

Reservoir Development

PathFinder, a Schlumberger Company
9200 West Reno Avenue
Oklahoma City, Oklahoma 73127 USA
Phone: (405) 789-1515
Fax: (405) 789-1519



January 27, 2015

HOBBSOCD

Cimarex
600 N MARIENFELD STREET SUITE 600

APR 14 2015

MIDLAND, TX 79701

RECEIVED

S7-T20S-R35E 330 FSL 660 FWL
N 32.58117 W 103.50254

Re:

CLIENT: Cimarex Energy Company of Co.
WELL: Lea 7 Federal Com 1H
FIELD: Bone Spring
RIG: NorAm 26
COUNTY: Lea
API NO: 30-025-42268
JOB NO: 15MLD0003

Enclosed, please find the original copy of the survey performed on the referenced well by PathFinder, a division of Schlumberger Technology Corporation.
Other information required by your office is as follows.

<u>Name & Title of Surveyor</u>	<u>Drainhole Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Brandon Chandler FE	Lea 7 Federal Com 1H Original Hole	10713.00 Ft to 15364.00 Ft	January 5, 2015 to January 12, 2015	SlimPulse

If any other information is required, please contact the undersigned at the above letterhead and phone number.
Sincerely,

Jasem Alharer
Field Service Manager

APR 22 2015

Reservoir Development

PathFinder, a Schlumberger Company

9200 West Reno Avenue

Oklahoma City, Oklahoma 73127 USA

Phone: (405) 789-1515

Fax: (405) 789-1519

PATHFINDER

A Schlumberger Company

Well Reference:

S7-T20S-R35E 330 FSL 660 FWL

N 32.58117 W 103.50254

I, Brandon Chandler certify that; I am employed by PathFinder, a division of Schlumberger Technology Corporation; that I did on the day(s) of January 05, 2015 through January 12, 2015, conduct or supervise the taking of the SlimPulse surveys from a depth of 10713.00 feet to a depth of 15364.00 feet referenced to driller's depth; that the data is true, correct, complete and within the limitations of the tool as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation; that I am authorized and qualified to make this report; that this survey was conducted at the request of Cimarex Energy Company of Co. for the Lea 7 Federal Com 1H Well (Original Hole) API No. 30-025-42268 and that I have reviewed this report and find that it conforms to the principals and procedures as set forth by Drilling & Measurements, a division of Schlumberger Technology Corporation.

By

Brandon Chandler

FE

HOBBS OCD
APR 14 2015
RECEIVED

Subscribed and Sworn to before me this 27th day of JANUARY (month) 2015 (yr)

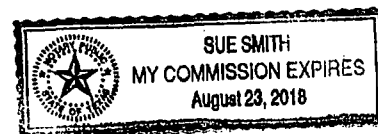
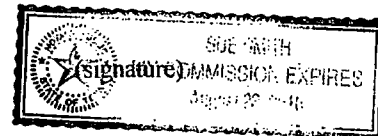
My Commission expires:

August 23, 2018

Sue Smith

Notary Public

Midland County Texas
(County State)



SCHLUMBERGER

Survey Report

15-Jan-2015

Client.....: Cimarex Energy Company of Co.
Field.....:

Well.....: Lea 7 Federal Com 1H
API number.....: 30-025-42268
Engineer.....: Brandon Chandler

Spud date.....: 11-Dec-14
Last survey date.....: 12-Jan-15
Total accepted surveys...: 60
MD of first survey.....: 10713.00 ft
MD of last survey.....: 15364.00 ft

County.....: Lea
State.....: New Mexico
Rig.....: Noram 26

Latitude.....: 32° 34' 52.66" N
Longitude.....: 103° 30' 10.92" W

----- Survey calculation methods-----

Method for positions...: Minimum curvature
Method for DLS.....: Lubinski

----- Depth reference -----

Permanent datum.....: MSL
Depth reference.....: Driller's Depth
GL above permanent.....: 3673.00
KB above permanent.....: 3698.00
DF above permanent.....: 3698.00

----- Vertical section origin-----

Latitude (+N/S-).....: 0.00 ft
Departure (+E/W-).....: 0.00 ft

----- Grid Coordinates -----

NAD27 Texas State Plane, Central Zone, US Feet
X.....: 576203.14 ft
Y.....: 797087.47 ft

Azimuth from Vsect Origin to target: 2.54 degrees

-----MWD Survey Reference Criteria-----

-----Run1----- Calculation Date: 4-Jan-2015

Location G....: 998.63244 mgn Tolerance G....: 2.50 mgn
Location B....: 48537.49 nT Tolerance B....: 300.00 nT
Magnetic Dip: 60.625 degrees Tolerance Dip: 0.45 degrees

-----Run2----- Calculation Date: 8-Jan-2015

Location G....: 998.63244 mgn Tolerance G....: 2.50 mgn
Location B....: 48537.79 nT Tolerance B....: 300.00 nT
Magnetic Dip: 60.63 degrees Tolerance Dip: 0.45 degrees

BGGM Model: 2014

-----Run1-----

Magnetic dec (+E/W-).....: 6.971 degrees
Grid Conv (+E/W-).....: 0.451 degrees
Total Azim Corr (+E/W-)...: 6.52 degrees

-----Run2-----

Magnetic dec (+E/W-).....: 6.971 degrees
Grid Conv (+E/W-).....: 0.451 degrees
Total Azim Corr (+E/W-)...: 6.52 degrees

-----Survey Correction Index Description-----

0 = Uncorrected 1 = Sag Corrected

2 = DMAG Corrected 3 = Sag + DMAG Corrected

===== Survey List =====

Seq	MD (ft)	Incl (deg)	Azim (deg)	Course (ft)	TVD (ft)	V Sec (ft)	N/-S (ft)	E/-W (ft)	Closure (ft)	at Azi (deg)	DLS (deg/100ft)	Tool	Correction
1	0.00	0.00	0.00	-99.25	0.00	0.00	0.00	0.00	0	90.00	0.00	TIP	0
2	100.00	0.54	342.26	100.00	100.00	0.44	0.45	-0.14	0.47	342.26	0.54	Other	0
3	200.00	0.42	354.32	100.00	200.00	1.25	1.26	-0.32	1.3	345.63	0.16	Other	0
4	300.00	0.33	6.28	100.00	299.99	1.90	1.91	-0.33	1.94	350.27	0.12	Other	0
5	400.00	0.25	5.27	100.00	399.99	2.40	2.42	-0.28	2.43	353.47	0.08	Other	0
6	500.00	0.19	1.85	100.00	499.99	2.79	2.80	-0.25	2.81	354.87	0.06	Other	0
7	600.00	0.17	354.12	100.00	599.99	3.10	3.11	-0.26	3.12	355.21	0.03	Other	0
8	700.00	0.18	353.23	100.00	699.99	3.40	3.42	-0.29	3.43	355.07	0.01	Other	0
9	800.00	0.20	356.36	100.00	799.99	3.73	3.75	-0.32	3.76	355.05	0.02	Other	0
10	900.00	0.20	350.75	100.00	899.99	4.07	4.09	-0.36	4.11	354.92	0.02	Other	0

11	1000.00	0.13	306.12	100.00	999.99	4.31	4.33	-0.48	4.36	353.64	0.14	Other	0
12	1100.00	0.09	271.49	100.00	1099.99	4.37	4.40	-0.65	4.45	351.56	0.08	Other	0
13	1200.00	0.04	287.33	100.00	1199.99	4.38	4.41	-0.77	4.48	350.16	0.05	Other	0
14	1300.00	0.03	51.25	100.00	1299.99	4.40	4.44	-0.78	4.51	350.06	0.06	Other	0
15	1400.00	0.05	64.63	100.00	1399.99	4.44	4.48	-0.72	4.53	350.88	0.02	Other	0
16	1500.00	0.16	344.70	100.00	1499.99	4.59	4.63	-0.72	4.68	351.21	0.16	Other	0
17	1600.00	0.32	319.04	100.00	1599.99	4.93	4.97	-0.94	5.06	349.35	0.19	Other	0
18	1700.00	0.31	321.79	100.00	1699.99	5.34	5.40	-1.29	5.55	346.60	0.02	Other	0
19	1800.00	0.27	319.25	100.00	1799.98	5.71	5.79	-1.61	6.01	344.48	0.04	Other	0
20	1900.00	0.21	305.05	100.00	1899.98	5.98	6.07	-1.91	6.37	342.53	0.08	Other	0
21	2000.00	0.27	319.28	100.00	1999.98	6.25	6.36	-2.21	6.73	340.79	0.08	Other	0
22	2100.00	0.24	319.13	100.00	2099.98	6.58	6.69	-2.51	7.15	339.48	0.03	Other	0
23	2200.00	0.23	312.59	100.00	2199.98	6.86	6.99	-2.79	7.52	338.23	0.03	Other	0
24	2300.00	0.26	311.45	100.00	2299.98	7.13	7.27	-3.11	7.91	336.86	0.03	Other	0
25	2400.00	0.47	298.89	100.00	2399.98	7.45	7.62	-3.64	8.45	334.49	0.22	Other	0
26	2500.00	0.51	298.69	100.00	2499.97	7.83	8.03	-4.39	9.15	331.36	0.04	Other	0
27	2600.00	0.50	297.43	100.00	2599.97	8.21	8.45	-5.16	9.9	328.56	0.01	Other	0
28	2700.00	0.50	301.91	100.00	2699.97	8.61	8.88	-5.92	10.67	326.30	0.04	Other	0
29	2800.00	0.52	317.25	100.00	2799.96	9.14	9.44	-6.60	11.52	325.05	0.14	Other	0
30	2900.00	0.51	344.87	100.00	2899.96	9.89	10.21	-7.02	12.39	325.46	0.25	Other	0
31	3000.00	0.64	17.78	100.00	2999.95	10.85	11.17	-6.97	13.17	328.03	0.35	Other	0
32	3100.00	0.68	19.19	100.00	3099.95	11.96	12.26	-6.60	13.93	331.69	0.04	Other	0
33	3200.00	1.06	30.53	100.00	3199.94	13.34	13.62	-5.94	14.86	336.43	0.42	Other	0
34	3300.00	1.21	31.66	100.00	3299.92	15.08	15.31	-4.92	16.08	342.20	0.15	Other	0
35	3400.00	1.58	34.07	100.00	3399.89	17.18	17.35	-3.59	17.72	348.31	0.37	Other	0
36	3500.00	1.65	31.93	100.00	3499.85	19.61	19.72	-2.06	19.82	354.05	0.09	Other	0
37	3600.00	1.76	32.54	100.00	3599.80	22.19	22.23	-0.47	22.24	358.79	0.11	Other	0
38	3700.00	1.97	33.49	100.00	3699.75	25.00	24.96	1.31	25	3.00	0.21	Other	0
39	3800.00	2.07	32.03	100.00	3799.69	28.04	27.93	3.21	28.11	6.56	0.11	Other	0
40	3900.00	2.22	27.15	100.00	3899.62	31.37	31.18	5.05	31.59	9.21	0.24	Other	0
41	4000.00	2.14	25.84	100.00	3999.54	34.85	34.59	6.75	35.24	11.05	0.09	Other	0
42	4100.00	2.27	29.80	100.00	4099.47	38.33	37.98	8.55	38.93	12.69	0.20	Other	0
43	4200.00	1.89	33.15	100.00	4199.40	41.51	41.08	10.44	42.39	14.25	0.40	Other	0
44	4300.00	1.68	32.08	100.00	4299.36	44.20	43.71	12.12	45.35	15.49	0.21	Other	0
45	4400.00	1.73	30.62	100.00	4399.31	46.81	46.25	13.66	48.22	16.46	0.07	Other	0
46	4500.00	1.82	28.81	100.00	4499.26	49.56	48.94	15.20	51.24	17.25	0.11	Other	0
47	4600.00	1.98	29.22	100.00	4599.21	52.53	51.84	16.81	54.49	17.96	0.16	Other	0
48	4700.00	2.03	31.21	100.00	4699.15	55.63	54.86	18.57	57.92	18.70	0.09	Other	0
49	4800.00	2.12	27.17	100.00	4799.08	58.86	58.02	20.33	61.48	19.31	0.17	Other	0
50	4900.00	2.06	27.77	100.00	4899.02	62.17	61.26	22.01	65.09	19.77	0.06	Other	0
51	5000.00	1.92	27.44	100.00	4998.95	65.32	64.33	23.62	68.53	20.16	0.14	Other	0
52	5100.00	1.97	30.52	100.00	5098.90	68.35	67.30	25.27	71.89	20.58	0.12	Other	0
53	5200.00	1.98	27.93	100.00	5198.84	71.43	70.31	26.95	75.29	20.97	0.09	Other	0
54	5300.00	1.90	28.34	100.00	5298.78	74.49	73.29	28.54	78.65	21.28	0.08	Other	0
55	5400.00	1.90	28.60	100.00	5398.73	77.47	76.21	30.12	81.94	21.57	0.01	Other	0
56	5500.00	1.92	28.74	100.00	5498.67	80.46	79.13	31.72	85.25	21.85	0.02	Other	0
57	5580.00	1.89	30.59	80.00	5578.63	82.83	81.44	33.04	87.89	22.08	0.09	Other	0
58	5595.00	1.92	29.85	15.00	5593.62	83.27	81.87	33.29	88.38	22.13	0.26	Other	0
59	5649.97	2.02	27.30	54.97	5648.56	84.97	83.53	34.19	90.26	22.26	0.24	Other	0
60	5744.23	1.71	35.30	94.26	5742.77	87.66	86.16	35.77	93.29	22.55	0.43	Other	0
61	5839.79	1.58	28.40	95.56	5838.29	90.04	88.48	37.22	95.99	22.81	0.25	Other	0
62	5934.36	1.71	23.30	94.57	5932.82	92.53	90.92	38.40	98.7	22.89	0.21	Other	0
63	6029.12	1.71	31.91	94.76	6027.53	95.09	93.42	39.70	101.51	23.03	0.27	Other	0
64	6123.75	2.02	32.53	94.63	6122.11	97.76	96.02	41.35	104.55	23.30	0.33	Other	0
65	6219.51	1.71	28.93	95.76	6217.82	100.50	98.70	42.94	107.64	23.51	0.35	Other	0
66	6314.14	1.80	29.89	94.63	6312.41	103.09	101.22	44.37	110.52	23.67	0.10	Other	0
67	6408.53	1.89	26.99	94.39	6406.75	105.82	103.89	45.81	113.55	23.80	0.14	Other	0
68	6503.16	1.80	15.39	94.63	6501.33	108.69	106.72	46.92	116.58	23.73	0.41	Other	0
69	6598.47	1.41	14.20	95.31	6596.60	111.30	109.30	47.60	119.21	23.53	0.41	Other	0
70	6693.10	1.41	24.31	94.63	6691.21	113.52	111.49	48.37	121.53	23.45	0.26	Other	0
71	6787.42	1.19	17.50	94.32	6785.50	115.55	113.48	49.14	123.66	23.41	0.28	Other	0
72	6882.30	1.10	5.50	94.88	6880.36	117.41	115.33	49.52	125.51	23.24	0.27	Other	0
73	7165.51	0.70	325.91	283.21	7163.54	121.51	119.46	48.81	129.05	22.22	0.25	Other	0
74	7637.48	1.00	307.10	471.97	7635.46	126.16	124.34	43.91	131.86	19.45	0.09	Other	0
75	7730.80	0.88	288.82	93.32	7728.77	126.82	125.06	42.58	132.11	18.80	0.34	Other	0
76	7824.93	1.10	293.83	94.13	7822.88	127.35	125.66	41.07	132.2	18.10	0.25	Other	0
77	7919.00	1.19	294.71	94.07	7916.93	128.05	126.43	39.36	132.42	17.29	0.10	Other	0
78	8014.19	1.32	285.13	95.19	8012.10	128.66	127.13	37.40	132.52	16.39	0.26	Other	0
79	8110.28	1.71	288.51	96.09	8108.16	129.30	127.87	34.98	132.57	15.30	0.42	Other	0
80	8205.79	2.02	288.12	95.51	8203.62	130.14	128.85	32.02	132.77	13.96	0.32	Other	0
81	8299.73	1.80	279.59	93.94	8297.50	130.77	129.61	29.00	132.81	12.61	0.38	Other	0
82	8394.86	2.11	276.29	95.13	8392.58	131.07	130.05	25.78	132.58	11.21	0.35	Other	0
83	8488.56	2.20	273.92	93.70	8486.21	131.22	130.36	22.27	132.25	9.70	0.14	Other	0
84	8677.57	1.71	269.62	189.01	8675.11	131.17	130.59	15.83	131.55	6.91	0.27	Other	0
85	8771.76	2.11	261.62	94.19	8769.25	130.77	130.33	12.71	130.95	5.57	0.51	Other	0
86	8866.00	2.11	261.62	94.24	8863.43	130.11	129.82	9.28	130.16	4.09	0.00	Other	0
87	8960.34	2.11	263.20	94.34	8957.70	129.50	129.37	5.84	129.5	2.58	0.06	Other	0
88	9054.29	1.58	252.83	93.95	9051.60	128.78	128.78	2.88	128.81	1.28	0.66	Other	0
89	9148.73	1.71	244.61	94.44	9146.00	127.68	127.79	0.37	127.79	0.16	0.28	Other	0
90	9244.00	2.11	255.11	95.27	9241.22	126.49	126.73	-2.61	126.76	358.82	0.56	Other	0
91	9339.00	1.19	167.53	95.00	9336.19	125.01	125.32	-4.09	125.38	358.13	2.50	Other	0
92	9434.00	1.71	128.51	95.00	9431.16	123.23	123.47	-2.77	123.5	358.72	1.14	Other	0
93	9527.00	1.80	114.71	93.00	9524.12	121.86	122.00	-0.36	122	359.83	0.46	Other	0

