7,914.0	2,230.3	-129.5	2,234.0	1.16	1.16	-0.11
10,084.0	92.50	358.40	7,907.8	2,327.0	-132.8	2,330.8	2.58	-2.47	0.72
10,180.0	92.00	356.70	7,904.0	2,422.8	-136.9	2,426.7	1.84	-0.52	-1.77
10,276.0	94.50	358.20	7,898.5	2,518.6	-141.2	2,522.5	3.04	2.60	1.56
10,371.0	92.00	357.70	7,893.2	2,613.4	-144.6	2,617.4	2.68	-2.63	-0.53
10,467.0	89.50	356.20	7,891.9	2,709.2	-149.7	2,713.3	3.04	-2.60	-1.56
10,563.0	88.90	355.50	7,893.2	2,805.0	-156.7	2,809.3	0.96	-0.62	-0.73
10,659.0	87.80	355.30	7,896.0	2,900.6	-164.4	2,905.3	1.16	-1.15	-0.21
10,755.0	87.30	355.30	7,900.1	2,996.2	-172.2	3,001.1	0.52	-0.52	0.00
10,852.0	89.60	356.90	7,902.7	3,092.9	-178.8	3,098.1	2.89	2.37	1.65
10,948.0	88.40	355.50	7,904.4	3,188.7	-185.2	3,194.1	1.92	-1.25	-1.46
11,044.0	90.70	356.80	7,905.2	3,284.5	-191.6	3,290.0	2.75	2.40	1.35
11,140.0	89.40	357.60	7,905.1	3,380.3	-196.3	3,386.0	1.59	-1.35	0.83
11,236.0	87.30	356.30	7,907.8	3,476.2	-201.4	3,482.0	2.57	-2.19	-1.35
11,332.0	88.00	356.50	7,911.8	3,571.9	-207.4	3,577.9	0.76	0.73	0.21
11,429.0	88.60	356.50	7,914.7	3,668.7	-213.3	3,674.9	0.62	0.62	0.00
11,524.0	90.20	356.40	7,915.7	3,763.5	-219.2	3,769.8	1.69	1.68	-0.11
11,620.0	90.40	357.90	7,915.1	3,859.4	-224.0	3,865.8	1.58	0.21	1.56
11,716.0	91.90	357.60	7,913.2	3,955.3	-227.8	3,961.8	1.59	1.56	-0.31
11,749.0	91.90	357.40	7,912.1	3,988.2	-229.2	3,994.8	0.61	0.00	-0.61
11,813.0	93.40	357.50	7,909.2	4,052.1	-232.1	4,058.7	2.35	2.34	0.16
11,909.0	92.00	357.30	7,904.6	4,147.9	-236.4	4,154.6	1.47	-1.46	-0.21
11,973.0	91.80	356.40	7,902.5	4,211.7	-239.9	4,218.6	1.44	-0.31	-1.41
11973' MD/7903' TVD 91.8° INC, 356.4° AZM 4212' N, -240' W									
12,025.0	91.80	356.40	7,900.9	4,263.6	-243.2	4,270.5	0.00	0.00	0.00
Proj to TD 12025' MD/7901' TVD 91.820 INC, 356.4° AZM 4264' N, -243' W									

Quantum Survey Report

Company:	Devon Energy	Local Co-ordinate Reference:	Well Black Jack #1 Fed #3H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 3462.0ft (Original Well Elev)
Site:	Sec. 1-T24S-R30E	MD Reference:	WELL @ 3462.0ft (Original Well Elev)
Well:	Black Jack #1 Fed #3H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Final Surveys	Database:	EDM 2003.16 Single User Db

Targets									
Target Name	- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	
- Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Latitude Longitude
PBHL BJ #1 Fed #3H		0.00	0.00	7,919.0	4,290.0	-230.0	456,247.07	697,613.08	32° 15' 11.834 N 103° 49' 40.106 W
- actual wellpath misses by 34.6ft at 12025.0ft MD (7900.9 TVD, 4263.6 N, -243.2 E)									
- Point									

Design Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
7,292.0	7,290.2	-84.8	-7.7	Last Gyro Survey 7292' MD/7290' TVD 1.15° INC, 161.71° AZM -85° S,
7,292.0	7,290.2	-84.8	-7.7	Gyro Tie-On Point
11,973.0	7,902.5	4,211.7	-239.9	11973' MD/7903' TVD 91.8° INC, 356.4° AZM 4212' N, -240° W
12,025.0	7,900.9	4,263.6	-243.2	Proj to TD 12025' MD/7901' TVD 91.820 INC, 356.4° AZM 4264' N, -24

Checked By: _____ Approved By: _____ Date: _____