



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. Sheridan Ave
Oklahoma City, OK, 73102

Date: March 9, 2015

Attention: Ryan Dzurisin

Re: Devon Energy
Well: Hognose Viper 23 Fed 1H
Lea 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:

<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Andrew Schmidt MWD Supervisor	1H	10611 MD 15676 MD	2/28/2015 3/7/2015	Measurement While Drilling

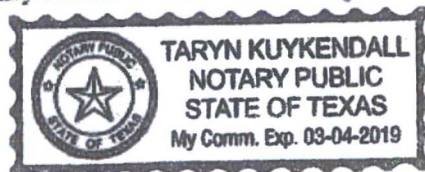
A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
MWD Ops Coordinator

On this, the 24th day of March, 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



5D Survey Report

Devon Energy

Field Name: *Lea Co, NM Nad 83 NMEZ*
Site Name: *Hognose Viper 23 Fed 1,2H Pad*
Well Name: *Hognose Viper 23 Fed 1H*
Survey: *Wft MWD Svy*

09 March 2015





Directional Survey

Well Name: HOGNOSE VIPER 23 FED 1H

Sub-Division DELAWARE BASIN	Region DELAWARE BASIN EAST	Field Name JOHNSON RANCH	County LEA	State/Province NM
Surface Legal Location Sec 23 23S 33E	API/UVI 3002541975	Latitude (°) 32° 17' 0.051" N	Longitude (°) 103° 32' 54.384" W	Orig KB Elevation (ft) 3,707.20
			Ground Elev MSL (ft) 3,682.20	KB - GL (ft) 25.00

Survey Data										
Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
2/27/2015	7,067.00	1.89	97.07	7,059.31	22.22	30.52	174.05	0.16	MWD	EXTREME
2/27/2015	7,162.00	1.89	101.86	7,154.26	21.56	30.00	177.14	0.17	MWD	EXTREME
2/27/2015	7,256.00	1.80	104.45	7,248.21	20.74	29.31	180.09	0.13	MWD	EXTREME
2/27/2015	7,346.00	1.71	105.64	7,338.17	19.90	28.60	182.75	0.11	MWD	EXTREME
2/27/2015	7,441.00	1.71	114.87	7,433.12	18.79	27.62	185.40	0.29	MWD	EXTREME
2/27/2015	7,632.00	1.58	121.55	7,624.04	15.99	25.05	190.23	0.12	MWD	EXTREME
2/27/2015	7,726.00	1.58	126.56	7,718.01	14.44	23.60	192.37	0.15	MWD	EXTREME
2/27/2015	7,819.00	1.49	133.94	7,810.98	12.75	21.99	194.28	0.23	MWD	EXTREME
2/27/2015	8,008.00	1.58	143.96	7,999.91	8.78	18.18	197.58	0.15	MWD	EXTREME
2/27/2015	8,102.00	1.71	156.35	8,093.87	6.39	15.85	198.90	0.40	MWD	EXTREME
2/27/2015	8,196.00	1.80	159.25	8,187.83	3.68	13.18	199.99	0.13	MWD	EXTREME
2/27/2015	8,291.00	1.49	168.74	8,282.79	1.04	10.58	200.76	0.43	MWD	EXTREME
2/27/2015	8,385.00	1.41	177.05	8,376.76	-1.33	8.22	201.06	0.24	MWD	EXTREME
2/28/2015	8,480.00	1.41	178.37	8,471.73	-3.67	5.89	201.15	0.03	MWD	EXTREME
3/2/2015	8,590.00	1.38	184.92	8,581.69	-6.33	3.21	201.07	0.15	MWD	EXTREME
2/28/2015	8,690.00	1.32	188.04	8,681.67	-8.66	0.87	200.81	0.09	MWD	EXTREME
2/28/2015	8,860.00	1.19	203.24	8,851.63	-12.17	-2.69	199.84	0.21	MWD	EXTREME
2/28/2015	8,955.00	1.19	211.06	8,946.61	-13.87	-4.44	198.94	0.17	MWD	EXTREME
2/28/2015	9,050.00	1.19	216.84	9,041.59	-15.45	-6.07	197.84	0.13	MWD	EXTREME
2/28/2015	9,144.00	1.01	219.89	9,135.57	-16.82	-7.49	196.72	0.20	MWD	EXTREME
2/28/2015	9,236.00	1.10	229.56	9,227.55	-17.95	-8.68	195.53	0.22	MWD	EXTREME
2/28/2015	9,330.00	1.32	225.83	9,321.53	-19.22	-10.02	194.07	0.25	MWD	EXTREME
2/28/2015	9,424.00	1.41	245.74	9,415.51	-20.36	-11.25	192.24	0.51	MWD	EXTREME
2/28/2015	9,519.00	1.89	241.74	9,510.47	-21.47	-12.48	189.79	0.52	MWD	EXTREME
2/28/2015	9,612.00	2.20	241.98	9,603.41	-22.89	-14.04	186.87	0.33	MWD	EXTREME
2/28/2015	9,708.00	2.20	241.96	9,699.34	-24.47	-15.77	183.61	0.00	MWD	EXTREME
2/28/2015	9,804.00	2.20	246.84	9,795.27	-25.90	-17.36	180.29	0.20	MWD	EXTREME
2/28/2015	9,901.00	2.29	251.76	9,892.19	-27.07	-18.70	176.74	0.22	MWD	EXTREME
2/28/2015	9,995.00	2.29	259.67	9,986.12	-27.82	-19.63	173.11	0.34	MWD	EXTREME
2/28/2015	10,090.00	2.29	270.74	10,081.04	-27.96	-19.94	169.34	0.46	MWD	EXTREME
2/28/2015	10,184.00	2.25	277.86	10,174.97	-27.50	-19.67	165.64	0.30	MWD	EXTREME
2/28/2015	10,279.00	2.68	281.46	10,269.88	-26.62	-18.97	161.61	0.48	MWD	EXTREME
2/28/2015	10,373.00	2.29	279.44	10,363.79	-25.68	-18.23	157.61	0.43	MWD	EXTREME
2/28/2015	10,468.00	1.80	282.74	10,458.73	-24.89	-17.58	154.28	0.53	MWD	EXTREME
2/28/2015	10,562.00	1.49	276.94	10,552.69	-24.29	-17.11	151.63	0.37	MWD	EXTREME
3/2/2015	10,611.00	1.64	273.48	10,601.67	-24.11	-16.99	150.30	0.36	MWD	WEATHERFORD DIRECTIO...
3/2/2015	10,684.00	1.95	316.40	10,674.64	-23.05	-16.03	148.40	1.84	MWD	WEATHERFORD DIRECTIO...
3/2/2015	10,715.00	5.53	333.82	10,705.57	-21.28	-14.31	147.37	11.99	MWD	WEATHERFORD DIRECTIO...
3/2/2015	10,747.00	9.16	339.84	10,737.30	-17.44	-10.53	145.81	11.58	MWD	WEATHERFORD DIRECTIO...
3/2/2015	10,778.00	12.88	340.25	10,767.73	-11.78	-4.96	143.80	12.00	MWD	WEATHERFORD DIRECTIO...
3/2/2015	10,810.00	16.85	340.11	10,798.65	-3.93	2.76	141.01	12.41	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,841.00	21.10	339.81	10,827.96	5.69	12.23	137.56	13.71	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,873.00	25.09	340.86	10,857.39	17.69	24.05	133.34	12.53	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,904.00	29.19	340.09	10,884.97	31.23	37.37	128.61	13.27	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,996.00	32.50	338.03	10,912.44	46.80	52.68	122.73	10.86	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,967.00	36.72	336.82	10,937.95	63.35	68.93	115.97	13.79	MWD	WEATHERFORD DIRECTIO...
3/3/2015	10,999.00	40.92	336.57	10,962.87	82.13	87.35	108.03	13.13	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,030.00	44.53	338.19	10,985.64	101.90	106.77	99.95	12.17	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,062.00	46.58	340.19	11,008.05	123.62	128.12	91.84	7.81	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,093.00	49.64	341.54	11,028.75	145.75	149.92	84.29	10.39	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,125.00	51.31	343.73	11,049.11	169.63	173.48	76.93	7.42	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,156.00	54.20	344.71	11,067.87	193.67	197.22	70.22	9.66	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,188.00	57.36	344.31	11,085.87	219.47	222.72	63.15	9.93	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,219.00	61.01	344.35	11,101.75	245.41	248.35	55.96	11.77	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,251.00	65.25	344.50	11,118.20	273.24	275.84	48.30	13.28	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,283.00	69.57	344.05	11,128.49	302.02	304.27	40.29	13.56	MWD	WEATHERFORD DIRECTIO...
3/3/2015	11,313.00	74.20	344.62	11,137.82	329.80	331.72	32.60	15.54	MWD	WEATHERFORD DIRECTIO...
3/2/2015	11,345.00	78.89	346.43	11,145.26	360.26	361.84	24.83	15.65	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,376.00	82.92	348.49	11,150.16	390.41	391.72	18.19	14.56	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,407.00	85.09	350.69	11,153.40	420.96	422.04	12.62	9.94	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,470.00	85.59	350.58	11,158.52	483.33	483.99	2.40	0.81	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,565.00	86.01	350.89	11,165.48	577.46	577.50	-12.85	0.55	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,659.00	86.50	351.81	11,171.62	670.76	670.23	-26.96	1.11	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,754.00	87.00	352.94	11,177.00	765.25	764.24	-39.55	1.30	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,848.00	87.13	354.13	11,181.82	858.93	857.52	-50.12	1.27	MWD	WEATHERFORD DIRECTIO...
3/4/2015	11,943.00	87.41	354.45	11,186.34	953.69	951.94	-59.56	0.45	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,037.00	87.55	354.92	11,190.47	1,047.50	1,045.44	-68.26	0.52	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,131.00	88.25	355.02	11,193.92	1,141.36	1,139.02	-76.49	0.75	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,222.00	89.09	355.38	11,196.03	1,232.28	1,229.67	-84.10	1.00	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,320.00	89.93	356.43	11,196.87	1,330.24	1,327.42	-91.10	1.37	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,414.00	90.70	357.19	11,196.35	1,424.24	1,421.27	-96.33	1.15	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,508.00	91.12	357.50	11,194.86	1,518.23	1,515.15	-100.69	0.56	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,603.00	90.56	358.33	11,193.47	1,613.21	1,610.08	-104.14	1.05	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,698.00	89.51	358.84	11,193.41	1,708.18	1,705.05	-106.49	1.23	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,792.00	89.30	357.62	11,194.38	1,802.16	1,799.00	-109.39	1.32	MWD	WEATHERFORD DIRECTIO...



Directional Survey

Well Name: HOGNOSE VIPER 23 FED 1H

Sub-Division DELAWARE BASIN	Region DELAWARE BASIN EAST	Field Name JOHNSON RANCH	County LEA	State/Province NM
Surface Legal Location Sec 23 23S 33E	API/UMI 3002541975	Latitude (°) 32° 17' 0.051" N	Longitude (°) 103° 32' 54.384" W	Orig KB Elevation (ft) 3,707.20
				Ground Elev MSL (ft) 3,682.20
				KB - GL (ft) 25.00

Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
3/4/2015	12,887.00	89.23	357.66	11,195.60	1,897.15	1,893.91	-113.30	0.08	MWD	WEATHERFORD DIRECTIO...
3/4/2015	12,981.00	88.53	358.43	11,197.44	1,991.13	1,987.84	-116.51	1.11	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,075.00	88.32	357.90	11,200.02	2,085.08	2,081.75	-119.52	0.61	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,170.00	87.62	358.31	11,203.39	2,180.01	2,176.64	-122.66	0.85	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,264.00	87.56	358.22	11,207.34	2,273.91	2,270.51	-125.50	0.12	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,358.00	87.76	358.41	11,211.18	2,367.82	2,364.39	-128.26	0.29	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,453.00	87.76	358.33	11,214.89	2,462.73	2,459.28	-130.96	0.08	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,547.00	87.20	357.71	11,219.03	2,556.63	2,553.14	-134.21	0.89	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,642.00	87.34	358.32	11,223.55	2,651.51	2,647.97	-137.49	0.66	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,736.00	88.53	356.87	11,226.94	2,745.44	2,741.82	-141.44	1.99	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,831.00	88.88	357.26	11,229.09	2,840.42	2,836.67	-146.30	0.55	MWD	WEATHERFORD DIRECTIO...
3/4/2015	13,925.00	89.58	356.72	11,230.35	2,934.41	2,930.53	-151.23	0.94	MWD	WEATHERFORD DIRECTIO...
3/4/2015	14,020.00	89.65	356.46	11,230.99	3,029.40	3,025.36	-156.89	0.28	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,114.00	90.63	356.66	11,230.76	3,123.39	3,119.19	-162.53	1.06	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,209.00	91.75	356.22	11,228.78	3,218.36	3,213.99	-168.42	1.27	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,304.00	91.75	355.42	11,225.88	3,313.28	3,308.69	-175.34	0.84	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,398.00	90.14	355.51	11,224.33	3,407.22	3,402.38	-182.78	1.72	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,493.00	90.77	355.02	11,223.58	3,502.16	3,497.05	-190.62	0.84	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,587.00	91.19	355.95	11,221.97	3,596.10	3,590.74	-198.02	1.09	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,682.00	90.77	355.63	11,220.35	3,691.05	3,685.47	-204.99	0.56	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,776.00	90.56	356.50	11,219.25	3,785.02	3,779.25	-211.44	0.95	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,871.00	90.49	357.45	11,218.38	3,880.01	3,874.11	-216.45	1.00	MWD	WEATHERFORD DIRECTIO...
3/5/2015	14,965.00	90.63	357.64	11,217.47	3,974.01	3,968.02	-220.48	0.25	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,060.00	90.77	357.87	11,216.31	4,068.00	4,062.94	-224.20	0.28	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,154.00	90.77	358.65	11,215.04	4,162.98	4,156.88	-227.05	0.83	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,249.00	91.40	358.46	11,213.24	4,257.93	4,251.84	-229.45	0.69	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,343.00	91.26	358.62	11,211.06	4,351.89	4,345.78	-231.84	0.23	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,437.00	91.82	358.23	11,208.53	4,445.83	4,439.71	-234.43	0.73	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,532.00	92.09	357.67	11,205.29	4,540.77	4,534.59	-237.82	0.65	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,626.00	92.45	358.41	11,201.57	4,634.69	4,628.46	-241.03	0.87	MWD	WEATHERFORD DIRECTIO...
3/5/2015	15,746.00	92.79	357.99	11,196.09	4,754.55	4,748.28	-244.80	0.45	BIT	WEATHERFORD DIRECTIO...

Wellbore Name	Parent Wellbore OH	SAP Well ID	Vertical Section Direction (°)
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Kick Offs & Key Depths

Date	Type	Top Depth (ftKB)
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Actual Deviation Survey	Definitive?	Proposed?	Proposed Deviation Survey
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Deviation Survey

Date	Description
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MD Tie In (ftKB)	TVD Tie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NS Tie In (ft)	EW Tie In (ft)
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Survey Data

Date	MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	VS (ft)	N/S (ft)	E/W (ft)	DLS (°/100ft)	Survey Tool	Survey Company
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devon

Hognose Viper 23 Fed 1H
Lea Co, NM

Plan Data for Hognose Viper 23 Fed 1H

Plan Point Information:
DogLeg Severity Unit: °/100.00ft Position offsets from Slot centre
MD Inc Az TVD +N/-S +E/-W Northing Easting VSec DLS
(USft) (°) (°) (USft) (USft) (USft) (USft) (USft) (DLSU)
13831.00 88.88 357.26 11229.09 2836.67 -146.30 470582.58 783682.05 2840.42 0.55
14046.38 91.00 357.64 11229.31 3051.83 -155.80 470797.74 783592.47 3055.78 1.00
14696.38 91.00 357.64 11219.54 3611.25 -178.94 471357.17 783569.43 3615.69 0.00
14656.64 90.50 357.63 11218.88 3661.48 -181.01 471407.39 783567.34 3665.94 1.00
15748.72 90.50 357.63 11209.40 4752.59 -226.08 472498.50 783522.27 4757.96 0.00

Plan Data for Hognose Viper 23 Fed 1H

Target Set Information:
Name: Hognose Viper 23 Fed 1H Lat
Position offsets from Slot centre
Name TVD +N/-S +E/-W Northing Easting Shape Comment
(USft) (USft) (USft) (USft) (USft)
PBHL #H Lat 11209.40 4752.59 -226.08 472498.50 783522.27 Cuboid

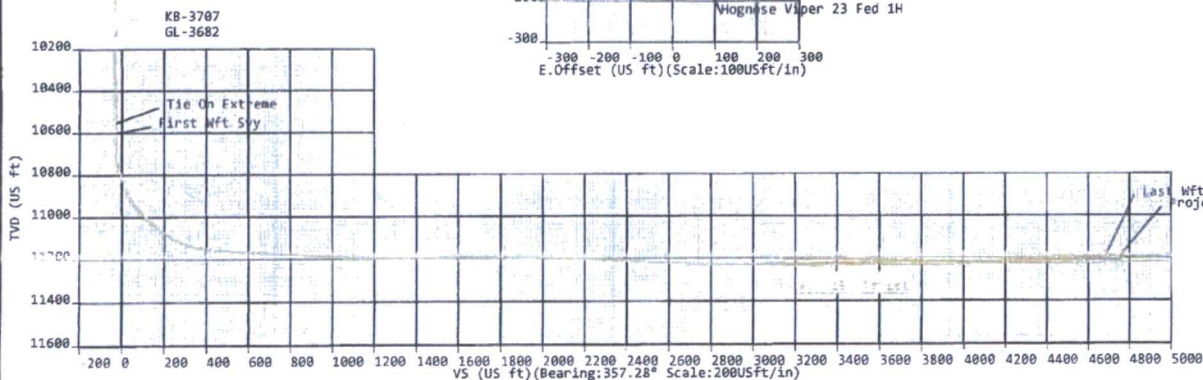
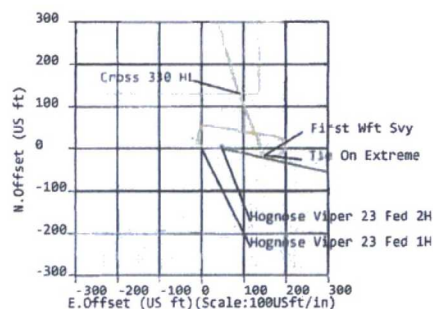
Plan Data for Hognose Viper 23 Fed 1H

Slot: Hognose Viper 23 Fed 1H
Position:
Offset is from Site centre
+N/-S: 0.00USft Northing: 467745.91USft Latitude: 32°17'0.5"
+E/-W: 0.00USft Easting: 783748.35USft Longitude: -103°32'56.1"
Elevation Above VRD: 3682.00USft

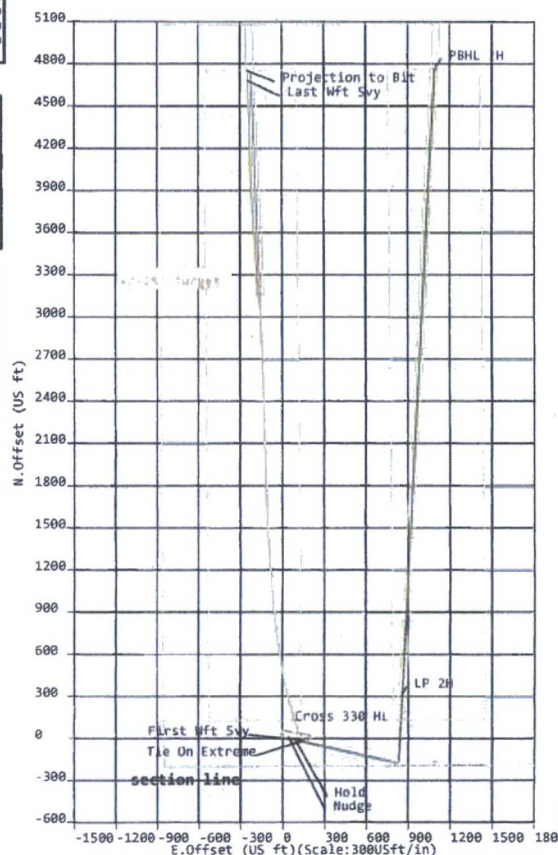
Plan Data for Hognose Viper 23 Fed 1H

Well: Hognose Viper 23 Fed 1H
Type: Main-Well
File Number:
Plan Folder: P6 Plan: P6-V1
Vertical Section: Position offset of origin from slot centre:
+N/-S: 0.00USft Azimuth: 357.26°
+E/-W: 0.00USft
Magnetic Parameters:
Model: Field Strength: Declination: Dip: Date:
800H 4826(nT) 7.30° 68.15° 2015-02-18

Hognose Viper 23 Fed 1H
Hognose Viper 23 Fed 2H
Hognose Viper 23 Fed 1H



Weatherford



Sign Off: Russell Joyner



Directional Survey

Well Name: HOGNOSE VIPER 23 FED 1H

Sub-Division DELAWARE BASIN	Region DELAWARE BASIN EAST	Field Name JOHNSON RANCH	County LEA	State/Province NM						
Surface Legal Location Sec 23 23S 33E	APN/UV 3002541975	Latitude (°) 32° 17' 0.051" N	Longitude (°) 103° 32' 54.384" W	Orig KB Elevation (ft) 3,707.20	Ground Elev MSL (ft) 3,682.20	KB - GL (ft) 25.00				
Wellbores		SAP Well ID 38011		Vertical Section Direction (°) 357.28						
Kick Offs & Key Depths										
Date 3/1/2015		Type Kick Off			Top Depth (ft/B) 10,674.0					
Actual Deviation Survey EXTREME, Proposed? No		Definitive? Yes		Proposed? No		Proposed Deviation Survey				
Deviation Survey										
Date 2/16/2015		Description EXTREME								
MD Tie in (ft/B) 0.00	TVD Tie in (ft/B) 0.00	Inclination Tie in (°) 0.00	Azimuth Tie in (°) 0.00	NSTie in (ft) 0.00	EW Tie in (ft) 0.00					
Survey Data										
Date	MD (ft/B)	Incl (°)	Azm (°)	TVD (ft/B)	VS (ft)	N/S (ft)	EW (ft)	DLS (°/100ft)	Survey Tool	Survey Company
2/17/2015	107.00	1.01	145.23	106.99	-0.80	-0.77	0.54	0.94	MWD	EXTREME
2/17/2015	223.00	1.41	124.36	222.97	-2.53	-2.42	2.30	0.51	MWD	EXTREME
2/17/2015	254.00	1.58	117.46	253.96	-2.97	-2.83	2.99	0.80	MWD	EXTREME
2/17/2015	314.00	1.71	129.24	313.93	-3.99	-3.78	4.42	0.60	MWD	EXTREME
2/17/2015	502.00	1.49	127.35	501.86	-7.43	-7.04	8.54	0.12	MWD	EXTREME
2/17/2015	594.00	1.58	140.44	593.83	-9.22	-8.74	10.29	0.39	MWD	EXTREME
2/17/2015	682.00	1.32	149.63	681.80	-11.09	-10.55	11.58	0.40	MWD	EXTREME
2/17/2015	775.00	0.88	153.23	774.78	-12.69	-12.11	12.44	0.48	MWD	EXTREME
2/17/2015	835.00	1.01	172.04	834.77	-13.84	-13.05	12.72	0.56	MWD	EXTREME
2/17/2015	898.00	1.01	181.44	897.76	-14.74	-14.15	12.79	0.26	MWD	EXTREME
2/17/2015	1,030.00	0.70	187.86	1,029.75	-16.70	-16.11	12.65	0.25	MWD	EXTREME
2/17/2015	1,092.00	0.70	186.94	1,091.75	-17.44	-16.86	12.68	0.41	MWD	EXTREME
2/17/2015	1,151.00	0.41	189.84	1,150.74	-18.00	-17.42	12.73	0.61	MWD	EXTREME
2/17/2015	1,212.00	0.62	186.15	1,211.74	-18.54	-17.96	12.65	0.35	MWD	EXTREME
2/17/2015	1,340.00	0.31	215.37	1,339.74	-19.50	-18.93	12.38	0.30	MWD	EXTREME
3/2/2015	1,461.00	0.59	263.45	1,460.73	-19.80	-19.27	11.57	0.37	MWD	EXTREME
2/22/2015	1,581.00	0.79	324.05	1,580.72	-19.15	-18.67	10.47	0.60	MWD	EXTREME
2/22/2015	1,770.00	1.32	340.28	1,769.69	-15.97	-15.57	8.97	0.32	MWD	EXTREME
3/2/2015	1,866.00	1.25	348.76	1,865.67	-13.88	-13.50	8.39	0.21	MWD	EXTREME
3/2/2015	1,962.00	1.38	339.98	1,961.64	-11.74	-11.39	7.79	0.25	MWD	EXTREME
3/2/2015	2,060.00	1.42	336.31	2,059.61	-9.48	-9.16	6.90	0.10	MWD	EXTREME
2/22/2015	2,144.00	1.49	335.87	2,143.59	-7.49	-7.21	6.04	0.08	MWD	EXTREME
2/22/2015	2,332.00	1.49	317.85	2,331.52	-3.33	-3.17	3.40	0.25	MWD	EXTREME
2/22/2015	2,426.00	1.41	323.74	2,425.49	-1.42	-1.33	1.89	0.18	MWD	EXTREME
2/22/2015	2,520.00	1.71	14.14	2,519.46	0.88	0.96	1.55	1.44	MWD	EXTREME
2/22/2015	2,618.00	1.71	318.64	2,617.43	3.43	3.47	0.94	1.62	MWD	EXTREME
2/22/2015	2,717.00	1.58	324.66	2,716.39	5.73	5.70	-0.82	0.22	MWD	EXTREME
2/23/2015	2,903.00	1.80	333.67	2,902.30	10.57	10.41	-3.60	0.19	MWD	EXTREME
2/23/2015	3,089.00	1.89	342.74	3,088.21	16.21	15.95	-5.81	0.16	MWD	EXTREME
2/23/2015	3,184.00	2.02	351.64	3,183.15	19.39	19.11	-6.51	0.35	MWD	EXTREME
2/23/2015	3,277.00	2.11	3.47	3,276.09	22.73	22.44	-6.65	0.47	MWD	EXTREME
2/23/2015	3,374.00	2.20	3.11	3,373.03	26.35	26.08	-6.44	0.09	MWD	EXTREME
2/23/2015	3,467.00	2.29	11.55	3,465.95	29.93	29.68	-5.97	0.37	MWD	EXTREME
2/23/2015	3,561.00	2.11	10.54	3,559.88	33.44	33.22	-5.28	0.20	MWD	EXTREME
2/23/2015	3,656.00	1.89	18.45	3,654.83	36.60	36.43	-4.46	0.37	MWD	EXTREME
2/23/2015	3,750.00	2.02	11.85	3,748.77	39.65	39.52	-3.63	0.28	MWD	EXTREME
2/24/2015	3,847.00	2.11	12.74	3,845.71	43.02	42.93	-2.89	0.10	MWD	EXTREME
2/24/2015	3,941.00	1.58	14.63	3,939.66	45.93	45.88	-2.18	0.57	MWD	EXTREME
2/24/2015	4,036.00	1.32	11.64	4,034.63	48.24	48.22	-1.63	0.28	MWD	EXTREME
2/24/2015	4,131.00	1.01	28.65	4,129.61	50.01	50.02	-1.00	0.49	MWD	EXTREME
2/24/2015	4,225.00	1.10	29.57	4,223.59	51.48	51.53	-0.16	0.10	MWD	EXTREME
2/24/2015	4,319.00	1.41	27.06	4,317.57	53.25	53.35	0.81	0.33	MWD	EXTREME
2/24/2015	4,413.00	2.02	74.97	4,411.53	54.61	54.81	2.94	1.60	MWD	EXTREME
2/24/2015	4,510.00	3.91	90.83	4,508.40	54.77	55.20	7.89	2.11	MWD	EXTREME
2/24/2015	4,612.00	4.22	95.66	4,610.14	54.00	54.78	15.11	0.45	MWD	EXTREME
2/24/2015	4,697.00	3.91	93.95	4,694.93	53.21	54.27	21.11	0.39	MWD	EXTREME
2/24/2015	4,790.00	5.01	98.56	4,787.65	52.05	53.45	28.29	1.24	MWD	EXTREME
2/24/2015	4,884.00	5.80	98.74	4,881.23	50.30	52.12	37.04	0.84	MWD	EXTREME
2/24/2015	4,978.00	6.68	100.06	4,974.67	48.15	50.44	47.12	0.95	MWD	EXTREME
2/24/2015	5,090.00	6.11	101.56	5,085.97	45.24	48.11	59.37	0.53	MWD	EXTREME
3/2/2015	5,227.00	5.03	97.75	5,222.33	42.35	45.84	72.47	0.83	MWD	EXTREME
2/27/2015	5,364.00	3.91	100.85	5,358.91	40.16	44.15	83.01	0.84	MWD	EXTREME
2/24/2015	5,557.00	3.78	98.74	5,551.47	37.35	41.94	95.76	0.10	MWD	EXTREME
2/24/2015	5,745.00	3.69	98.87	5,739.07	34.91	40.07	107.86	0.05	MWD	EXTREME
2/24/2015	5,934.00	3.69	100.15	5,927.68	32.33	38.06	119.86	0.04	MWD	EXTREME
2/24/2015	6,029.00	3.69	99.75	6,022.48	30.99	37.00	125.88	0.03	MWD	EXTREME
2/24/2015	6,124.00	3.52	98.65	6,117.30	29.75	36.05	131.77	0.19	MWD	EXTREME
2/24/2015	6,218.00	3.21	98.17	6,211.13	28.69	35.24	137.23	0.33	MWD	EXTREME
2/24/2015	6,312.00	2.81	99.14	6,305.00	27.72	34.50	142.11	0.43	MWD	EXTREME
2/24/2015	6,407.00	2.81	99.27	6,399.89	26.75	33.75	146.71	0.01	MWD	EXTREME
2/24/2015	6,497.00	2.59	98.34	6,489.79	25.91	33.10	150.90	0.25	MWD	EXTREME
2/24/2015	6,595.00	2.59	98.96	6,587.69	25.03	32.44	155.28	0.03	MWD	EXTREME
2/24/2015	6,690.00	2.59	98.43	6,682.59	24.18	31.79	159.52	0.03	MWD	EXTREME
2/24/2015	6,784.00	2.42	95.75	6,776.50	23.48	31.28	163.60	0.22	MWD	EXTREME
2/27/2015	6,878.00	2.20	91.27	6,870.43	23.06	31.04	167.37	0.30	MWD	EXTREME
2/27/2015	6,973.00	2.02	95.05	6,965.36	22.71	30.85	170.66	0.24	MWD	EXTREME

SD Survey Report

Survey Points (Relative to Slot centre, TVD relative to Drill Floor)											
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)	Survey Tool	Comment
14304.00	91.75	355.42	11225.88	3308.69	-175.34	3313.28	0.84	471054.60	783573.01	MWD	
14398.00	90.14	355.51	11224.33	3402.38	-182.78	3407.22	1.72	471148.29	783565.57	MWD	
14493.00	90.77	355.02	11223.58	3497.05	-190.62	3502.16	0.84	471242.96	783557.73	MWD	
14587.00	91.19	355.95	11221.97	3590.74	-198.02	3596.10	1.09	471336.65	783550.33	MWD	
14682.00	90.77	355.63	11220.35	3685.47	-204.99	3691.05	0.56	471431.38	783543.36	MWD	
14776.00	90.56	356.50	11219.25	3779.25	-211.44	3785.02	0.95	471525.16	783536.91	MWD	
14871.00	90.49	357.45	11218.38	3874.11	-216.45	3880.01	1.00	471620.02	783531.90	MWD	
14965.00	90.63	357.64	11217.47	3968.02	-220.48	3974.01	0.25	471713.93	783527.87	MWD	
15060.00	90.77	357.87	11216.31	4062.94	-224.20	4069.00	0.28	471808.85	783524.15	MWD	
15154.00	90.77	358.65	11215.04	4156.88	-227.05	4162.98	0.83	471902.79	783521.30	MWD	
15249.00	91.40	358.46	11213.24	4251.84	-229.45	4257.93	0.69	471997.75	783518.90	MWD	
15343.00	91.26	358.62	11211.06	4345.78	-231.84	4351.89	0.23	472091.69	783516.51	MWD	
15437.00	91.82	358.23	11208.53	4439.71	-234.43	4445.83	0.73	472185.62	783513.92	MWD	
15532.00	92.09	357.67	11205.29	4534.59	-237.82	4540.77	0.65	472280.50	783510.53	MWD	
15626.00	92.45	358.41	11201.57	4628.46	-241.03	4634.69	0.87	472374.37	783507.32	MWD	
15676.00	92.79	357.99	11199.29	4678.39	-242.60	4684.63	1.08	472424.30	783505.75	MWD	Last Wft Svy
15746.00	92.79	357.99	11195.88	4748.26	-245.06	4754.54	0.00	472494.17	783503.29	MWD	Projection to Bit

Hognose Viper 23 Fed 1H

Field Name Lea Co, NM Nad 83 NMEZ	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 Hognose Viper 23 Fed 1,2H Pad	Units : US ft	North Reference : Grid	Convergence Angle : 0.42	
	Position	Northing : 467745.91 US ft	Latitude : 32° 17' 0.50"	
		Easting : 783748.35 US ft	Longitude : -103° 32' 56.11"	
		Elevation above Mean Sea Level:3682.00 US ft		
	Comment :			
Slot Name Hognose Viper 23 Fed 1H	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing :467745.91 US ft	Latitude : 32°17'0.50"	
	+E / -W : 0.00 US ft	Easting :783748.35 US ft	Longitude : -103°32'56.11"	
	Slot TVD Reference : Ground Elevation			
	Elevation above Mean Sea Level : 3682.00 US ft			
Comment :				
Well Name Hognose Viper 23 Fed 1H	Type : Main well		UWI :	
	Rig Height Drill Floor : 25.00 US ft		Comment :	
	Relative to Mean Sea Level: 3707.00 US ft			
	Closure Distance : 4754.58 US ft		Closure Azimuth : 357.046°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az :357.28°

Target Set

Name : Hognose Viper 23 Number of Targets : 1

Fed 1H Lat

Comment :

Target Name: PBHL #H Lat Shape: Cuboid	Position (Relative to Slot centre)		
	+N / -S : 4752.59US ft	Northing : 472498.50 US ft	Latitude : 32°17'47.54"
	+E / -W : -226.08 US ft	Easting : 783522.27US ft	Longitude : -103°32'58.34"
	TVD (Drill Floor) : 11209.40 US ft		
	Orientation Azimuth : 357.37°	Inclination : 0.50°	
	Dimensions Length : 3200.00 US ft	Breadth : 50.00 US ft	Height : 30.00 US ft

Survey Name :Wft MWD Svy

Date : 02/Mar/2015

Survey Tool : MWD

Comment :

Company : Wft

Magnetic Model

Model Name: BGGM

Date: 18/Feb/2015

Field Strength:
48263.6 nT

Declination: 7.30°

Dip: 60.15°

Tie Point

MD: 10562

Inclination: 1.49 Azimuth: 276.94

TVD: 10552.7

North Offset: -17.1115 East Offset: 151.627

Well path created using minimum curvature

SD Survey Report

Survey Points (Relative to Slot centre, TVD relative to Drill Floor)											
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)	Survey Tool	Comment
10611.00	1.64	273.48	10601.67	-16.99	150.30	-24.11	0.00	467728.92	783898.65	MWD	First Wft Svy
10684.00	1.95	316.40	10674.64	-16.03	148.40	-23.05	1.84	467729.88	783896.75	MWD	
10715.00	5.53	333.82	10705.57	-14.31	147.37	-21.28	11.99	467731.60	783895.72	MWD	
10747.00	9.16	339.84	10737.30	-10.53	145.81	-17.44	11.58	467735.38	783894.16	MWD	
10778.00	12.88	340.25	10767.73	-4.96	143.80	-11.78	12.00	467740.95	783892.15	MWD	
10810.00	16.85	340.11	10798.65	2.76	141.01	-3.93	12.41	467748.67	783889.36	MWD	
10841.00	21.10	339.81	10827.96	12.23	137.56	5.69	13.71	467758.14	783885.91	MWD	
10873.00	25.09	340.86	10857.39	24.05	133.34	17.69	12.53	467769.96	783881.69	MWD	
10904.00	29.19	340.09	10884.97	37.37	128.61	31.23	13.27	467783.28	783876.96	MWD	
10936.00	32.50	338.03	10912.44	52.68	122.73	46.80	10.86	467798.59	783871.08	MWD	
10967.00	36.72	336.82	10937.95	68.93	115.97	63.35	13.79	467814.84	783864.32	MWD	Cross 330 HL
10999.00	40.92	336.57	10962.87	87.35	108.03	82.13	13.13	467833.26	783856.38	MWD	
11030.00	44.53	338.19	10985.64	106.77	99.95	101.90	12.17	467852.68	783848.30	MWD	
11062.00	46.58	340.19	11008.05	128.12	91.84	123.62	7.81	467874.03	783840.19	MWD	
11066.00	46.97	340.37	11010.79	130.87	90.86	126.41	10.39	467876.78	783839.21	MWD	
11093.00	49.64	341.54	11028.75	149.92	84.29	145.75	10.39	467895.83	783832.64	MWD	
11125.00	51.31	343.73	11049.11	173.48	76.93	169.63	7.42	467919.39	783825.28	MWD	
11156.00	54.20	344.71	11067.87	197.22	70.22	193.67	9.66	467943.13	783818.57	MWD	
11188.00	57.36	344.31	11085.87	222.72	63.15	219.47	9.93	467968.63	783811.50	MWD	
11219.00	61.01	344.35	11101.75	248.35	55.96	245.41	11.77	467994.26	783804.31	MWD	
11251.00	65.25	344.50	11116.20	275.84	48.30	273.24	13.26	468021.75	783796.65	MWD	
11283.00	69.57	344.05	11128.49	304.27	40.29	302.02	13.56	468050.18	783788.64	MWD	
11313.00	74.20	344.62	11137.82	331.72	32.60	329.80	15.54	468077.63	783780.95	MWD	
11345.00	78.89	346.43	11145.26	361.84	24.83	360.26	15.65	468107.75	783773.18	MWD	
11376.00	82.92	348.49	11150.16	391.72	18.19	390.41	14.56	468137.63	783766.54	MWD	
11407.00	85.09	350.69	11153.40	422.04	12.62	420.96	9.94	468167.95	783760.97	MWD	
11470.00	85.59	350.58	11158.52	483.99	2.40	483.33	0.81	468229.90	783750.75	MWD	
11565.00	86.01	350.89	11165.48	577.50	-12.85	577.46	0.55	468323.41	783735.50	MWD	
11659.00	86.50	351.81	11171.62	670.23	-26.96	670.76	1.11	468416.14	783721.39	MWD	
11754.00	87.00	352.94	11177.00	764.24	-39.55	765.25	1.30	468510.15	783708.80	MWD	
11848.00	87.13	354.13	11181.82	857.52	-50.12	858.93	1.27	468603.43	783698.23	MWD	
11943.00	87.41	354.45	11186.34	951.94	-59.56	953.69	0.45	468697.85	783688.79	MWD	
12037.00	87.55	354.92	11190.47	1045.44	-68.26	1047.50	0.52	468791.35	783680.09	MWD	
12131.00	88.25	355.02	11193.92	1139.02	-76.49	1141.36	0.75	468884.93	783671.86	MWD	
12222.00	89.09	355.38	11196.03	1229.67	-84.10	1232.28	1.00	468975.58	783664.25	MWD	
12320.00	89.93	356.43	11196.87	1327.42	-91.10	1330.24	1.37	469073.33	783657.25	MWD	
12414.00	90.70	357.19	11196.35	1421.27	-96.33	1424.24	1.15	469167.18	783652.02	MWD	
12508.00	91.12	357.50	11194.86	1515.15	-100.69	1518.23	0.56	469261.06	783647.66	MWD	
12603.00	90.56	358.33	11193.47	1610.08	-104.14	1613.21	1.05	469355.99	783644.21	MWD	
12698.00	89.51	358.84	11193.41	1705.05	-106.49	1708.18	1.23	469450.96	783641.86	MWD	
12792.00	89.30	357.62	11194.38	1799.00	-109.39	1802.16	1.32	469544.91	783638.96	MWD	
12887.00	89.23	357.66	11195.60	1893.91	-113.30	1897.15	0.08	469639.82	783635.05	MWD	
12981.00	88.53	358.43	11197.44	1987.84	-116.51	1991.13	1.11	469733.75	783631.84	MWD	
13075.00	88.32	357.90	11200.02	2081.75	-119.52	2085.08	0.61	469827.66	783628.83	MWD	
13170.00	87.62	358.31	11203.39	2176.64	-122.66	2180.01	0.85	469922.55	783625.69	MWD	
13264.00	87.56	358.22	11207.34	2270.51	-125.50	2273.91	0.12	470016.42	783622.85	MWD	
13358.00	87.76	358.41	11211.18	2364.39	-128.26	2367.87	0.29	470110.30	783620.09	MWD	
13453.00	87.76	358.33	11214.89	2459.28	-130.96	2462.73	0.08	470205.19	783617.39	MWD	
13547.00	87.20	357.71	11219.03	2553.14	-134.21	2556.63	0.89	470299.05	783614.14	MWD	
13642.00	87.34	358.32	11223.55	2647.97	-137.49	2651.51	0.66	470393.88	783610.86	MWD	
13736.00	88.53	356.87	11226.94	2741.82	-141.44	2745.44	1.99	470487.73	783606.91	MWD	
13831.00	88.88	357.26	11229.09	2836.67	-146.30	2840.42	0.55	470582.58	783602.05	MWD	
13925.00	89.58	356.72	11230.35	2930.53	-151.23	2934.41	0.94	470676.44	783597.12	MWD	
14020.00	89.65	356.46	11230.99	3025.36	-156.89	3029.40	0.28	470771.27	783591.46	MWD	
14114.00	90.63	356.66	11230.76	3119.19	-162.53	3123.39	1.06	470865.10	783585.82	MWD	
14209.00	91.75	356.22	11228.78	3213.99	-168.42	3218.36	1.27	470959.90	783579.93	MWD	