

**McVAY DRILLING COMPANY**

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

15-38989

Well Name and Num: Beetle Juice 19 Fed. Com 2H
Location: Sec. 19, T19S, R31E
Operator: Devon
Drilling Contractor: McVay Drilling Company

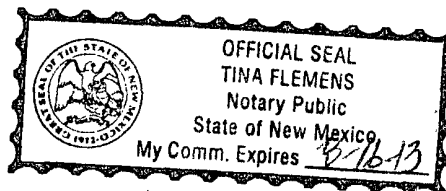
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.54	290	2.06	7733	92.50	9537
0.72	510	0.88	8210	88.40	9792
0.53	750	1.03	8685	90.60	9983
1.74	1243	1.06	8227	91.30	10015
3.01	1704	19.70	8288	90.90	10205
2.70	2075	29.60	8478	89.30	10460
1.48	2554	35.20	8542	90.40	10746
1.96	3034	41.70	8637	89.70	10937
1.17	3434	61.10	8764	90.90	11220
0.66	4170	57.50	8860	91.30	11600
0.75	7680	67.60	8955	91.30	11791
0.89	5159	71.60	8982	89.80	11886
1.05	5636	77.50	9046	89.50	11982
1.58	6130	78.20	9115	89.10	12173
1.59	6587	86.40	9233	90.50	12638
1.20	7065	91.90	9362		
2.30	7565	92.30	9458		

By: *Hunter Crum*

Subscribed and sworn to before me this 21st day of November, 2011

Tina Flemens
Notary Public, Lea County, New Mexico



DEVON ENERGY

Hackberry

Eddy County, NM

Beetle Juice "19" Federal #2H

VH - Job #32K10111038

Survey: Actual

SDI Standard Survey Report

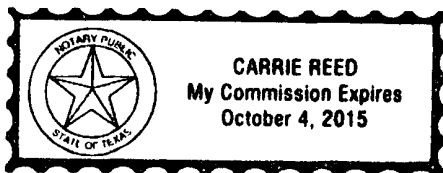
This survey is correct to the best of my knowledge and is supported by actual field data.

Huberton

Notarized this date 15th of November, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling
Directional Drilling Operations

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Beetle Juice "19" Federal #2H
Project:	Hackberry	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Beetle Juice "19" Federal #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10111038	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10111038	Database:	EDM-Regulatory

Project	Hackberry		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site		Eddy County, NM			
Site Position:		Northing:	615,089 64 usft	Latitude:	32° 40' 8 400 N
From:	Lat/Long	Easting:	1,222,919 56 usft	Longitude:	103° 54' 3 600 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"	Grid Convergence:	1 27 °

Well	Beetle Juice "19" Federal #2H, Directional (Pathfinder)					
Well Position	+N/-S	0 0 usft	Northing:	609,038 64 usft	Latitude:	32° 39' 8 841 N
	+E/-W	0 0 usft	Easting:	1,221,683 71 usft	Longitude:	103° 54' 19 609 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore	VH - Job #32K10111038				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/26/2011	7 73	60 52	48,827

Design		VH - Job #32K10111038			
Audit Notes:					
Version:		1 0	Phase:	ACTUAL	Tie On Depth: 0 0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0 0	0 0	0 0	182 02

Survey Program		Date	11/15/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100 0	9,053 0	Actual (VH - Job #32K10111038)	Keeper	Keeper Gyro	

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0 0	0 00	0 00	0 0	0 0	0 0	0 00	0 0
100 0	0 75	146 44	100 0	-0 5	0 4	146 44	0 7
200 0	0 53	154 10	200 0	-1 5	0 9	148 44	1 8
300 0	0 67	146 10	300 0	-2 4	1 5	148 88	2 8
400 0	0 03	335 62	400 0	-2 9	1 8	148 35	3 4
500 0	0 28	322 48	500 0	-2 7	1 6	148 75	3 1
600 0	0 27	332 10	600 0	-2 2	1 4	149 03	2 6
700 0	0 13	338 74	700 0	-1 9	1 2	148 23	2 3
800 0	0 19	69 95	800 0	-1 8	1 3	143 47	2 2
900 0	0 51	91 44	900 0	-1 7	1 9	132 07	2 6
1,000 0	0 62	77 93	1,000 0	-1 6	2 9	119 37	3 3
1,100 0	0 87	73 07	1,100 0	-1 3	4 1	107 31	4 3

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Beetle Juice "19" Federal #2H
Project:	Hackberry	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Beetle Juice "19" Federal #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10111038	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10111038	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200 0	1 86	71 09	1,199 9	-0 5	6 4	94 86	6 4
1,300 0	2 35	62 44	1,299 9	0 9	9 8	84 56	9 8
1,400 0	2 76	62 76	1,399 8	3 0	13 7	77 74	14 0
1,500 0	2 73	59 28	1,499 7	5 3	17 9	73 51	18 7
1,600 0	2 67	60 89	1,599 5	7 6	22 0	70 82	23 3
1,700 0	2 82	57 81	1,699.4	10 1	26 1	68 86	28 0
1,800 0	3 00	60 50	1,799.3	12 7	30 5	67 38	33 0
1,900 0	2 85	58 65	1,899 2	15 3	34 9	66 34	38 1
2,000 0	2 63	63 63	1,999 1	17 6	39 0	65 75	42 8
2,100 0	2 37	65 97	2,099 0	19 4	43 0	65 66	47 2
2,200 0	2 24	71 58	2,198 9	20 9	46 7	65 90	51 2
2,300 0	2 04	71 65	2,298.8	22 1	50 3	66 28	54 9
2,400 0	2 02	77 02	2,398 7	23 0	53 7	66 77	58 4
2,500 0	1 92	76 97	2,498.7	23 8	57 0	67 34	61 8
2,600 0	2 07	83 36	2,598 6	24 4	60 5	68 02	65 2
2,700 0	2 06	78 29	2,698 6	25 0	64 0	68 69	68 7
2,800 0	2 23	81 99	2,798 5	25 6	67 7	69 28	72 4
2,900 0	2 41	87 39	2,898 4	26 0	71 7	70 09	76 3
3,000 0	2 35	88 55	2,998 3	26 1	75 9	71 00	80 2
3,100 0	2 11	95 14	3,098 2	26 0	79 8	71 94	83 9
3,200 0	1 99	96 58	3,198 2	25 6	83 3	72 89	87 2
3,300 0	1 65	99 39	3,298 1	25 2	86 5	73 74	90 1
3,400 0	1 43	94 96	3,398 1	24 9	89 1	74 41	92 5
3,500 0	1 23	85 19	3,498 1	24 9	91 4	74 79	94 8
3,600 0	1 36	77 36	3,598 0	25 2	93 7	74 94	97 0
3,700 0	1 41	80 44	3,698 0	25 7	96 0	75 04	99 4
3,800 0	1 25	78 82	3,798 0	26 1	98 3	75 14	101 7
3,900 0	1 25	85 85	3,898 0	26 4	100 5	75 29	103 9
4,000 0	1 22	81 39	3,997 9	26 6	102 6	75 46	106 0
4,100 0	1 06	85 62	4,097 9	26 8	104 6	75 61	108 0
4,200 0	1 13	96 02	4,197 9	26 8	106 5	75 87	109 8
4,300 0	0 95	109 73	4,297 9	26 4	108 3	76 28	111 4
4,400 0	0 87	118 81	4,397 9	25 8	109 7	76 78	112 7
4,500 0	0 93	124 34	4,497 9	25 0	111 0	77 33	113 8
4,600 0	1 08	129 78	4,597 8	23 9	112 4	78 00	114 9
4,700 0	0 85	143 64	4,697 8	22 7	113 6	78 70	115 8
4,800 0	0 55	181 51	4,797 8	21 6	114 0	79 26	116 1
4,900 0	0 50	200 19	4,897 8	20 7	113 9	79 68	115 7
5,000 0	0 39	217 34	4,997 8	20 0	113 5	79 98	115 3
5,100 0	0 50	212 25	5,097 8	19 4	113 1	80 26	114 7
5,200 0	0 92	243 51	5,197 8	18 7	112 1	80 54	113 7
5,300 0	0 97	241 89	5,297 8	17 9	110 6	80 80	112 1
5,400 0	1 00	239 77	5,397 8	17 1	109 1	81 10	110.5
5,500 0	1 17	240.87	5,497 8	16 2	107 5	81 46	108 7

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	DEVON ENERGY	Local Co-ordinate Reference:	Well Beetle Juice "19" Federal #2H
Project:	Hackberry	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Beetle Juice "19" Federal #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10111038	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10111038	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600 0	1 10	238 11	5,597 7	15 1	105 8	81 85	106 9
5,700 0	1 10	241 10	5,697 7	14 2	104 1	82 25	105 1
5,800 0	1 20	251 32	5,797 7	13 4	102 3	82 55	103 2
5,900 0	1 17	264 93	5,897 7	13 0	100 3	82 64	101 1
6,000 0	1 54	279 46	5,997 7	13 1	98 0	82 39	98 8
6,100 0	1 69	286 60	6,097 6	13 7	95 2	81 80	96 2
6,200 0	1 87	292 30	6,197 6	14 8	92 3	80 91	93 5
6,300 0	1 93	293 13	6,297 5	16 0	89 2	79 81	90 7
6,400 0	1 92	295 61	6,397 5	17 4	86 2	78 57	87 9
6,500 0	1 80	293 27	6,497 4	18 8	83 2	77 29	85 3
6,600 0	1 66	286 82	6,597 4	19 8	80 4	76 15	82 8
6,700 0	1 39	287 65	6,697 3	20 6	77 8	75 18	80 5
6,800 0	1 12	290 99	6,797 3	21 3	75 8	74 29	78 7
6,900 0	1 13	271 40	6,897 3	21 7	73 9	73 64	77 0
7,000 0	1 29	251 34	6,997 3	21 4	71 8	73 44	74 9
7,100 0	1 32	251 97	7,097 2	20 6	69 7	73 50	72 7
7,200 0	1 97	266 04	7,197 2	20 2	66 9	73 22	69 8
7,300 0	2 05	269 29	7,297 1	20 0	63 4	72 46	66 4
7,400 0	2 24	266 87	7,397.1	19 9	59 6	71 54	62 8
7,500 0	2 53	253 54	7,497 0	19 2	55 5	70 97	58 8
7,600 0	2 60	248 70	7,596 9	17 7	51 3	70 96	54 3
7,700 0	1 73	244 42	7,696 8	16 2	47 8	71 25	50 5
7,800 0	1 16	259 75	7,796 8	15 4	45 5	71 29	48 0
7,900 0	0 93	257 19	7,896 8	15 0	43 7	71 00	46 2
8,000 0	0 84	253 16	7,996 7	14 7	42 2	70 85	44 7
8,100 0	0 97	237 13	8,096 7	14 0	40 8	71 08	43 1
8,200 0	1 43	218 53	8,196 7	12 5	39 3	72 30	41 3
8,300 0	1 10	215 27	8,296 7	10 8	38 0	74 14	39 5
8,400 0	1 14	213 66	8,396 7	9 2	36 9	76 02	38 0
8,500 0	1 06	206 45	8,496 6	7 5	35 9	78 17	36 7
8,600 0	0 93	202 06	8,596 6	5 9	35 2	80 42	35 7
8,700 0	1 18	203 26	8,696 6	4 2	34 5	82 99	34 7
8,800 0	1 48	201 98	8,796 6	2 1	33 6	86 43	33 6
8,900 0	1 96	192 96	8,896 5	-0 8	32 7	91 34	32 7
9,000 0	1 46	198 87	8,996 5	-3 6	31 9	96 50	32 1
9,053 0	1 58	200 14	9,049 5	-5 0	31 5	98 97	31 8



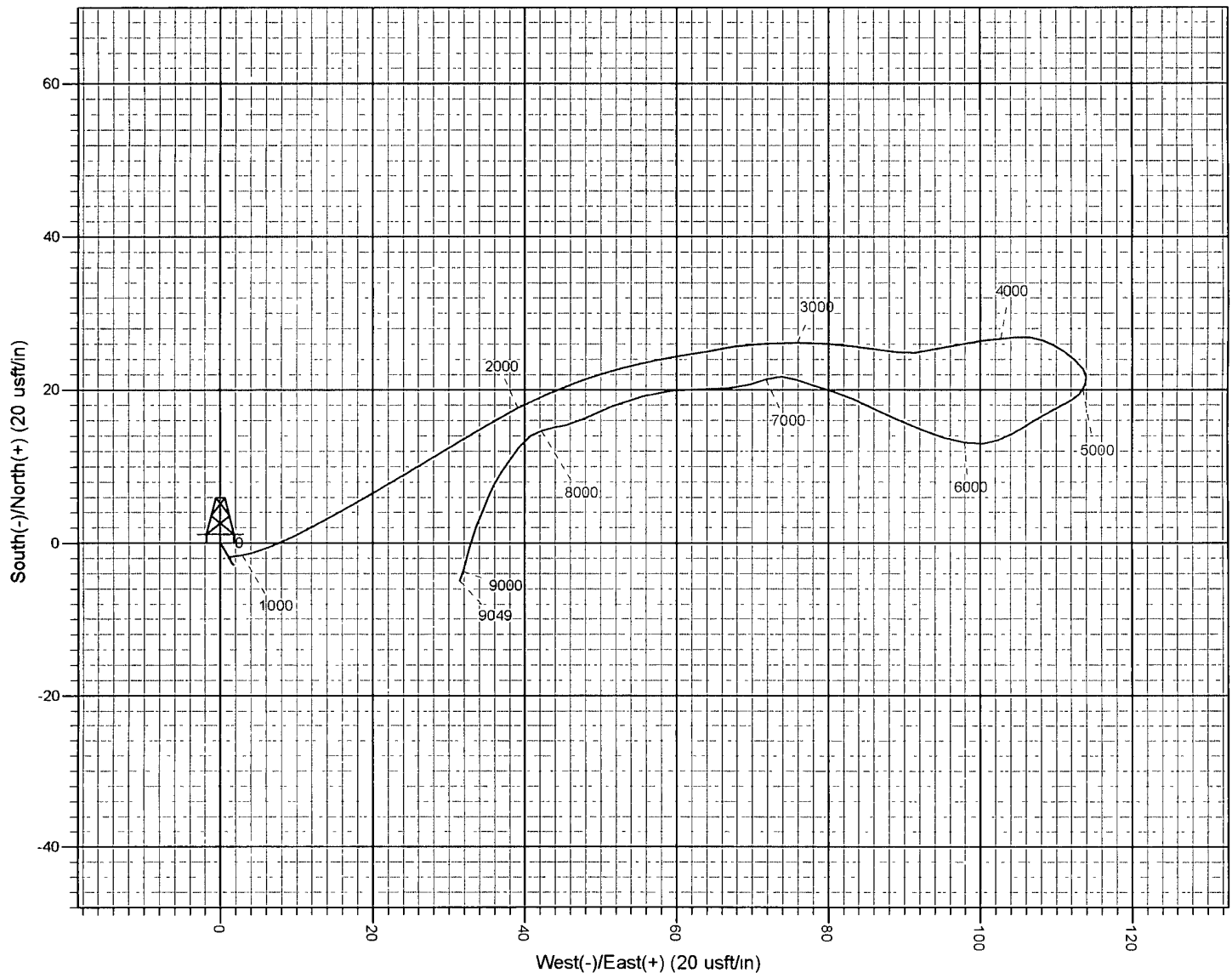
Project: Hackberry
Eddy County, NM
Well: Beetle Juice "19" Federal #2H
Wellbore: VH - Job #32K10111038
Design: VH - Job #32K10111038



Azimuths to Grid North
True North -1 27°
Magnetic North 6 46°
Magnetic Field
Strength 48827 1nT
Dip Angle 60 52°
Date 1 0/26/2011
Model IGRF2010

WELL DETAILS: Beetle Juice "18" Federal #2H
WELL @ 0.0usft (Original Well Elev)
Ground Level 0 0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 0	0.0	609038.64	1221683.71	32° 39' 8.841 N	103° 54' 19.609 W	



PROJECT DETAILS: Hackberry
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 40' 8 400 N
Longitude: 103° 54' 3 600 W
Positional Uncertainty: 0 0
Convergence: 1.27
Local North: Grid



Devon Energy Production Co, LP

Eddy Co., New Mexico (Nad 83)

Beetle Juice 19 Fed 2H

Beetle Juice 19 Fed 2H

Lateral #1

Survey: Lateral #1

Standard Survey Report

16 November, 2011



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Beetle Juice 19 Fed 2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3423.00ft (Original Well Elev)
Site:	Beetle Juice 19 Fed 2H	MD Reference:	WELL @ 3423 00ft (Original Well Elev)
Well:	Beetle Juice 19 Fed 2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Project	Eddy Co., New Mexico (Nad 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Beetle Juice 19 Fed 2H, Sec 19, T-19S, R-31E		
Site Position:		Northing:	601,343.44 usft
From:	Map	Easting:	673,026.54 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 39' 8.680 N
		Longitude:	103° 54' 19.648 W
		Grid Convergence:	0.23 °

Well	Beetle Juice 19 Fed 2H		
Well Position	+N/-S	0.00 ft	Northing: 601,343.44 usft
	+E/-W	0.00 ft	Easting: 673,026.54 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,423.00 ft
		Ground Level:	3,397.00 ft

Wellbore	Lateral #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/13/2011	7.73	60.52	48,805

Design	Lateral #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	8,100.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	182.02	

Survey Program	Date 11/16/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.00	8,100.00	Survey #1 (Pilot Hole)	NS-GYRO-MS	North sensing gyrocompassing m/s
8,100.00	13,340.00	Lateral #1 (Lateral #1)	CUDD MWD	MWD - Standard CUDD MWD

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,100.00	0.97	237.13	8,096.73	13.98	40.79	-15.41	0.00	0.00	0.00
Gyro Tie-in									
8,224.00	10.60	209.40	8,219.96	3.45	34.30	-4.66	7.86	7.77	-22.36
First Cudd survey									
8,256.00	13.40	206.60	8,251.26	-2.43	31.19	1.33	8.93	8.75	-8.75
8,288.00	15.70	206.70	8,282.23	-9.61	27.58	8.64	7.19	7.19	0.31
8,319.00	18.10	206.60	8,311.89	-17.67	23.54	16.83	7.74	7.74	-0.32
8,351.00	21.00	207.60	8,342.04	-27.20	18.66	26.52	9.12	9.06	3.13
8,383.00	23.50	207.00	8,371.65	-37.96	13.10	37.48	7.84	7.81	-1.88



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Beetle Juice 19 Fed 2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3423 00ft (Original Well Elev)
Site:	Beetle Juice 19 Fed 2H	MD Reference:	WELL @ 3423.00ft (Original Well Elev)
Well:	Beetle Juice 19 Fed 2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,415.00	25.80	207.80	8,400.74	-49.81	6.96	49.53	7.26	7.19	2.50	
8,447.00	27.60	209.40	8,429.32	-62.43	0.07	62.39	6.06	5.63	5.00	
8,478.00	29.60	208.00	8,456.54	-75.45	-7.05	75.65	6.80	6.45	-4.52	
8,510.00	32.00	206.00	8,484.02	-90.05	-14.48	90.50	8.15	7.50	-6.25	
8,542.00	35.20	205.70	8,510.67	-105.98	-22.19	106.70	10.01	10.00	-0.94	
8,574.00	37.50	204.50	8,536.45	-123.16	-30.23	124.15	7.52	7.19	-3.75	
8,606.00	39.60	204.20	8,561.47	-141.33	-38.46	142.60	6.59	6.56	-0.94	
8,637.00	41.70	203.20	8,584.99	-159.82	-46.57	161.36	7.09	6.77	-3.23	
8,669.00	43.80	203.10	8,608.52	-179.75	-55.09	181.58	5.94	5.94	-0.31	
8,701.00	45.10	202.50	8,631.41	-200.37	-63.76	202.50	4.87	4.69	-1.88	
8,733.00	48.20	203.80	8,653.37	-221.76	-72.91	224.20	10.13	9.69	4.06	
8,764.00	51.10	203.50	8,673.44	-243.40	-82.39	246.16	9.38	9.35	-0.97	
8,796.00	52.40	205.10	8,693.25	-266.30	-92.73	269.41	5.65	4.06	5.00	
8,828.00	54.50	205.20	8,712.31	-289.57	-103.65	293.05	6.57	6.56	0.31	
8,860.00	57.50	204.80	8,730.20	-313.61	-114.86	317.47	9.43	9.38	-1.25	
8,891.00	61.10	204.50	8,746.02	-337.84	-125.98	342.07	11.64	11.61	-0.97	
8,923.00	64.80	204.00	8,760.57	-363.82	-137.68	368.44	11.65	11.56	-1.56	
8,955.00	67.60	204.50	8,773.49	-390.51	-149.70	395.54	8.87	8.75	1.56	
8,982.00	71.60	205.30	8,782.90	-413.46	-160.36	418.85	15.07	14.81	2.96	
9,014.00	76.00	206.10	8,791.82	-441.14	-173.68	446.99	13.96	13.75	2.50	
9,046.00	77.50	206.70	8,799.16	-469.04	-187.53	475.36	5.03	4.69	1.88	
9,078.00	78.20	207.70	8,805.89	-496.86	-201.83	503.67	3.76	2.19	3.13	
9,109.00	78.20	210.50	8,812.23	-523.37	-216.59	530.68	8.84	0.00	9.03	
9,138.00	77.50	209.80	8,818.34	-547.89	-230.83	555.68	3.38	-2.41	-2.41	
9,170.00	78.50	210.90	8,824.99	-574.90	-246.64	583.23	4.59	3.13	3.44	
9,202.00	82.30	210.50	8,830.32	-602.02	-262.75	610.91	11.94	11.88	-1.25	
9,233.00	86.40	209.90	8,833.38	-628.68	-278.26	638.10	13.37	13.23	-1.94	
9,267.00	90.40	209.70	8,834.32	-658.17	-295.15	668.16	11.78	11.76	-0.59	
9,299.00	91.40	208.60	8,833.82	-686.11	-310.74	696.64	4.65	3.13	-3.44	
9,331.00	91.60	206.50	8,832.98	-714.47	-325.53	725.50	6.59	0.63	-6.56	
9,362.00	91.90	205.10	8,832.04	-742.37	-339.02	753.85	4.62	0.97	-4.52	
9,394.00	92.00	203.50	8,830.95	-771.51	-352.18	783.45	5.01	0.31	-5.00	
9,426.00	92.70	202.10	8,829.64	-800.99	-364.57	813.34	4.89	2.19	-4.38	
9,458.00	92.30	200.70	8,828.24	-830.75	-376.23	843.50	4.55	-1.25	-4.38	
9,490.00	91.00	199.10	8,827.32	-860.83	-387.12	873.94	6.44	-4.06	-5.00	
9,537.00	92.50	197.50	8,825.88	-905.43	-401.87	919.03	4.67	3.19	-3.40	
9,569.00	92.20	196.30	8,824.57	-936.02	-411.16	949.93	3.86	-0.94	-3.75	
9,601.00	91.90	196.00	8,823.43	-966.73	-420.06	980.94	1.33	-0.94	-0.94	
9,633.00	91.60	194.90	8,822.45	-997.56	-428.58	1,012.05	3.56	-0.94	-3.44	
9,665.00	91.30	193.20	8,821.64	-1,028.59	-436.34	1,043.34	5.39	-0.94	-5.31	
9,697.00	89.90	192.00	8,821.30	-1,059.82	-443.32	1,074.79	5.76	-4.38	-3.75	
9,728.00	88.20	191.20	8,821.82	-1,090.18	-449.56	1,105.35	6.06	-5.48	-2.58	
9,760.00	88.10	190.50	8,822.85	-1,121.59	-455.58	1,136.96	2.21	-0.31	-2.19	



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Beetle Juice 19 Fed 2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD Reference:	WELL @ 3423.00ft (Original Well Elev)
Site:	Beetle Juice 19 Fed 2H	MD Reference:	WELL @ 3423 00ft (Original Well Elev)
Well:	Beetle Juice 19 Fed 2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000.1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,792.00	88.40	188.90	8,823.83	-1,153.12	-460.96	1,168.65	5.08	0.94	-5.00
9,824.00	87.60	187.50	8,824.95	-1,184.77	-465.53	1,200.45	5.04	-2.50	-4.38
9,856.00	87.90	186.70	8,826.20	-1,216.50	-469.48	1,232.30	2.67	0.94	-2.50
9,887.00	88.50	184.90	8,827.18	-1,247.33	-472.61	1,263.21	6.12	1.94	-5.81
9,919.00	89.30	183.50	8,827.79	-1,279.23	-474.95	1,295.18	5.04	2.50	-4.38
9,951.00	89.90	182.20	8,828.01	-1,311.19	-476.54	1,327.18	4.47	1.88	-4.06
9,983.00	90.60	181.00	8,827.87	-1,343.18	-477.44	1,359.17	4.34	2.19	-3.75
10,015.00	91.30	179.80	8,827.34	-1,375.17	-477.66	1,391.16	4.34	2.19	-3.75
10,046.00	91.70	180.00	8,826.53	-1,406.16	-477.61	1,422.12	1.44	1.29	0.65
10,078.00	92.10	179.90	8,825.47	-1,438.15	-477.58	1,454.09	1.29	1.25	-0.31
10,110.00	91.40	179.40	8,824.49	-1,470.13	-477.38	1,486.04	2.69	-2.19	-1.56
10,142.00	90.80	178.20	8,823.88	-1,502.12	-476.71	1,517.99	4.19	-1.88	-3.75
10,174.00	91.20	177.90	8,823.32	-1,534.09	-475.62	1,549.90	1.56	1.25	-0.94
10,205.00	90.90	177.80	8,822.75	-1,565.07	-474.46	1,580.82	1.02	-0.97	-0.32
10,237.00	91.30	178.00	8,822.14	-1,597.04	-473.29	1,612.73	1.40	1.25	0.63
10,269.00	90.40	177.60	8,821.66	-1,629.01	-472.06	1,644.64	3.08	-2.81	-1.25
10,364.00	87.80	177.30	8,823.16	-1,723.90	-467.83	1,739.32	2.75	-2.74	-0.32
10,460.00	89.30	177.40	8,825.59	-1,819.76	-463.40	1,834.96	1.57	1.56	0.10
10,555.00	90.00	177.30	8,826.17	-1,914.66	-459.01	1,929.65	0.74	0.74	-0.11
10,650.00	89.20	178.00	8,826.83	-2,009.57	-455.11	2,024.37	1.12	-0.84	0.74
10,746.00	90.40	177.50	8,827.16	-2,105.50	-451.34	2,120.10	1.35	1.25	-0.52
10,841.00	87.90	178.20	8,828.57	-2,200.41	-447.78	2,214.83	2.73	-2.63	0.74
10,937.00	87.70	177.50	8,832.26	-2,296.27	-444.18	2,310.50	0.76	-0.21	-0.73
11,032.00	87.70	177.20	8,836.07	-2,391.09	-439.79	2,405.11	0.32	0.00	-0.32
11,127.00	89.60	177.40	8,838.31	-2,485.96	-435.32	2,499.76	2.01	2.00	0.21
11,222.00	90.90	177.40	8,837.89	-2,580.86	-431.01	2,594.45	1.37	1.37	0.00
11,317.00	89.70	177.60	8,837.40	-2,675.76	-426.86	2,689.15	1.28	-1.26	0.21
11,412.00	89.70	177.40	8,837.89	-2,770.67	-422.72	2,783.85	0.21	0.00	-0.21
11,505.00	89.60	176.70	8,838.46	-2,863.55	-417.93	2,876.50	0.76	-0.11	-0.75
11,600.00	91.30	178.10	8,837.72	-2,958.44	-413.62	2,971.18	2.32	1.79	1.47
11,695.00	91.80	179.50	8,835.15	-3,053.38	-411.64	3,065.99	1.56	0.53	1.47
11,791.00	91.30	180.30	8,832.55	-3,149.34	-411.47	3,161.89	0.98	-0.52	0.83
11,886.00	89.80	180.30	8,831.64	-3,244.34	-411.97	3,256.84	1.58	-1.58	0.00
11,982.00	89.50	180.00	8,832.22	-3,340.33	-412.22	3,352.79	0.44	-0.31	-0.31
12,077.00	88.40	182.00	8,833.97	-3,435.30	-413.87	3,447.75	2.40	-1.16	2.11
12,173.00	89.10	182.20	8,836.06	-3,531.21	-417.39	3,543.73	0.76	0.73	0.21
12,267.00	87.80	181.90	8,838.60	-3,625.11	-420.75	3,637.69	1.42	-1.38	-0.32
12,360.00	88.40	182.50	8,841.69	-3,717.99	-424.32	3,730.64	0.91	0.65	0.65
12,453.00	89.30	182.60	8,843.55	-3,810.88	-428.46	3,823.61	0.97	0.97	0.11
12,545.00	89.60	182.70	8,844.44	-3,902.78	-432.71	3,915.60	0.34	0.33	0.11
12,638.00	90.50	182.50	8,844.35	-3,995.68	-436.93	4,008.60	0.99	0.97	-0.22
12,732.00	89.50	182.80	8,844.35	-4,089.58	-441.28	4,102.59	1.11	-1.06	0.32
12,827.00	89.80	182.50	8,844.93	-4,184.48	-445.67	4,197.58	0.45	0.32	-0.32
12,920.00	90.70	182.60	8,844.53	-4,277.38	-449.81	4,290.58	0.97	0.97	0.11



CUDD Drilling and Measurement Survey Report

Company:	Devon Energy Production Co, LP	Local Co-ordinate Reference:	Site Beetle Juice 19 Fed 2H
Project:	Eddy Co., New Mexico (Nad 83)	TVD.Reference:	WELL @ 3423.00ft (Original Well Elev)
Site:	Beetle Juice 19 Fed 2H	MD Reference:	WELL @ 3423.00ft (Original Well Elev)
Well:	Beetle Juice 19 Fed 2H	North Reference:	Grid
Wellbore:	Lateral #1	Survey Calculation Method:	Minimum Curvature
Design:	Lateral #1	Database:	EDM 5000 1 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,016.00	89 50	182.90	8,844.36	-4,373 27	-454.41	4,386.57	1.29	-1 25	0.31
13,111 00	90.40	183 10	8,844 44	-4,468 14	-459.38	4,481.55	0.97	0.95	0.21
13,205 00	89 30	183 30	8,844.69	-4,561 99	-464.63	4,575 53	1 19	-1 17	0 21
13,280 00	90 00	183 50	8,845 15	-4,636 86	-469.08	4,650.51	0.97	0.93	0 27
Last Cudd survey									
13,340.00	90 00	183.50	8,845.15	-4,696 74	-472.74	4,710.49	0.00	0 00	0 00
Projection to bit									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
8,100 00	8,096.73	13 98	40.79	Gyro Tie-in
8,224 00	8,219.96	3 45	34.30	First Cudd survey
13,280 00	8,845.15	-4,636 86	-469.08	Last Cudd survey
13,340 00	8,845.15	-4,696.74	-472.74	Projection to bit

Checked By: _____	Approved By: _____	Date: _____
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Project Eddy Co. New Mexico (Nad 83)
Site Beetle Juice 19 Fed 2H
Well Beetle Juice 19 Fed 2H
Wellbore Lateral #1
Design Design #4



SECTION DETAILS

Sec	MG	Inc	Asi	TVD	N/S	E/W	Dip	Trace	Use	Target
2	8170	1.0	222	8168	1.0	1.0	1.0	1.0	1.0	1.0
3	8170	89.45	206.00	8816.00	-5.75	82	-251.88	8.64	-16.70	584.15
4	10046	14	89.45	180.37	8824.34	-1.400	58	-445.19	3.00	-80.12
4	13348	70	89.45	180.37	8856.00	-4.702	92	-466.27	0.00	0.00

ANNOTATIONS

TVD MD Annotation
8168 71 8170 00 KOP Build 8 4571007
8816 00 8191 70 EOC Hold 1 89 45 @ Turn to A 180 37

PROJECT DETAILS Eddy Co. New Mexico (Nad 83)

Geodetic System US State Plane 1983
Datum NAD 83
Zone New Mexico Eastern Zone
System Datum Mean Sea Level

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

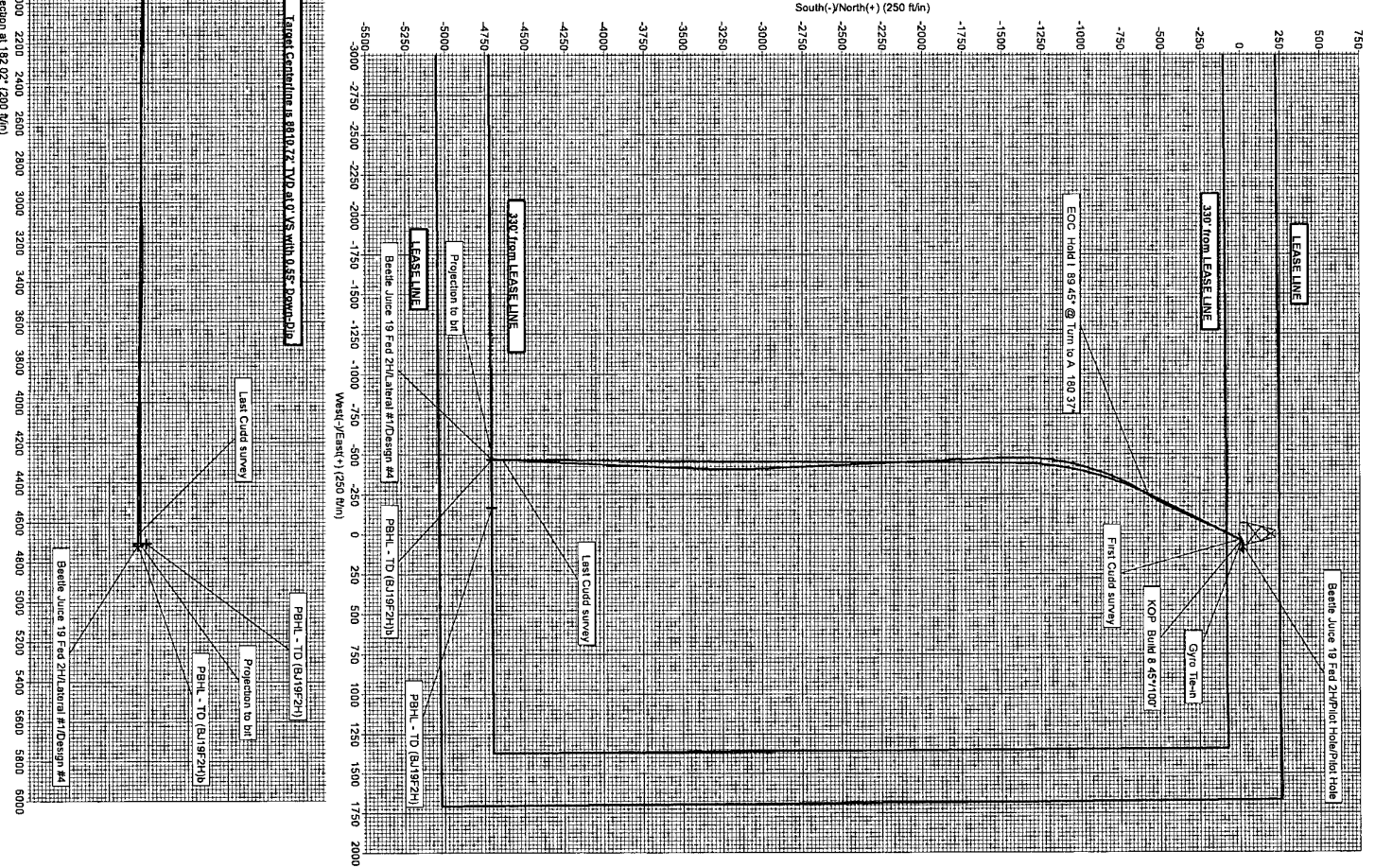
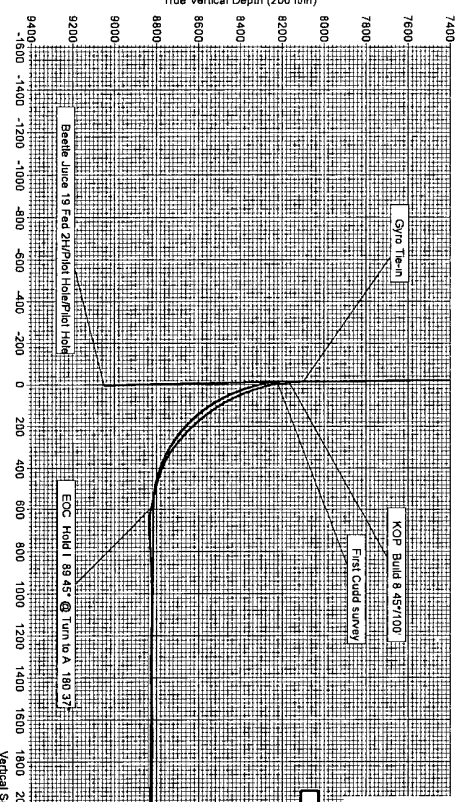
Name	TVD	N/S	E/W	North	East	Latitude	Longitude	Shape
MD - TD (BU19F2H)	8816	00	-4702	82	54	32° 39' 56.50" N	103° 54' 19.64" W	Point
PBHL - TD (BU19F2H)	8856	00	-4702	92	53	32° 38' 22.16" N	103° 54' 25.32" W	Point

WELL DETAILS Beetle Juice 19 Fed 2H

Ground Level					
3397 00					
WELL @ 3423 00N (Original Well Elev)					
	North	East	Latitude	Longitude	Slot
+N/S	501343 44	673026 54	32° 39' 8.660 N	103° 54' 19.648 W	
0 00					

Plan Design #4 (Beetle Juice 19 Fed 2H Lateral #1)

Created By	Eric Minchew	Date	8 32 November 16 2011
Checked		Date	
Reviewed		Date	
Approved		Date	



Beetle Juice 19 Fed 2H_Final MWD Survey-Report_11-16-11.txt
 Devon Energy Production Co, LP
 Beetle Juice 19 Fed 2H - Lateral #1

Eddy Co., New Mexico (Nad 83)
 Beetle Juice 19 Fed 2H

Measured Dogleg Depth Rate (ft) (°/100ft)	Incl.	Azim.	Vertical Depth (ft)	Northings (ft)	Eastings (ft)	Vertical Section (ft)
8100.00	0.970	237.130	8096.73	13.98 N	40.79 E	-15.41
0.00						
8224.00	10.600	209.400	8219.96	3.45 N	34.30 E	-4.66
7.86						
8256.00	13.400	206.600	8251.26	2.43 S	31.19 E	1.33
8.93						
8288.00	15.700	206.700	8282.23	9.61 S	27.58 E	8.64
7.19						
8319.00	18.100	206.600	8311.89	17.67 S	23.54 E	16.83
7.74						
8351.00	21.000	207.600	8342.04	27.20 S	18.66 E	26.52
9.12						
8383.00	23.500	207.000	8371.65	37.96 S	13.10 E	37.48
7.84						
8415.00	25.800	207.800	8400.74	49.81 S	6.96 E	49.53
7.26						
8447.00	27.600	209.400	8429.32	62.43 S	0.07 E	62.39
6.06						
8478.00	29.600	208.000	8456.54	75.45 S	7.05 W	75.65
6.80						
8510.00	32.000	206.000	8484.02	90.05 S	14.48 W	90.50
8.15						
8542.00	35.200	205.700	8510.67	105.98 S	22.19 W	106.70
10.01						
8574.00	37.500	204.500	8536.45	123.16 S	30.23 W	124.15
7.52						
8606.00	39.600	204.200	8561.47	141.33 S	38.46 W	142.60
6.59						
8637.00	41.700	203.200	8584.99	159.82 S	46.57 W	161.36
7.09						
8669.00	43.600	203.100	8608.52	179.75 S	55.09 W	181.58
5.94						
8701.00	45.100	202.500	8631.41	200.37 S	63.76 W	202.50
4.87						
8733.00	48.200	203.800	8653.37	221.76 S	72.91 W	224.20
10.13						
8764.00	51.100	203.500	8673.44	243.40 S	82.39 W	246.16
9.38						
8796.00	52.400	205.100	8693.25	266.30 S	92.73 W	269.41
5.65						
8828.00	54.500	205.200	8712.31	289.57 S	103.65 W	293.05
6.57						
8860.00	57.500	204.800	8730.20	313.61 S	114.86 W	317.47
9.43						
8891.00	61.100	204.500	8746.02	337.84 S	125.98 W	342.07
11.64						
8923.00	64.800	204.000	8760.57	363.82 S	137.68 W	368.44
11.65						
8955.00	67.600	204.500	8773.49	390.51 S	149.70 W	395.54
8.87						

	Beetle	Juice	19 Fed 2H_Final	MWD	Survey-Report_11-16-11.txt	
8982.00	71.600	205.300	8782.90	413.46 S	160.36 W	418.85
15.07						
9014.00	76.000	206.100	8791.82	441.14 S	173.68 W	446.99
13.96						
9046.00	77.500	206.700	8799.16	469.04 S	187.53 W	475.36
5.03						
9078.00	78.200	207.700	8805.89	496.86 S	201.83 W	503.67
3.76						
9109.00	78.200	210.500	8812.23	523.37 S	216.59 W	530.68
8.84						
9138.00	77.500	209.800	8818.33	547.89 S	230.83 W	555.68
3.38						
9170.00	78.500	210.900	8824.99	574.90 S	246.64 W	583.23
4.59						
9202.00	82.300	210.500	8830.32	602.02 S	262.75 W	610.91
11.94						
9233.00	86.400	209.900	8833.38	628.68 S	278.26 W	638.10
13.37						
9267.00	90.400	209.700	8834.32	658.17 S	295.15 W	668.16
11.78						
9299.00	91.400	208.600	8833.82	686.11 S	310.74 W	696.64
4.65						
9331.00	91.600	206.500	8832.98	714.47 S	325.53 W	725.50
6.59						
9362.00	91.900	205.100	8832.04	742.37 S	339.02 W	753.85
4.62						
9394.00	92.000	203.500	8830.95	771.51 S	352.18 W	783.45
5.01						
9426.00	92.700	202.100	8829.64	800.99 S	364.57 W	813.34
4.89						
9458.00	92.300	200.700	8828.24	830.75 S	376.23 W	843.50
4.55						
9490.00	91.000	199.100	8827.32	860.83 S	387.12 W	873.94
6.44						
9537.00	92.500	197.500	8825.88	905.43 S	401.87 W	919.03
4.67						
9569.00	92.200	196.300	8824.57	936.02 S	411.16 W	949.93
3.86						
9601.00	91.900	196.000	8823.43	966.73 S	420.06 W	980.94
1.33						
9633.00	91.600	194.900	8822.45	997.56 S	428.58 W	1012.05
3.56						
9665.00	91.300	193.200	8821.64	1028.59 S	436.34 W	1043.34
5.39						
9697.00	89.900	192.000	8821.30	1059.82 S	443.32 W	1074.79
5.76						
9728.00	88.200	191.200	8821.82	1090.18 S	449.56 W	1105.35
6.06						
9760.00	88.100	190.500	8822.85	1121.59 S	455.58 W	1136.96
2.21						
9792.00	88.400	188.900	8823.83	1153.12 S	460.96 W	1168.65
5.08						
9824.00	87.600	187.500	8824.95	1184.77 S	465.53 W	1200.45
5.04						
9856.00	87.900	186.700	8826.20	1216.50 S	469.48 W	1232.30
2.67						
9887.00	88.500	184.900	8827.18	1247.33 S	472.61 W	1263.21
6.12						
9919.00	89.300	183.500	8827.79	1279.23 S	474.95 W	1295.18
5.04						
9951.00	89.900	182.200	8828.01	1311.19 S	476.54 W	1327.18
4.47						
9983.00	90.600	181.000	8827.87	1343.18 S	477.44 W	1359.17

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4.34							
10015.00	91.300	179.800	8827.34	1375.17 S	477.66 W	1391.16	
4.34							
10046.00	91.700	180.000	8826.53	1406.16 S	477.61 W	1422.12	
1.44							
10078.00	92.100	179.900	8825.47	1438.15 S	477.58 W	1454.09	
1.29							
10110.00	91.400	179.400	8824.49	1470.13 S	477.38 W	1486.04	
2.69							
10142.00	90.800	178.200	8823.88	1502.12 S	476.71 W	1517.99	
4.19							
10174.00	91.200	177.900	8823.32	1534.09 S	475.62 W	1549.90	
1.56							
10205.00	90.900	177.800	8822.75	1565.07 S	474.46 W	1580.82	
1.02							
10237.00	91.300	178.000	8822.14	1597.04 S	473.29 W	1612.73	
1.40							
10269.00	90.400	177.600	8821.66	1629.01 S	472.06 W	1644.64	
3.08							
10364.00	87.800	177.300	8823.16	1723.90 S	467.83 W	1739.32	
2.75							
10460.00	89.300	177.400	8825.58	1819.76 S	463.40 W	1834.96	
1.57							
10555.00	90.000	177.300	8826.17	1914.66 S	459.01 W	1929.65	
0.74							
10650.00	89.200	178.000	8826.83	2009.57 S	455.11 W	2024.37	
1.12							
10746.00	90.400	177.500	8827.16	2105.50 S	451.34 W	2120.10	
1.35							
10841.00	87.900	178.200	8828.57	2200.41 S	447.78 W	2214.83	
2.73							
10937.00	87.700	177.500	8832.26	2296.27 S	444.18 W	2310.50	
0.76							
11032.00	87.700	177.200	8836.07	2391.09 S	439.79 W	2405.11	
0.32							
11127.00	89.600	177.400	8838.31	2485.96 S	435.32 W	2499.76	
2.01							
11222.00	90.900	177.400	8837.89	2580.86 S	431.01 W	2594.45	
1.37							
11317.00	89.700	177.600	8837.40	2675.76 S	426.86 W	2689.15	
1.28							
11412.00	89.700	177.400	8837.89	2770.67 S	422.72 W	2783.85	
0.21							
11505.00	89.600	176.700	8838.46	2863.55 S	417.93 W	2876.50	
0.76							
11600.00	91.300	178.100	8837.72	2958.44 S	413.62 W	2971.18	
2.32							
11695.00	91.800	179.500	8835.15	3053.38 S	411.64 W	3065.99	
1.56							
11791.00	91.300	180.300	8832.55	3149.34 S	411.47 W	3161.89	
0.98							
11886.00	89.800	180.300	8831.64	3244.34 S	411.97 W	3256.84	
1.58							
11982.00	89.500	180.000	8832.22	3340.33 S	412.22 W	3352.79	
0.44							
12077.00	88.400	182.000	8833.97	3435.30 S	413.87 W	3447.75	
2.40							
12173.00	89.100	182.200	8836.06	3531.21 S	417.39 W	3543.73	
0.76							
12267.00	87.800	181.900	8838.60	3625.11 S	420.75 W	3637.69	
1.42							
12360.00	88.400	182.500	8841.69	3717.99 S	424.32 W	3730.64	
0.91							

	Beetle	Juice	19 Fed	2H_Final	MWD Survey-Report	11-16-11.txt
12453.00	89.300	182.600	8843.55	3810.88 S	428.46 W	3823.61
0.97						
12545.00	89.600	182.700	8844.43	3902.78 S	432.71 W	3915.60
0.34						
12638.00	90.500	182.500	8844.35	3995.68 S	436.93 W	4008.60
0.99						
12732.00	89.500	182.800	8844.35	4089.58 S	441.28 W	4102.59
1.11						
12827.00	89.800	182.500	8844.93	4184.48 S	445.67 W	4197.58
0.45						
12920.00	90.700	182.600	8844.53	4277.38 S	449.81 W	4290.58
0.97						
13016.00	89.500	182.900	8844.36	4373.27 S	454.41 W	4386.57
1.29						
13111.00	90.400	183.100	8844.44	4468.14 S	459.38 W	4481.55
0.97						
13205.00	89.300	183.300	8844.69	4561.99 S	464.63 W	4575.53
1.19						
13280.00	90.000	183.500	8845.15	4636.86 S	469.08 W	4650.51
0.97						
13340.00	90.000	183.500	8845.15	4696.74 S	472.74 W	4710.49
0.00						

All data are in feet unless otherwise stated. Directions and coordinates are relative to Grid North.
Vertical depths are relative to WELL. Northings and Eastings are relative to Site.

The Dogleg Severity is in Degrees per 100 feet.
Vertical Section is from Slot and calculated along an Azimuth of 182.020° (Grid).

Coordinate System is North American Datum 1983 US State Plane 1983, New Mexico Eastern Zone.
Central meridian is -104.333°.
Grid Convergence at Surface is 0.231°.

Based upon Minimum Curvature type calculations, at a Measured Depth of 13340.00ft., the Bottom Hole Displacement is 4720.47ft., in the Direction of 182.020° (Grid).