



August 19, 2015

HOBBS OCD

MAR 29 2016

RECEIVED

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

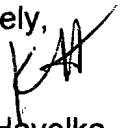
Attn: Megan Moravec

Re: **Rattlesnake 16 SWD No 001**

Please find enclosed a copy of the survey from 12,676' to 18,054' 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.

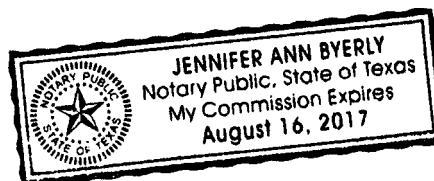
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 19 day of August, A.D., 2015, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas



MAY 10 2016



Company: Devon Energy Prod. Company , LP
Lease/Well: Rattlesnake 16 SWD No/001

Rig Name: Cactus 167

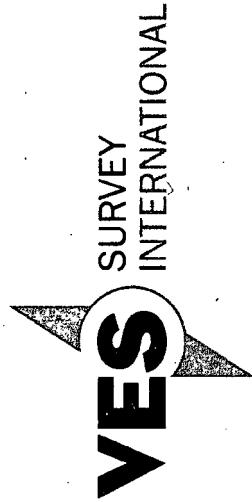
State/County: New Mexico /Lea

Latitude: 32.04417, Longitude: -103.48269

VS-Azi: 0.00 Degrees

Magnetic North is 7.06 Degrees East of True North

Grid North = True North -0.45 degs



Depth Reference : R.K.B = 23.6 Feet

DRILLOG EMS SURVEY CALCULATIONS

Filename: rattlesnake .ut

Minimum Curvature Method

Report Date/Time: 8/18/2015 / 13:31

VES Survey International
Midland, Texas

432-563-5444

Surveyor: Javier Estrada

Rattlesnake 16 SWD No 001 / API 30-025-42355

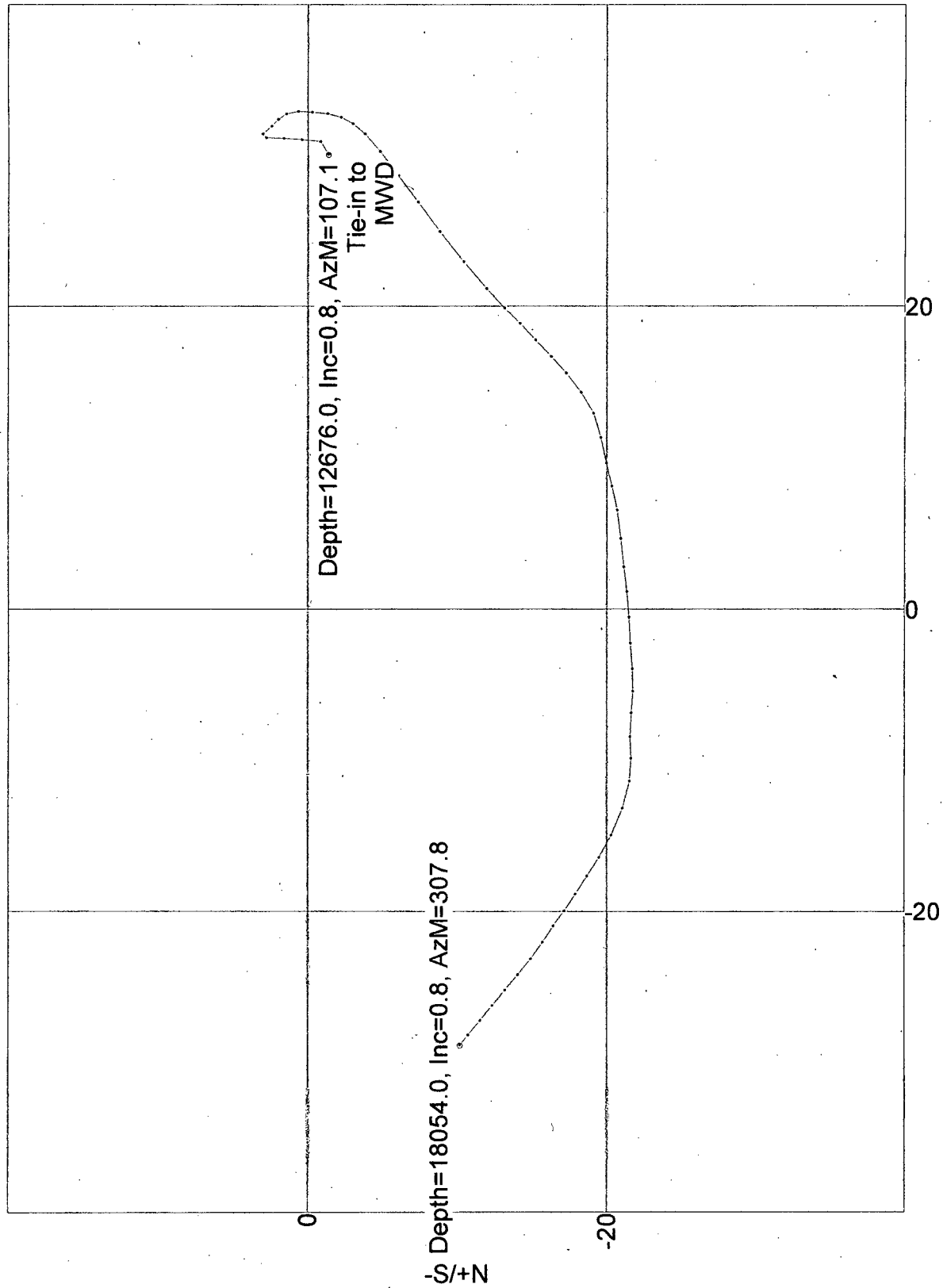
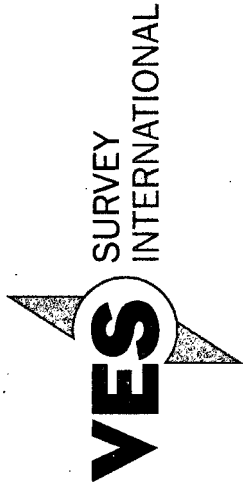
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
Tie-in to MWD									
12676.00	0.80	107.10	12674.62	-1.37	30.03	-1.37	30.06	92.61	****
12792.50	0.76	5.68	12791.11	-0.84	30.88	-0.84	30.90	91.56	1.04
12887.00	0.75	4.79	12885.61	0.39	31.00	0.39	31.00	89.27	0.02
12981.50	0.73	4.03	12980.10	1.61	31.09	1.61	31.13	87.04	0.02
13076.00	0.70	0.25	13074.59	2.78	31.14	2.78	31.26	84.89	0.06
13170.50	0.52	143.96	13169.09	3.02	31.39	3.02	31.53	84.51	1.23
13265.00	0.45	134.87	13263.58	2.41	31.90	2.41	31.99	85.68	0.11
13359.50	0.31	132.84	13358.08	1.98	32.35	1.98	32.41	86.50	0.15
13454.00	0.50	154.67	13452.58	1.44	32.71	1.44	32.74	87.49	0.25
13548.50	0.52	182.23	13547.08	0.64	32.87	0.64	32.88	88.89	0.26
13643.00	0.62	184.17	13641.57	-0.30	32.82	-0.30	32.82	90.52	0.11
13737.50	0.63	187.28	13736.07	-1.32	32.71	-1.32	32.74	92.31	0.04
13832.00	0.52	202.70	13830.56	-2.23	32.48	-2.23	32.56	93.92	0.20
13926.50	0.57	214.61	13925.06	-3.01	32.05	-3.01	32.19	95.36	0.13
14021.00	0.70	223.29	14019.55	-3.81	31.39	-3.81	31.62	96.93	0.18

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
14115.50	1.18	231.97	14114.04	-4.84	30.22	-4.84	30.61	99.09	0.52
14210.00	1.26	233.69	14208.52	-6.05	28.62	-6.05	29.25	101.93	0.10
14304.50	1.40	232.41	14302.99	-7.37	26.87	-7.37	27.86	105.34	0.15
14399.00	1.53	233.42	14397.46	-8.83	24.94	-8.83	26.45	109.50	0.14
14493.50	1.57	228.91	14491.93	-10.43	22.95	-10.43	25.21	114.45	0.13
14588.00	1.29	229.96	14586.40	-11.97	21.16	-11.97	24.31	119.50	0.29
14682.50	0.85	222.96	14680.88	-13.16	19.86	-13.16	23.83	123.53	0.49
14777.00	0.90	225.18	14775.37	-14.20	18.86	-14.20	23.61	126.97	0.07
14871.50	0.93	228.39	14869.86	-15.24	17.76	-15.24	23.40	130.63	0.06
14966.00	0.89	223.42	14964.34	-16.28	16.68	-16.28	23.31	134.31	0.09
15060.50	0.92	231.30	15058.83	-17.29	15.58	-17.29	23.27	137.97	0.13
15155.00	1.03	232.85	15153.32	-18.27	14.32	-18.27	23.21	141.92	0.12
15249.50	0.94	245.03	15247.81	-19.11	12.94	-19.11	23.08	145.89	0.24
15344.00	1.12	259.17	15342.29	-19.61	11.34	-19.61	22.65	149.96	0.33
15438.50	0.98	256.67	15436.77	-19.97	9.65	-19.97	22.18	154.20	0.15
15533.00	0.93	255.25	15531.26	-20.35	8.13	-20.35	21.91	158.23	0.06
15627.50	1.04	259.66	15625.75	-20.69	6.55	-20.69	21.71	162.44	0.14
15722.00	1.26	264.85	15720.23	-20.94	4.67	-20.94	21.46	167.42	0.26
15816.50	1.02	262.31	15814.71	-21.15	2.80	-21.15	21.33	172.45	0.28
15911.00	0.98	263.60	15909.20	-21.35	1.16	-21.35	21.38	176.88	0.05
16005.50	1.08	266.77	16003.68	-21.49	-0.53	-21.49	21.50	181.40	0.12
16100.00	1.02	267.19	16098.16	-21.58	-2.25	-21.58	21.70	185.96	0.06
16194.50	1.04	264.29	16192.65	-21.71	-3.95	-21.71	22.06	190.31	0.06
16289.00	0.78	273.24	16287.14	-21.76	-5.44	-21.76	22.43	194.04	0.31
16383.50	0.97	275.37	16381.63	-21.65	-6.88	-21.65	22.71	197.63	0.20
16478.00	0.94	269.80	16476.11	-21.57	-8.45	-21.57	23.17	201.38	0.10
16572.50	0.81	266.21	16570.60	-21.62	-9.89	-21.62	23.77	204.57	0.15
16667.00	1.03	279.52	16665.09	-21.52	-11.39	-21.52	24.35	207.88	0.32
16761.50	1.25	288.71	16759.57	-21.06	-13.20	-21.06	24.85	212.08	0.30
16856.00	1.11	297.60	16854.05	-20.30	-14.98	-20.30	25.23	216.42	0.24
16950.50	0.93	301.00	16948.54	-19.49	-16.44	-19.49	25.50	220.16	0.20
17045.00	0.87	305.17	17043.03	-18.68	-17.69	-18.68	25.72	223.44	0.09
17139.50	0.85	301.47	17137.51	-17.90	-18.87	-17.90	26.01	226.52	0.06
17234.00	0.77	306.82	17232.01	-17.15	-19.98	-17.15	26.33	229.35	0.11
17328.50	0.78	302.79	17326.50	-16.42	-21.03	-16.42	26.68	232.01	0.06
17423.00	0.81	302.89	17420.99	-15.71	-22.12	-15.71	27.14	234.61	0.03
17517.50	0.85	308.78	17515.48	-14.92	-23.23	-14.92	27.60	237.29	0.10
17612.00	0.81	309.28	17609.97	-14.05	-24.29	-14.05	28.07	239.96	0.04
17706.50	0.82	309.98	17704.46	-13.19	-25.33	-13.19	28.56	242.49	0.01
17801.00	0.80	309.04	17798.95	-12.35	-26.36	-12.35	29.11	244.90	0.03

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
17895.50	0.76	308.90	17893.44	-11.54	-27.36	-11.54	29.69	247.13	0.04
17990.00	0.76	310.05	17987.93	-10.74	-28.33	-10.74	30.29	249.24	0.02
18054.00	0.81	307.79	18051.93	-10.19	-29.01	-10.19	30.74	250.64	0.08



VES Survey International
Midland, Texas
432-563-5444
Surveyor: Javier Estrada
Rattlesnake 16 SWD No 001 / API 30-025-42355





I JAVIER ESTRADA certify that I am employed by Vaughn Energy Services. That I did on the day(s) of 08/07/15 through 08/07/15 conduct or supervise the taking of a Flexishot-EMS survey from a depth of 12,476 feet to a depth of 18,054 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy for the Rattlesnake 16 swd No Well # 001 API # 30-025-42355 in Lea County / Parish NEW MEXICO; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Vaughn Energy Services

A handwritten signature in black ink, reading "Javier Estrada", is written over a horizontal line.

JAVIER ESTRADA
Service Technician
Vaughn Energy Services



I JAVIER ESTRADA certify that I am employed by Vaughn Energy Services. That I did on the day(s) of 08/07/15 through 08/07/15 conduct or supervise the taking of a Flexishot-EMS survey from a depth of 12,676 feet to a depth of 18,054 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy for the Rattlesnake 16 swd No Well # 001 API # 30-025-42355 in Lea County / Parish NEW MEXICO; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Vaughn Energy Services


JAVIER ESTRADA
Service Technician
Vaughn Energy Services

MWDsolutions

HOBBS OCD
MAR 29 2016
RECEIVED

Devon Energy
20 North Broadway
Oklahoma City, OK 73102

December 4, 2015

Attn: Trina Couch

RE: Rattlesnake 16 SWD 1
Lea County, NM
API # 30-025-42355

Enclosed, please find the original and one copy of the survey performed on the referenced well by LEAM Drilling Systems, Inc. (P-5 No. 491646). Other information required by your office is as follows:

Name & Title of Surveyor	Drainhole Number	Surveyed Depths	Dates Performed	Type of Survey
Randy Rakowitz	OH	9,667' – 12,911'	6/17/2015 – 6/23/2015	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.



Randy Rakowitz
MWD Operations Coordinator

Enclosures

Survey Report

MINIMUM CURVATURE CALCULATION

MWDsolutions

Operator	Devon Energy
Well Name	Rattlesnake 16 SWD 1
Location	Lea County, NM
Start Date	6/17/2015
End Date	6/23/2015
Direction	0.00°

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
TIE IN	9667	1.41	222.28	9666.06	-0.78	28.73	28.75	0.10
1	9910	1.00	253.60	9909.01	-3.59	24.68	-3.59	0.31
2	10010	0.80	268.30	10009.00	-3.86	23.15	-3.86	0.30
3	10106	1.20	282.00	10104.98	-3.67	21.50	-3.67	0.48
4	10200	1.40	278.50	10198.96	-3.29	19.40	-3.29	0.23
5	10295	0.80	290.10	10293.94	-2.89	17.63	-2.89	0.67
6	10390	0.40	9.20	10388.94	-2.34	17.06	-2.34	0.87
7	10487	0.20	280.30	10485.93	-1.98	16.94	-1.98	0.46
8	10582	0.60	248.80	10580.93	-2.13	16.32	-2.13	0.47
9	10678	0.80	256.90	10676.92	-2.46	15.20	-2.46	0.23
10	10773	1.30	296.80	10771.91	-2.12	13.59	-2.12	0.90
11	10867	1.10	308.90	10865.89	-1.08	11.93	-1.08	0.34
12	10962	1.10	319.10	10960.87	0.19	10.63	0.19	0.21
13	11057	0.40	326.20	11055.86	1.15	9.85	1.15	0.74
14	11155	0.20	158.60	11153.86	1.28	9.72	1.28	0.61
15	11250	0.20	167.40	11248.86	0.96	9.82	0.96	0.03
16	11346	0.50	162.00	11344.86	0.40	9.98	0.40	0.31
17	11441	0.60	143.00	11439.86	-0.39	10.41	-0.39	0.22
18	11536	0.90	132.80	11534.85	-1.30	11.26	-1.30	0.34
19	11632	1.10	151.30	11630.83	-2.62	12.25	-2.62	0.39
20	11727	0.70	165.50	11725.82	-3.98	12.83	-3.98	0.48
21	11820	0.60	84.50	11818.82	-4.48	13.46	-4.48	0.91
22	11916	1.10	94.10	11914.81	-4.50	14.88	-4.50	0.54
23	12013	1.30	71.30	12011.79	-4.22	16.85	-4.22	0.53
24	12108	1.70	75.00	12106.75	-3.50	19.23	-3.50	0.43
25	12204	1.40	82.90	12202.72	-2.99	21.77	-2.99	0.38
26	12299	1.30	78.30	12297.69	-2.63	23.98	-2.63	0.16

Survey Report

MINIMUM CURVATURE CALCULATION

MWDsolutions

Operator	Devon Energy
Well Name	Rattlesnake 16 SWD 1
Location	Lea County, NM
Start Date	6/17/2015
End Date	6/23/2015
Direction	0.00°

SUR NUM	MD ft	INC °	AZM °	TVD ft	N-S ft	E-W ft	SECT ft	DLS °/100'
27	12393	1.20	88.70	12391.67	-2.39	26.01	-2.39	0.26
28	12487	1.00	88.20	12485.65	-2.34	27.81	-2.34	0.21
29	12582	0.90	98.20	12580.64	-2.42	29.38	-2.42	0.20
30	12676	0.80	107.10	12674.63	-2.72	30.74	-2.72	0.18
31	12774	1.10	136.10	12772.61	-3.60	32.04	-3.60	0.57
32	12851	1.00	140.00	12849.60	-4.65	32.99	-4.65	0.16
PTB	12911	1.00	140.00	12909.59	-5.45	33.66	-5.45	0.00
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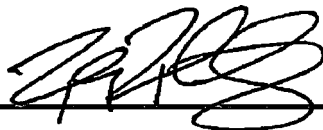
MWDsolutions

Survey Certification Form

State of New Mexico

Lea County

I, Randy Rakowitz , certify that; I am employed by MWD Solutions, Inc., that I did on the day(s) of June 17, 2015 through June 23, 2015, conduct or supervise the taking of MWD Survey from a depth of 9,667' to 12,911' MD; that the data is true, correct, complete and within the limitations of the tools as set forth by MWD Solutions, Inc., that I am authorized and qualified to make this report; that this survey was conducted at the request of Devon Energy for the Rattlesnake 16 SWD 1 in Lea County, New Mexico; and that I reviewed this report and find that it conforms to the principals and procedures as set forth by MWD Solutions, Inc.



Randy Rakowitz

MWD Operations Coordinator