



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

Devon Energy
333 W. Sherridan Ave
Oklahoma City, OK, 73102

Date: January 5, 2015

Attention: Art Alarcon

15-42347

Re: Devon Energy
Well: Vega 29 Federal 4H
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
Jeremy Orona MWD Supervisor	4H	4157 MD 13028 MD	12/21/2014 12/30/2014	Measurement While Drilling

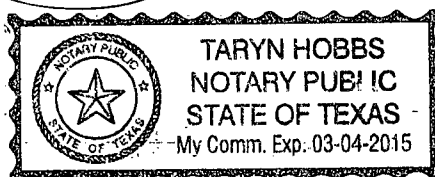
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
MWD Ops Coordinator

On this, the 2nd day of January, 2015, 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



NM OIL CONSERVATION
ARTESIA DISTRICT

APR 28 2015

RECEIVED

5D Survey Report**Devon Energy****Field Name:** *Eddy Co, NM (Nad 83 NME)***Site Name:** *Vega 29 Federal 4H***Well Name:** *Vega 29 Federal 4H***Survey:** *Wft MWD Svy*

31 December 2014

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 28 2015

RECEIVED

**Weatherford®**

Vega 29 Federal 4H

Field Name
Eddy Co, NM
(Nad 83 NME)

Map Units : US ft

Company Name : Devon Energy

Vertical Reference Datum (VRD) : Mean Sea Level

Projected Coordinate System : NAD83 / New Mexico East (ftUS)

Comment :

Site Name
Vega 29 Federal
4H

Units : US ft

North Reference : Grid

Convergence Angle : 0.24

Position

Northing : 596823.47 US ft

Latitude : 32° 38' 23.70"

Easting : 679235.88 US ft

Longitude : -103° 53' 7.24"

Elevation above Mean Sea Level: 3482.00 US ft

Comment :

Slot Name
Vega 29 Federal
4H

Position (Offsets relative to Site Centre)

+N / -S : 0.00 US ft

Northing : 596823.47 US ft

Latitude : 32° 38' 23.70"

+E / -W : 0.00 US ft

Easting : 679235.88 US ft

Longitude : -103° 53' 7.24"

Slot TVD Reference : Ground Elevation

Elevation above Mean Sea Level : 3482.00 US ft

Comment :

Well Name
Vega 29 Federal
4H

Type : Main well

UWI :

Rig Height Kelly Bushing : 26.00 US ft

Comment :

Relative to Mean Sea Level: 3508.00 US ft

Closure Distance : 5406.09 US ft

Closure Azimuth : 176.696°

Vertical Section (Position of Origin Relative to Slot)

+N / -S : 0.00 US ft

+E / -W : 0.00 US ft

Az : 180.00°

Survey Name : Wft MWD Svy

Date : 23/Dec/2014

Survey Tool : MWD

Comment :

Company : Wft

Magnetic Model

Model Name: BGGM

Date: 20/Dec/2014

Field Strength:
48457.7 nT

Declination: 7.51°

Dip: 60.42°

Tie Point

MD: 4117

Inclination: 1.47

Azimuth: 26.58

TVD: 4116.35

North Offset: 16.15

East Offset: 22.58

Well path created using minimum curvature

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	VS (US ft)	DLS (°/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
4157.00	1.36	27.45	4156.34	17.03	23.03	-17.03	0.00	596840.50	679258.91	First Wft Svy 4H
4283.00	1.65	86.51	4282.30	18.47	25.53	-18.47	1.19	596841.94	679261.41	
4377.00	2.41	109.96	4376.24	17.88	28.74	-17.88	1.18	596841.35	679264.62	
4472.00	3.13	119.37	4471.13	15.92	32.87	-15.92	0.89	596839.39	679268.75	
4566.00	3.92	127.87	4564.95	12.69	37.65	-12.69	1.01	596836.16	679273.53	
4660.00	4.75	130.40	4658.68	8.20	43.15	-8.20	0.91	596831.67	679279.03	
4754.00	5.44	135.33	4752.31	2.50	49.24	-2.50	0.87	596825.97	679285.12	
4848.00	6.19	131.95	4845.83	-4.05	56.15	4.05	0.88	596819.42	679292.03	
4942.00	6.25	130.56	4939.28	-10.77	63.80	10.77	0.17	596812.70	679299.68	
5037.00	5.85	128.09	5033.75	-17.12	71.54	17.12	0.50	596806.35	679307.42	
5131.00	6.30	136.06	5127.22	-23.79	78.89	23.79	1.02	596799.68	679314.77	
5225.00	6.79	138.52	5220.61	-31.66	86.15	31.66	0.60	596791.81	679322.03	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)								Northing (US ft)	Easting (US ft)	Comment
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (%/100 US ft)			
5320.00	6.40	138.18	5314.98	-39.82	93.40	39.82	0.41	596783.65	679329.28	
5415.00	6.28	139.31	5409.40	-47.70	100.32	47.70	0.18	596775.77	679336.20	
5509.00	6.49	134.29	5502.81	-55.31	107.47	55.31	0.63	596768.16	679343.35	
5604.00	6.19	135.10	5597.23	-62.69	114.93	62.69	0.33	596760.78	679350.81	
5698.00	5.66	135.72	5690.73	-69.60	121.75	69.60	0.57	596753.87	679357.63	
5792.00	5.52	134.82	5784.28	-76.10	128.19	76.10	0.18	596747.37	679364.07	
5887.00	5.19	135.46	5878.87	-82.38	134.44	82.38	0.35	596741.09	679370.32	
5982.00	5.50	133.77	5973.46	-88.60	140.75	88.60	0.37	596734.87	679376.63	
6075.00	6.62	134.63	6065.94	-95.45	147.78	95.45	1.21	596728.02	679383.66	
6170.00	6.24	134.96	6160.34	-102.94	155.33	102.94	0.40	596720.53	679391.21	
6264.00	5.76	135.78	6253.82	-109.93	162.23	109.93	0.52	596713.54	679398.11	
6359.00	6.20	133.45	6348.31	-116.88	169.28	116.88	0.53	596706.59	679405.16	
6453.00	5.98	133.87	6441.77	-123.76	176.50	123.76	0.24	596699.71	679412.38	
6547.00	5.82	129.74	6535.28	-130.20	183.69	130.20	0.48	596693.27	679419.57	
6641.00	6.35	130.59	6628.75	-136.63	191.30	136.63	0.57	596686.84	679427.18	
6736.00	6.65	133.23	6723.14	-143.82	199.30	143.82	0.45	596679.65	679435.18	
6830.00	7.50	131.61	6816.42	-151.62	207.85	151.62	0.93	596671.85	679443.73	
6925.00	7.06	130.23	6910.65	-159.50	216.95	159.50	0.50	596663.97	679452.83	
7019.00	6.74	137.00	7003.97	-167.27	225.12	167.27	0.93	596656.20	679461.00	
7114.00	5.72	133.52	7098.41	-174.61	232.36	174.61	1.14	596648.86	679468.24	
7208.00	6.41	136.29	7191.89	-181.63	239.38	181.63	0.80	596641.84	679475.26	
7302.00	7.12	138.66	7285.23	-189.79	246.85	189.79	0.81	596633.68	679482.73	
7396.00	6.59	138.57	7378.56	-198.21	254.27	198.21	0.56	596625.26	679490.15	
7490.00	5.98	137.83	7471.99	-205.88	261.13	205.88	0.65	596617.59	679497.01	
7563.00	5.41	134.39	7544.63	-211.11	266.14	211.11	0.91	596612.36	679502.02	
7610.00	5.08	132.30	7591.44	-214.06	269.26	214.06	0.81	596609.41	679505.14	
7642.00	6.68	146.93	7623.27	-216.57	271.32	216.57	6.81	596606.90	679507.20	
7673.00	9.39	156.82	7653.96	-220.41	273.30	220.41	9.78	596603.06	679509.18	
7704.00	12.55	162.44	7684.39	-225.95	275.32	225.95	10.75	596597.52	679511.20	
7736.00	16.09	166.87	7715.40	-233.58	277.37	233.58	11.57	596589.89	679513.25	
7768.00	19.79	170.47	7745.84	-243.25	279.28	243.25	12.07	596580.22	679515.16	
7799.00	23.83	171.60	7774.61	-254.62	281.06	254.62	13.10	596568.85	679516.94	
7831.00	27.90	172.76	7803.40	-268.45	282.95	268.45	12.82	596555.02	679518.83	
7862.00	31.40	174.68	7830.34	-283.69	284.61	283.69	11.70	596539.78	679520.49	
7894.00	34.12	175.04	7857.24	-300.94	286.16	300.94	8.52	596522.53	679522.04	
7925.00	37.02	175.19	7882.46	-318.90	287.70	318.90	9.36	596504.57	679523.58	
7957.00	39.77	176.44	7907.53	-338.72	289.14	338.72	8.93	596484.75	679525.02	
7988.00	42.51	176.81	7930.88	-359.08	290.34	359.08	8.87	596464.39	679526.22	
8020.00	45.01	176.99	7953.99	-381.18	291.54	381.18	7.82	596442.29	679527.42	
8051.00	47.63	177.50	7975.40	-403.57	292.61	403.57	8.53	596419.90	679528.49	
8082.00	50.29	176.89	7995.75	-426.92	293.76	426.92	8.71	596396.55	679529.64	
8114.00	53.34	177.24	8015.53	-452.04	295.04	452.04	9.57	596371.43	679530.92	
8146.00	55.90	177.04	8034.06	-478.09	296.35	478.09	8.02	596345.38	679532.23	
8177.00	58.51	177.38	8050.84	-504.12	297.61	504.12	8.47	596319.35	679533.49	
8208.00	60.86	177.30	8066.49	-530.85	298.86	530.85	7.58	596292.62	679534.74	
8240.00	63.36	177.49	8081.46	-559.10	300.14	559.10	7.83	596264.37	679536.02	
8271.00	65.72	178.36	8094.78	-587.07	301.15	587.07	8.02	596236.40	679537.03	
8302.00	67.97	178.77	8106.97	-615.56	301.86	615.56	7.36	596207.91	679537.74	
8333.00	70.68	179.01	8117.92	-644.56	302.43	644.56	8.77	596178.91	679538.31	
8355.00	71.78	179.52	8125.00	-665.39	302.69	665.39	5.46	596158.08	679538.57	
8386.00	73.84	179.99	8134.16	-695.00	302.82	695.00	6.80	596128.47	679538.70	
8418.00	75.71	179.73	8142.56	-725.87	302.89	725.87	5.90	596097.60	679538.77	
8449.00	77.95	180.65	8149.62	-756.06	302.79	756.06	7.78	596067.41	679538.67	
8481.00	80.23	180.25	8155.68	-787.47	302.55	787.47	7.23	596036.00	679538.43	
8513.00	82.00	180.10	8160.62	-819.09	302.45	819.09	5.55	596004.38	679538.33	
8544.00	83.28	179.34	8164.59	-849.83	302.60	849.83	4.79	595973.64	679538.48	
8575.00	85.52	179.01	8167.62	-880.68	303.05	880.68	7.30	595942.79	679538.93	
8638.00	89.72	179.00	8170.23	-943.60	304.14	943.60	6.67	595879.87	679540.02	
8732.00	89.51	179.14	8170.87	-1037.59	305.66	1037.59	0.27	595785.88	679541.54	

5D Survey Report

Survey Points (Relative to Slot centre, TVD relative to Kelly Bushing)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N. Offset (US ft)	E. Offset (US ft)	VS (US ft)	DLS (%/100 US ft)	Northing (US ft)	Easting (US ft)	Comment
8827.00	89.44	178.98	8171.74	-1132.57	307.22	1132.57	0.18	595690.90	679543.10	
8921.00	89.79	178.72	8172.37	-1226.55	309.11	1226.55	0.46	595596.92	679544.99	
9016.00	89.79	178.72	8172.72	-1321.52	311.23	1321.52	0.00	595501.95	679547.11	
9110.00	89.58	178.53	8173.23	-1415.50	313.49	1415.50	0.30	595407.97	679549.37	
9204.00	89.65	178.49	8173.86	-1509.46	315.93	1509.46	0.09	595314.01	679551.81	
9298.00	89.72	178.93	8174.38	-1603.44	318.05	1603.44	0.47	595220.03	679553.93	
9393.00	89.37	179.10	8175.14	-1698.42	319.68	1698.42	0.41	595125.05	679555.56	
9487.00	89.23	179.23	8176.28	-1792.40	321.05	1792.40	0.20	595031.07	679556.93	
9582.00	89.09	179.54	8177.68	-1887.39	322.07	1887.39	0.36	594936.08	679557.95	
9676.00	89.02	179.68	8179.23	-1981.37	322.71	1981.37	0.17	594842.10	679558.59	
9770.00	88.95	179.70	8180.89	-2075.36	323.22	2075.36	0.08	594748.11	679559.10	
9864.00	88.81	179.86	8182.73	-2169.34	323.58	2169.34	0.23	594654.13	679559.46	
9958.00	88.67	179.81	8184.80	-2263.31	323.85	2263.31	0.16	594560.16	679559.73	
10053.00	89.02	180.20	8186.71	-2358.29	323.84	2358.29	0.55	594465.18	679559.72	
10147.00	89.16	180.20	8188.20	-2452.28	323.51	2452.28	0.15	594371.19	679559.39	
10241.00	89.37	180.64	8189.41	-2546.27	322.82	2546.27	0.52	594277.20	679558.70	
10335.00	89.37	180.62	8190.44	-2640.26	321.79	2640.26	0.02	594183.21	679557.67	
10429.00	89.58	181.07	8191.30	-2734.25	320.40	2734.25	0.53	594089.22	679556.28	
10524.00	90.00	181.25	8191.65	-2829.22	318.48	2829.22	0.48	593994.25	679554.36	
10618.00	89.44	181.01	8192.11	-2923.20	316.63	2923.20	0.65	593900.27	679552.51	
10712.00	89.79	181.61	8192.74	-3017.18	314.48	3017.18	0.74	593806.29	679550.36	
10807.00	90.21	182.17	8192.74	-3112.13	311.34	3112.13	0.74	593711.34	679547.22	
10902.00	92.00	182.14	8190.91	-3207.04	307.77	3207.04	1.88	593616.43	679543.65	
10996.00	89.79	182.43	8189.44	-3300.94	304.03	3300.94	2.37	593522.53	679539.91	
11091.00	89.93	182.85	8189.68	-3395.84	299.65	3395.84	0.47	593427.63	679535.53	
11185.00	89.72	182.77	8189.96	-3489.73	295.04	3489.73	0.24	593333.74	679530.92	
11279.00	89.44	181.74	8190.65	-3583.65	291.34	3583.65	1.14	593239.82	679527.22	
11379.00	88.67	179.34	8192.30	-3683.63	290.40	3683.63	2.52	593139.84	679526.28	
11468.00	88.81	178.94	8194.26	-3772.60	291.74	3772.60	0.48	593050.87	679527.62	
11562.00	87.69	179.50	8197.13	-3866.54	293.02	3866.54	1.33	592956.93	679528.90	
11657.00	86.85	179.36	8201.65	-3961.43	293.96	3961.43	0.90	592862.04	679529.84	
11751.00	89.09	178.80	8204.98	-4055.35	295.47	4055.35	2.46	592768.12	679531.35	
11846.00	90.21	179.08	8205.56	-4150.33	297.23	4150.33	1.22	592673.14	679533.11	
11940.00	89.65	179.40	8205.68	-4244.32	298.47	4244.32	0.69	592579.15	679534.35	
12034.00	89.37	180.00	8206.48	-4338.32	298.96	4338.32	0.70	592485.15	679534.84	
12128.00	89.93	179.14	8207.06	-4432.31	299.67	4432.31	1.09	592391.16	679535.55	
12223.00	89.93	178.79	8207.17	-4527.29	301.39	4527.29	0.37	592296.18	679537.27	
12317.00	87.90	178.23	8208.95	-4621.24	303.83	4621.24	2.24	592202.23	679539.71	
12412.00	89.86	178.79	8210.81	-4716.19	306.30	4716.19	2.15	592107.28	679542.18	
12506.00	91.26	178.83	8209.89	-4810.16	308.25	4810.16	1.49	592013.31	679544.13	
12601.00	90.98	179.39	8208.03	-4905.13	309.73	4905.13	0.66	591918.34	679545.61	
12695.00	90.63	179.72	8206.71	-4999.12	310.46	4999.12	0.51	591824.35	679546.34	
12788.00	90.00	179.95	8206.20	-5092.11	310.72	5092.11	0.72	591731.36	679546.60	
12883.00	89.93	179.99	8206.26	-5187.11	310.77	5187.11	0.08	591636.36	679546.65	
12977.00	89.65	179.82	8206.60	-5281.11	310.93	5281.11	0.35	591542.36	679546.81	
13028.00	89.51	179.72	8206.98	-5332.11	311.13	5332.11	0.34	591491.36	679547.01	Last Wft Svy 4H
13093.00	89.33	179.59	8207.64	-5397.11	311.53	5397.11	0.34	591426.36	679547.41	Projection

devon

Vega 29 Federal 4H
Eddy Co, NM



Plan Data for Vega 29 Federal 4H

Plan Point Information:
DogLeg Severity Unit: $^{\circ}/100.00\text{ft}$ Position offsets from Slot centre
MD Inc Az TVD +N/-S +E/-W Northing Easting VSec DLS
(USft) (°) (°) (USft) (USft) (USft) (USft) (USft) (DLSU)
8333.00 70.68 179.01 8117.93 -644.54 382.23 596178.93 679538.11 644.54 8.77
8395.00 74.11 179.01 8136.68 -783.62 383.26 596119.85 679539.14 783.62 5.53
8628.54 89.44 179.85 8170.00 -934.06 385.52 595889.41 679541.40 934.06 6.57
13091.92 89.44 179.85 8214.00 -5397.21 317.50 591426.26 679553.38 5397.21 0.00

Plan Data for Vega 29 Federal 4H

Slot: Vega 29 Federal 4H
Position:
Offset is from Site centre
Northing: 596823.47USft Latitude: $32^{\circ}38'23.7''$
+N/-S: 0.00USft Easting: 679235.88USft Longitude: $-103^{\circ}53'7.2''$
+E/-W: 0.00USft Elevation Above VRD: 3482.00USft

Plan Data for Vega 29 Federal 4H

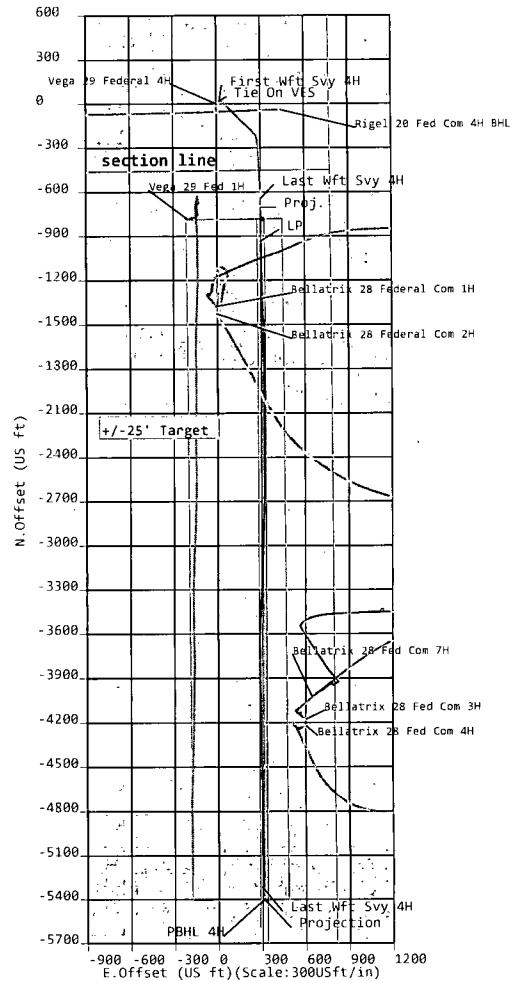
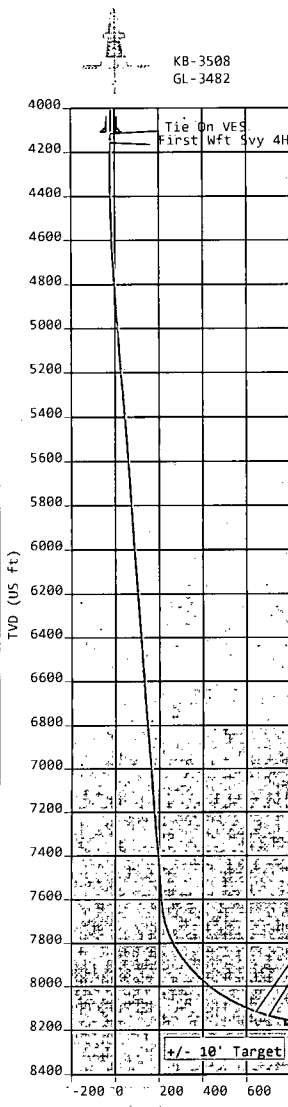
Target Set Information:
Name: Vega 29 Federal 4H
Position offsets from Slot centre
Name TVD +N/-S +E/-W Northing Easting Shape Comment
(USft) (USft) (USft) (USft) (USft)
LP 8170.00 -787.22 317.50 596036.25 679553.38 Cuboid
PBHL 4H 8214.00 -5397.21 317.50 591426.26 679553.38 Cuboid

Plan Data for Vega 29 Federal 4H

Well: Vega 29 Federal 4H
Type: Main-Well
File Number:
Plan Folder: P3 Plan: P3:V1
Vertical Section: Position offset of origin from Slot centre:
+N/-S: 0.00USft Azimuth: 180.00°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
BGGM 48457(nT) 7.51° 60.42° 2014-12-20

Vega 29 Federal 4H

Bellatrix 28 Federal Com 1H
Bellatrix 28 Federal Com 2H
Bellatrix 28 Fed Com 3H
Bellatrix 28 Fed Com 4H
Vega 29 Fed 1H
Bellatrix 28 Fed Com 7H
Rigel 20 Fed Com 4H
Vega 29 Federal 4H



Sign Off: Russell Joyner