

**McVAY DRILLING COMPANY**

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

Well Name and Num: Onyx PWU 29-2H
Location: Sec. 29, T19S, R29E
Operator: Devon
Drilling Contractor: McVay Drilling Company

15-40423

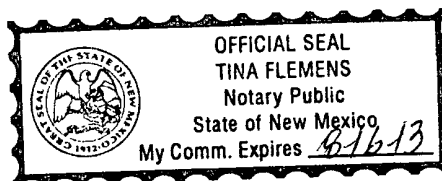
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

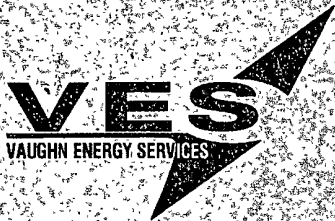
<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
1.10	650	45.60	7707				
0.60	1170	67.00	7930				
0.90	1579	90.00	8185				
0.40	2079	89.30	8313				
0.30	2579	89.70	8473				
0.50	3110	89.90	8568				
1.10	3614	89.90	8826				
1.80	4277	88.40	9332				
1.90	4752	88.60	9832				
2.00	5051	88.60	10189				
2.20	5321	89.60	10676				
4.33	5793	90.60	10960				
4.30	6166	91.26	11437				
2.10	6543	89.30	11533				
2.70	6740	88.88	11628				
2.44	7325	88.74	12197				
35.20	7611						

By: Hendry Crum

Subscribed and sworn to before me this 30th day of August, 2012

Tina Flemens
Notary Public, Lea County, New Mexico





VAUGHN ENERGY SERVICES

A GYRO TECHNOLOGIES INC. COMPANY

PO Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

August 15, 2012

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

Attn: Mark Cooper

Re: **Onyx PWU 29 No. 002H**

Please find enclosed a copy of the survey from 0:00' to 7200:00' ran on the above referenced well.

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

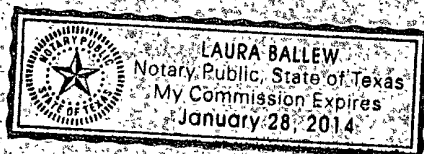
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 15th day of August
A.D., 2012, by Keith Havelka.

Laura Ballew
Notary Public, State of Texas





Company: Devon Energy Production Co., LP

Lease/Well: Onyx PWU 29 / No. 002H

Location:

Rig Name: McVay 6

State/County: New Mexico / Eddy

Latitude: 32.63

GRID North is 0.12 Degrees East of True North

VS-Azi: 90.10 Degrees



Depth Reference : RKB= 19'

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: onyx pwu 29-2h gyro survey 2.ut

Minimum Curvature Method

Report Date/Time: 8/15/2012 / 08:30

Vaughn Energy Services

Gardendale, Texas

432-563-5444

Surveyor: Chris Tallant

Onyx PWU 29 No. 002H / API 30-015-40423

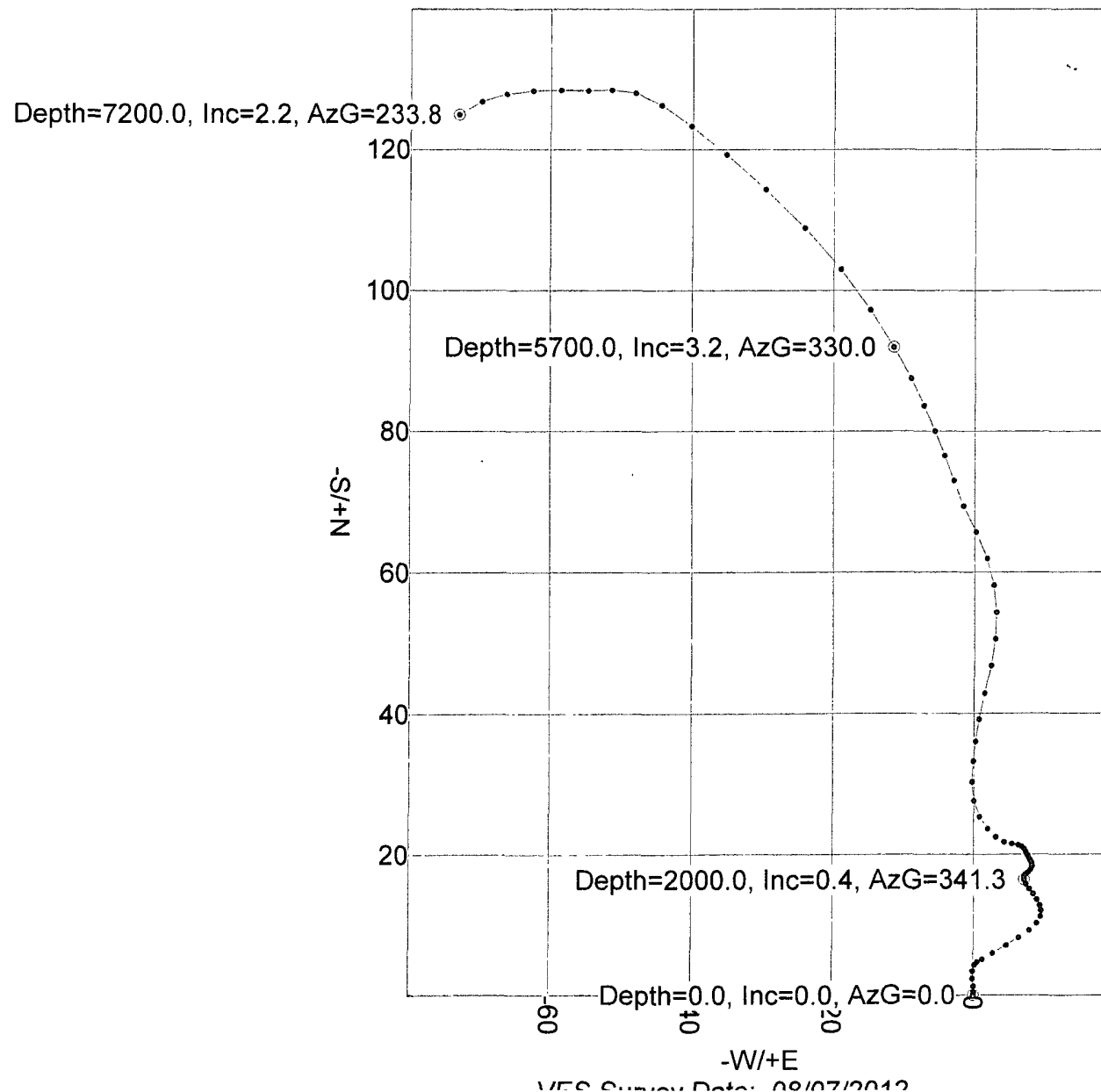
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.43	8.86	100.00	0.37	0.06	0.06	0.38	8.86	0.43
200.00	0.63	348.90	199.99	1.28	0.01	0.01	1.28	0.47	0.27
300.00	0.64	357.06	299.99	2.38	-0.12	-0.13	2.38	357.02	0.09
400.00	0.64	5.21	399.98	3.49	-0.10	-0.11	3.49	358.34	0.09
500.00	0.44	34.17	499.98	4.36	0.16	0.16	4.37	2.16	0.34
600.00	0.23	63.12	599.98	4.77	0.56	0.55	4.81	6.71	0.26
700.00	0.74	60.91	699.97	5.18	1.30	1.30	5.34	14.14	0.50
800.00	1.24	58.70	799.96	6.05	2.79	2.78	6.66	24.75	0.50
900.00	1.21	59.01	899.93	7.16	4.62	4.60	8.52	32.83	0.03
1000.00	1.18	59.33	999.91	8.22	6.41	6.39	10.42	37.92	0.03
1100.00	0.94	49.59	1099.90	9.28	7.92	7.90	12.20	40.46	0.30
1200.00	0.71	39.84	1199.89	10.29	8.94	8.92	13.63	40.98	0.27
1300.00	0.56	15.52	1299.88	11.23	9.46	9.44	14.68	40.11	0.30
1400.00	0.41	353.46	1399.88	12.06	9.55	9.53	15.38	38.38	0.23
1500.00	0.49	340.13	1499.87	12.82	9.37	9.34	15.87	36.16	0.13
1600.00	0.56	329.07	1599.87	13.63	8.97	8.95	16.32	33.35	0.12
1700.00	0.53	324.69	1699.86	14.43	8.46	8.43	16.72	30.38	0.05
1800.00	0.50	320.32	1799.86	15.13	7.91	7.89	17.08	27.61	0.05

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.43	330.82	1899.86	15.80	7.45	7.43	17.47	25.27	0.11
2000.00	0.37	341.33	1999.85	16.43	7.17	7.14	17.92	23.58	0.10
2100.00	0.28	22.41	2099.85	16.96	7.16	7.13	18.41	22.89	0.24
2200.00	0.20	63.50	2199.85	17.26	7.41	7.38	18.78	23.23	0.19
2300.00	0.26	50.18	2299.85	17.48	7.74	7.71	19.12	23.87	0.09
2400.00	0.33	36.86	2399.85	17.86	8.09	8.06	19.61	24.36	0.10
2500.00	0.30	6.73	2499.85	18.35	8.29	8.26	20.14	24.32	0.17
2600.00	0.26	336.60	2599.85	18.82	8.23	8.20	20.54	23.63	0.15
2700.00	0.25	331.67	2699.85	19.22	8.04	8.00	20.84	22.69	0.02
2800.00	0.24	326.74	2799.85	19.59	7.82	7.79	21.10	21.76	0.02
2900.00	0.26	331.66	2899.84	19.97	7.60	7.56	21.36	20.83	0.03
3000.00	0.28	336.58	2999.84	20.40	7.39	7.35	21.69	19.92	0.03
3100.00	0.26	322.75	3099.84	20.80	7.16	7.12	22.00	18.98	0.07
3200.00	0.23	308.93	3199.84	21.11	6.86	6.82	22.19	18.01	0.06
3300.00	0.43	290.98	3299.84	21.37	6.35	6.31	22.29	16.55	0.22
3400.00	0.63	273.03	3399.84	21.53	5.45	5.41	22.21	14.20	0.26
3500.00	0.73	291.21	3499.83	21.79	4.30	4.26	22.22	11.17	0.24
3600.00	0.83	309.39	3599.82	22.49	3.15	3.11	22.70	7.97	0.27
3700.00	1.07	319.88	3699.81	23.66	1.98	1.94	23.74	4.79	0.30
3800.00	1.31	330.38	3799.78	25.37	0.81	0.77	25.39	1.84	0.32
3900.00	1.49	346.34	3899.75	27.64	-0.06	-0.11	27.64	359.88	0.43
4000.00	1.67	2.31	3999.72	30.35	-0.31	-0.36	30.36	359.42	0.47
4100.00	1.65	4.86	4099.68	33.24	-0.13	-0.19	33.24	359.78	0.08
4200.00	1.63	7.41	4199.63	36.08	0.18	0.11	36.08	0.28	0.08
4300.00	1.99	10.78	4299.58	39.19	0.68	0.62	39.20	1.00	0.38
4400.00	2.35	14.15	4399.51	42.88	1.51	1.44	42.91	2.02	0.38
4500.00	2.25	10.55	4499.43	46.80	2.37	2.29	46.86	2.90	0.18
4600.00	2.15	6.95	4599.36	50.59	2.96	2.87	50.68	3.35	0.17
4700.00	2.18	358.46	4699.29	54.35	3.13	3.04	54.44	3.30	0.32
4800.00	2.21	349.96	4799.21	58.15	2.75	2.64	58.22	2.70	0.33
4900.00	2.30	341.47	4899.14	61.95	1.77	1.66	61.98	1.64	0.35
5000.00	2.39	332.97	4999.05	65.71	0.19	0.07	65.71	0.16	0.36
5100.00	2.29	336.40	5098.97	69.39	-1.56	-1.68	69.41	358.72	0.17
5200.00	2.18	339.82	5198.89	73.01	-3.01	-3.14	73.07	357.64	0.17
5300.00	2.16	338.99	5298.82	76.55	-4.34	-4.48	76.67	356.75	0.04
5400.00	2.13	338.15	5398.75	80.03	-5.71	-5.85	80.23	355.92	0.04
5500.00	2.35	335.70	5498.68	83.62	-7.24	-7.39	83.94	355.05	0.24
5600.00	2.58	333.25	5598.58	87.50	-9.10	-9.25	87.97	354.06	0.25
5700.00	3.25	330.02	5698.45	91.96	-11.53	-11.69	92.68	352.86	0.69

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	3.91	326.80	5798.26	97.27	-14.81	-14.98	98.39	351.34	0.70
5900.00	4.26	321.41	5898.00	103.03	-19.00	-19.18	104.76	349.55	0.52
6000.00	4.61	316.02	5997.71	108.82	-24.10	-24.29	111.46	347.51	0.54
6100.00	4.36	313.20	6097.40	114.32	-29.67	-29.87	118.11	345.45	0.33
6200.00	4.12	310.37	6197.13	119.25	-35.18	-35.38	124.33	343.56	0.32
6300.00	3.34	306.91	6296.91	123.32	-40.24	-40.45	129.72	341.93	0.81
6400.00	2.56	303.44	6396.78	126.30	-44.43	-44.65	133.89	340.62	0.80
6500.00	2.16	285.38	6496.70	128.03	-48.11	-48.34	136.78	339.40	0.84
6600.00	1.76	267.32	6596.64	128.46	-51.47	-51.69	138.39	338.17	0.73
6700.00	2.05	269.46	6696.58	128.37	-54.79	-55.02	139.58	336.89	0.30
6800.00	2.35	271.60	6796.51	128.41	-58.63	-58.85	141.16	335.46	0.30
6900.00	2.21	265.70	6896.43	128.33	-62.60	-62.82	142.78	334.00	0.27
7000.00	2.07	259.80	6996.36	127.86	-66.30	-66.52	144.03	332.59	0.26
7100.00	2.12	246.80	7096.29	126.81	-69.78	-70.01	144.74	331.18	0.48
7200.00	2.17	233.79	7196.22	124.96	-73.01	-73.23	144.73	329.70	0.49



Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Chris Tallant
Onyx PWU 29 No. 002H / API 30-015-40423





Weatherford

Evaluation, Drilling & Intervention

10000 West County Rd. 116

P.O. Box 61028

Midland, TX USA 79711

Tel. (432) 561-8892 Fax (432) 561-8895

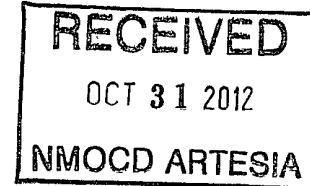
15-40423

Devon Energy
20 North Broadway
Oklahoma City, OK, 73102

Date: August 20, 2012

Attention: Stuart Spencer

Re: Devon Energy
Well: Onyx PWU 29 #2H
Eddy County, New Mexico



Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

Name & Title Of Surveyor	Well Number	Surveyed Depths	Dates Performed	Type of Survey
Jeromy Orona MWD Supervisor	2H	7293' MD 12251' MD	8/6/2012 8/18/2012	Measurement While Drilling

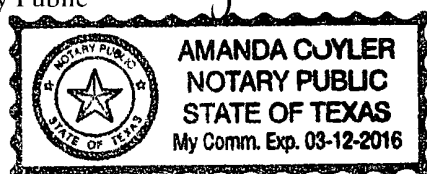
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
Area Manager

On this, the 28th day of August, 2012, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public





Company: Devon Energy Field: Eddy Co., NM (NAD 83) Site: Onyx PWU 29 #2H Well: Onyx PWU 29 #2H Wellpath: 1		Date: 8/20/2012 Time: 05:33:05 Page: 1 Co-ordinate(NE) Reference: Well: Onyx PWU 29 #2H, Grd North Vertical (TVD) Reference: SITE 3331.0 Section (VS) Reference: Well (0.00N,0.00E;90.10Azi) Survey Calculation Method: Minimum Curvature Db: Sybase								
Survey: Wft Svy Company: Weatherford Tool: MWD,MWD - Standard		Start Date: 8/9/2012 Engineer: Russell W Joyner Tied-to: User Defined								
Field: Eddy Co , NM (NAD 83)										
Map System: US State Plane Coordinate System 1983 Geo Datum: GRS 1980 Sys Datum: Mean Sea Level		Map Zone: New Mexico, Eastern Zone Coordinate System: Well Centre Geomagnetic Model: IGRF2010								
Site: Onyx PWU 29 #2H										
Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 3312.00 ft		Northing: 594010.63 ft Easting: 611777.35 ft Latitude: 32 37 57.982 N Longitude: 104 6 16.265 W North Reference: Grd Grid Convergence: 0 12 deg								
Well: Onyx PWU 29 #2H		Slot Name:								
Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft		Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft								
Wellpath: 1 Current Datum: SITE Magnetic Data: 8/15/2012 Field Strength: 48712 nT Vertical Section: Depth From (TVD)		Drilled From: Surface Tie-on Depth: 0.00 ft Above System Datum: Mean Sea Level Declination: 7.72 deg Mag Dip Angle: 60.44 deg +E/-W Direction ft deg								
0.00		0.00								
0.00		90.10								
Survey										
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
7200.00	2.17	233.79	7196.22	124.96	-73.01	0.00	-73.23	594135.59	611704.34	Tie On VES First Wft Svy
7293.00	0.28	160.26	7289.20	123.71	-74.35	2.27	-74.57	594134.34	611703.00	
7325.00	2.57	84.59	7321.19	123.70	-73.61	7.86	-73.83	594134.33	611703.74	
7357.00	6.34	88.46	7353.09	123.82	-71.13	11.81	-71.35	594134.45	611706.22	
7389.00	10.09	90.16	7384.75	123.85	-66.56	11.74	-66.78	594134.48	611710.79	
7420.00	13.92	91.04	7415.07	123.78	-60.11	12.37	-60.33	594134.41	611717.24	
7452.00	17.76	91.94	7445.85	123.54	-51.39	12.02	-51.60	594134.17	611725.96	
7484.00	21.53	93.13	7475.98	123.06	-40.64	11.85	-40.86	594133.69	611736.71	
7516.00	24.69	93.50	7505.41	122.33	-28.10	9.89	-28.32	594132.96	611749.25	
7548.00	28.60	94.77	7534.01	121.28	-13.79	12.35	-14.01	594131.91	611763.56	
7580.00	32.01	96.06	7561.63	119.75	2.28	10.85	2.07	594130.38	611779.63	
7611.00	35.20	97.67	7587.45	117.69	19.31	10.68	19.10	594128.32	611796.66	
7643.00	38.83	98.84	7612.99	114.92	38.37	11.55	38.17	594125.55	611815.72	
7675.00	42.36	98.08	7637.29	111.86	58.96	11.14	58.76	594122.49	611836.31	
7707.00	45.48	96.36	7660.34	109.08	80.98	10.44	80.79	594119.71	611858.33	
7739.00	48.98	94.72	7682.06	106.82	104.35	11.57	104.17	594117.45	611881.70	
7771.00	52.51	94.68	7702.31	104.79	129.05	11.03	128.86	594115.42	611906.40	
7803.00	55.72	94.31	7721.06	102.76	154.89	10.07	154.71	594113.39	611932.24	
7835.00	58.99	92.78	7738.32	101.10	181.78	10.98	181.60	594111.73	611959.13	
7866.00	61.15	91.56	7753.79	100.09	208.62	7.76	208.45	594110.72	611985.97	
7898.00	63.52	91.47	7768.65	99.34	236.95	7.41	236.78	594109.97	612014.30	
7930.00	67.00	92.14	7782.04	98.42	266.00	11.04	265.82	594109.05	612043.35	
7962.00	70.22	92.62	7793.71	97.18	295.76	10.16	295.59	594107.81	612073.11	
7994.00	73.10	92.81	7803.77	95.74	326.10	9.02	325.93	594106.37	612103.45	



Weatherford

WFT Survey Report X & Y's

**Weatherford**

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Onyx PWU 29 #2H
Well: Onyx PWU 29 #2H
Wellpath: 1

Date: 8/20/2012 Time: 05:33 05 Page: 2
Co-ordinate(NE) Reference: Well: Onyx PWU 29 #2H, Grid North
Vertical (TVD) Reference: SITE 3331 0
Section (VS) Reference: Well (0.00N,0.00E,90 10Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
8026 00	75 36	92 82	7812 47	94 23	356 85	7 06	356 69	594104 86	612134 20	
8058 00	77 66	92 36	7819 93	92 83	387.94	7 32	387 78	594103 46	612165 29	
8090 00	80 30	91.13	7826 05	91.87	419.33	9 07	419 17	594102 50	612196 68	
8121 00	83 76	91 24	7830 35	91 24	450 02	11 17	449 86	594101.87	612227 37	
8153 00	87 69	92 32	7832 73	90 25	481 91	12 73	481 75	594100 88	612259 26	
8185 00	90 00	93 36	7833 38	88.66	513 86	7 92	513 70	594099 29	612291 21	
8218 00	90 14	93 27	7833.34	86 75	546.80	0 50	546 65	594097 38	612324 15	
8249 00	89 23	92.57	7833.51	85 17	577 76	3.70	577 61	594095 80	612355 11	
8281 00	89 30	92 43	7833 92	83 78	609 73	0 49	609 58	594094 41	612387 08	
8313 00	89 44	92 18	7834 27	82.49	641 70	0 90	641.56	594093 12	612419 05	
8345 00	89 51	92 39	7834 56	81 21	673 68	0 69	673 53	594091 84	612451 03	
8377 00	89 65	92 28	7834 80	79 91	705 65	0 56	705 51	594090.54	612483.00	
8409 00	89 79	92 72	7834 95	78.51	737 62	1.44	737 48	594089.14	612514.97	
8441 00	90 00	92 85	7835 01	76 96	769 58	0 77	769 44	594087.59	612546 93	
8473 00	89 65	91 79	7835 11	75.66	801 55	3 49	801 42	594086 29	612578 90	
8505 00	89 72	91 18	7835 29	74 84	833 54	1 92	833.41	594085 47	612610 89	
8536 00	89.86	91 09	7835.40	74 22	864 53	0 54	864 40	594084 85	612641 88	
8568 00	89 93	91 29	7835 46	73.56	896 53	0 66	896.40	594084 19	612673 88	
8664 00	89 44	90 67	7835 99	71 91	992 51	0 82	992 38	594082.54	612769 86	
8759 00	88 04	89 64	7838 08	71 66	1087 48	1 83	1087 36	594082.29	612864 83	
8855 00	88 11	89 66	7841 30	72 24	1183 43	0 08	1183 30	594082 87	612960 78	
8950 00	88 11	90 16	7844 43	72 39	1278 38	0.53	1278 25	594083 02	613055 73	
9046 00	88 18	90 88	7847 54	71 52	1374 32	0 75	1374 19	594082 15	613151 67	
9141 00	88 25	90 62	7850 50	70.28	1469 27	0 28	1469 14	594080.91	613246 62	
9237 00	88 39	90 68	7853 32	69.19	1565 22	0 16	1565.10	594079 82	613342 57	
9332 00	88.46	90 73	7855 93	68 02	1660 18	0 09	1660 06	594078 65	613437 53	
9428 00	89 79	90 70	7857 39	66 82	1756 16	1 39	1756 04	594077 45	613533 51	
9524 00	90 00	91.02	7857 57	65 38	1852 14	0 40	1852 03	594076 01	613629 49	
9619 00	90 00	90.84	7857 57	63 84	1947 13	0 19	1947 02	594074 47	613724 48	
9715 00	90 35	90 90	7857.28	62 38	2043 12	0 37	2043 01	594073 01	613820 47	
9810 00	90 77	90 98	7856 35	60 83	2138 10	0 45	2137.99	594071 46	613915.45	
9906 00	90 98	91 27	7854.88	58 94	2234.07	0.37	2233.97	594069 57	614011 42	
10002 00	91 12	91 16	7853 12	56 91	2330 04	0 19	2329 93	594067.54	614107 39	
10098 00	91.47	91 23	7850 95	54 90	2425 99	0 37	2425 89	594065 53	614203 34	
10194 00	90.63	91 90	7849 19	52 28	2521 94	1 12	2521 84	594062 91	614299 29	
10289 00	88 60	91 83	7849 83	49 19	2616 88	2 14	2616 79	594059 82	614394 23	
10385 00	89 02	91 74	7851.82	46 20	2712 81	0 45	2712 73	594056 83	614490 16	
10480 00	89 44	91.84	7853 10	43 23	2807 76	0 45	2807 68	594053 86	614585 11	
10576 00	89.37	92 31	7854 10	39.76	2903 69	0.49	2903 61	594050 39	614681.04	
10672 00	89 58	92 26	7854 98	35.93	2999.61	0.22	2999 54	594046 56	614776.96	
10768 00	89 86	92 59	7855 45	31.87	3095.52	0.45	3095 46	594042 50	614872 87	
10864 00	90 21	92 63	7855 39	27.50	3191.42	0 37	3191 37	594038 13	614968.77	
10960 00	90 63	92.73	7854 68	23.01	3287.31	0 45	3287.27	594033.64	615064.66	
11056 00	90 84	93 36	7853 45	17 91	3383 17	0 69	3383 13	594028.54	615160.52	
11152 00	91.05	93 65	7851 87	12 04	3478 98	0 37	3478 95	594022 67	615256 33	
11248 00	91 05	93.47	7850.11	6 08	3574.77	0 19	3574 76	594016 71	615352 12	
11342 00	91 12	93 51	7848 33	0 36	3668 58	0 09	3668.58	594010 99	615445 93	
11437 00	91 26	93 27	7846 36	-5 26	3763 40	0 29	3763 40	594005 37	615540.75	
11533.00	89 30	93.10	7845.89	-10.59	3859 24	2 05	3859 26	594000 04	615636 59	
11628 00	88.88	90 96	7847.40	-13.95	3954.17	2 30	3954 18	593996 68	615731 52	
11723 00	88.39	90 35	7849 66	-15.04	4049.13	0.82	4049 15	593995 59	615826.48	
11818 00	88.53	90 42	7852 21	-15 68	4144 09	0 16	4144.12	593994.95	615921 44	



Weatherford

WFT Survey Report X & Y's



Weatherford

Company: Devon Energy
Field: Eddy Co., NM (NAD 83)
Site: Onyx PWU 29 #2H
Well: Onyx PWU 29 #2H
Wellpath: 1

Date: 8/20/2012 Time: 05:33:05 Page: 3
Co-ordinate(NE) Reference: Well: Onyx PWU 29 #2H, Grid North
Vertical (TVD) Reference: SITE 3331 0
Section (VS) Reference: Well (0.00N,0.00E,90.10Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
11913.00	88.60	90.81	7854.59	-16.70	4239.06	0.42	4239.08	593993.93	616016.41	
12008.00	88.46	90.72	7857.03	-17.97	4334.02	0.18	4334.04	593992.66	616111.37	
12103.00	88.46	90.88	7859.58	-19.29	4428.98	0.17	4429.00	593991.34	616206.33	
12197.00	88.74	91.24	7861.88	-21.03	4522.93	0.49	4522.96	593989.60	616300.28	
12251.00	89.02	91.43	7862.94	-22.29	4576.91	0.63	4576.94	593988.34	616354.26	Last Wft Svy
12304.00	89.02	91.43	7863.84	-23.61	4629.88	0.00	4629.92	593987.02	616407.23	Proj To Bit

Annotation

MD ft	TVD ft	
7200.00	7196.22	Tie On VES
7293.00	7289.20	First Wft Svy
12251.00	7862.94	Last Wft Svy
12304.00	7863.84	Proj To Bit

devon

Onyx PWU 29 #2H
Eddy Co, NM

KB ELEV: 3331
GL ELEV: 3312

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	10247.00	90.17	92.27	7848.82	50.32	2574.90	0.00	0.00	2574.81	
2	10280.24	89.40	91.63	7848.95	49.19	2608.12	3.00	-140.18	2608.03	
3	12304.43	89.40	91.63	7870.00	-8.43	4631.38	0.00	0.00	4631.39	PBHL

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Onyx PWU 29 #2H	0.00	0.00	594010.63	611777.35	32°37'57.982N	104°06'16.265W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Tgt	7861.00	-4.20	2309.88	594006.43	614087.23	32°37'57.890N	104°05'49.253W	Point
PBHL	7870.00	-8.43	4631.38	594002.20	616408.73	32°37'57.797N	104°05'22.105W	Rectangle (2053x50)



Azimuths to Grid North
True North: -0.12°
Magnetic North: 7.60°

Magnetic Field
Strength: 48712nT
Dip Angle: 60.44°
Date: 8/15/2012
Model: IGRF2010

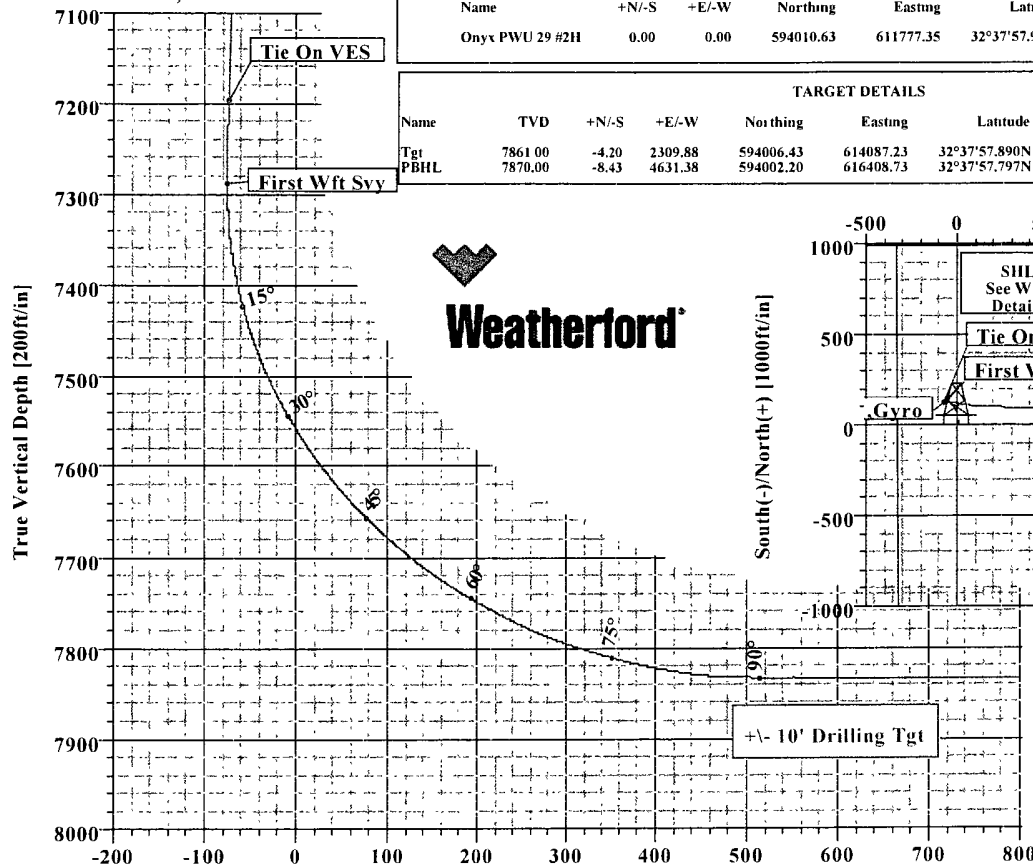
Total Correction to Grid North: 7.60°

FIELD DETAILS

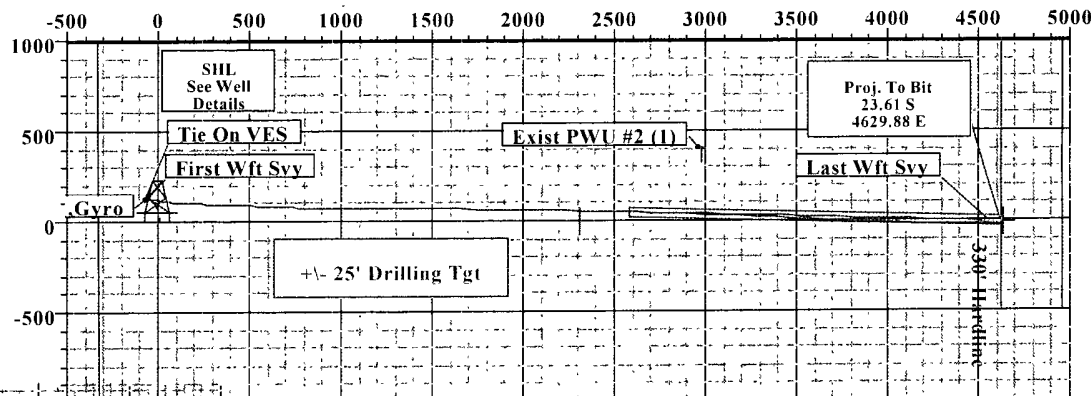
Eddy Co., NM (NAD 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

System Datum: Mean Sea Level
Local North: Grid North



South(-)/North(+) [1000ft/in]



LEGEND

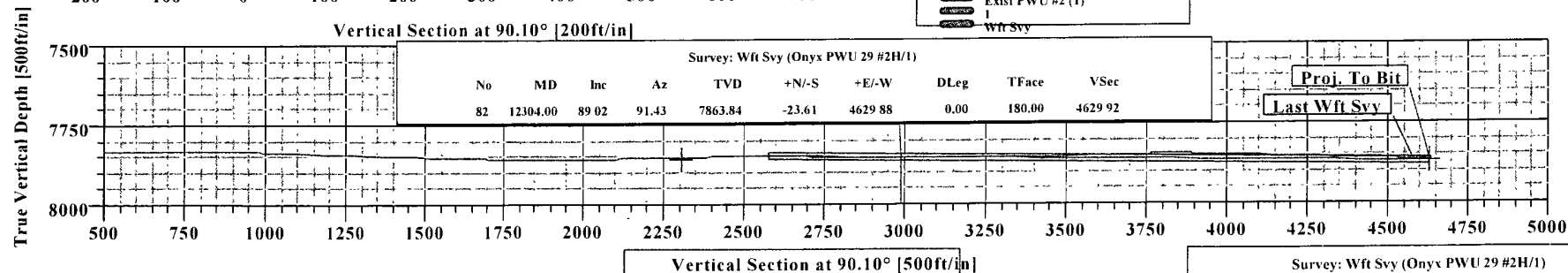
Onyx PWU 29 #2H, 1, Plan #4
Onyx PWU 29 #2H, 1, Gyro
Exist PWU #2 (1)
Wft Svy

SITE DETAILS

Onyx PWU 29 #2H

Site Centre Northing: 594010.63
Easting: 611777.35

Ground Level: 3312.00
Positional Uncertainty: 0.00
Convergence: 0.12



Vertical Section at 90.10° [200ft/in]

Survey: Wft Svy (Onyx PWU 29 #2H/1)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
82	12304.00	89.02	91.43	7863.84	-23.61	4629.88	0.00	180.00	4629.92

Vertical Section at 90.10° [500ft/in]

Survey: Wft Svy (Onyx PWU 29 #2H/1)

Created By: Russell W. Joyner

Date: 8/20/2012