

Oilfield Services, Central U.S. Land

Reservoir Development

PathFinder, a Schlumberger Company

9200 West Reno Avenue

Oklahoma City, Oklahoma 73127 USA

Phone: (405) 789-1515

Fax: (405) 789-1519

NM OIL CONSERVATION

ARTESIA DISTRICT

PATHFINDER

A Schlumberger Company

MAR 08 2016

30015 42646

Well Reference:

RECEIVED

0

N 32.13812 W 104.24329

I, Ben Moore certify that; I am employed by PathFinder, a division of Schlumberger Technology Corporation; that I did on the day(s) of November 09, 2015 through November 12, 2015, conduct or supervise the taking of the SlimPulse surveys from a depth of 6710.00 feet to a depth of 11738.00 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 for the Marquardt Federal #17H. Well (Original Hole) API No. 30-015-42646-00 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
Ben Moore
MWD



Subscribed and Sworn to before me this 17th day of November (month) 2015 (yr)

My Commission expires:

September 5, 2016

Michelle Ellwood

Notary Public

Midland, TX
(County State)



(signature)

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NM OIL CONSERVATION

ARTESIA DISTRICT

MAR 6 8 2016

RECEIVED

December 8, 2015

Cimarex
600 N MARIENFELD STREET SUITE 600

MIDLAND, TX 79701

Re:

CLIENT: Cimarex
WELL: Marquardt Federal #17H.
FIELD: Cottonwood Draw; Bone Springs
RIG: H&P 381
COUNTY: Eddy
API NO: 30-015-42646-00
JOB NO: 15MLD2230

0
N 32.13812 W 104.24329

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>
Ben Moore MWD	Marquardt Federal #17H. Original Hole	6710.00 Ft to 11738.00 Ft	November 9, 2015 to November 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

Cimarex Marquardt Federal 17H XEM + MWD 0ft to Update Survey Report

(Non-Def Survey)

Report Date: November 12, 2015 - 03:58 PM
 Client: Cimarex
 Field: NM Eddy County (NAD 83)
 Structure / Slot: Cimarex Marquardt Federal 17H / Cimarex Marquardt Federal 17H
 Well: Cimarex Marquardt Federal 17H
 Borehole: Original Borehole
 UWI / API#: Unknown / Unknown
 Survey Name: Cimarex Marquardt Federal 17H XEM + MWD 0ft to Update
 Survey Date: November 02, 2015
 Tort / AHD / DDI / ERD Ratio: 168.058' / 5031.809 ft / 6.142 / 0.899
 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
 Location Lat / Long: N 32° 0' 17.22135", W 104° 14' 35.83052"
 Location Grid N/E Y/X: N 413954.300 NUS, E 569299.100 NUS
 CRS Grid Convergence Angle: 0.0479°
 Grid Scale Factor: 0.99990998
 Version / Patch: 2.8.572.0

Survey / DLS Computation: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 357.896° (Grid North)
 Vertical Section Origin: 0.000 ft, 0.000 ft
 TVD Reference Datum: RKB
 TVD Reference Elevation: 3285.000 ft above MSL
 Seabed / Ground Elevation: 3260.000 ft above MSL
 Magnetic Declination: 7.622°
 Total Gravity Field Strength: 998.4390mgn (9.80665 Based)
 Gravity Model: GARM
 Total Magnetic Field Strength: 48189.813 nT
 Magnetic Dip Angle: 59.897°
 Declination Date: November 02, 2015
 Magnetic Declination Model: HDGM 2015
 North Reference: Gnd North
 Grid Convergence Used: 0.0479°
 Total Corr Mag North->Grid North: 7.5742°
 Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	TF (°)	BR (°/100ft)	TR (°/100ft)	Closure (ft)	Closure Azimuth (°)
SHL Marquardt Fed 17H [1650] FEL 330' FSL]	0.00	0.00	10.00	0.00	0.00	0.00	0.00	N/A	132.17M	N/A	N/A	0.00	0.00
	180.00	2.11	132.17	178.96	-2.31	-2.22	2.46	1.17	125.09M	1.17	0.00	3.31	132.17
	239.00	2.11	125.09	238.92	-3.72	-3.58	4.15	0.44	128.87M	0.00	-12.00	5.48	130.77
	331.00	2.20	128.87	330.85	-5.90	-5.66	6.91	0.18	141.97M	0.10	4.11	8.93	129.32
	414.00	2.20	141.97	413.79	-8.23	-7.91	9.13	0.60	142.05M	0.00	15.78	12.08	130.91
	485.00	2.20	142.05	484.74	-10.43	-10.06	10.81	0.00	147.46M	0.00	0.11	14.77	132.95
	575.00	1.89	147.46	574.68	-13.11	-12.68	12.67	0.41	147.68M	-0.34	6.01	17.92	135.01
	665.00	2.29	147.68	664.62	-15.94	-15.45	14.43	0.44	145.57M	0.44	0.24	21.14	136.95
	754.00	2.20	145.57	753.56	-18.92	-18.36	18.35	0.14	149.48M	-0.10	-2.37	24.58	138.32
	844.00	2.29	149.48	843.49	-21.96	-21.33	18.24	0.20	147.06M	0.10	4.34	28.06	139.47
	936.00	2.59	147.06	935.40	-25.36	-24.66	20.30	0.34	146.27M	0.33	-2.63	31.94	140.54
	1029.00	2.68	146.27	1028.30	-29.01	-28.23	22.85	0.10	147.37M	0.10	-0.85	36.19	141.26
	1117.00	2.68	147.37	1116.21	-32.53	-31.68	24.90	0.06	142.45M	0.00	1.25	40.29	141.83
	1210.00	3.21	142.45	1209.09	-36.52	-35.57	27.66	0.63	133.58M	0.57	-5.29	45.06	142.13
	1304.00	2.02	133.58	1302.99	-39.85	-38.81	30.46	1.33	128.08M	-1.27	-9.12	49.33	141.87
	1396.00	2.50	128.08	1394.91	-42.30	-41.17	33.21	0.58	126.19M	0.52	-6.30	52.89	141.11
	1490.00	2.50	126.19	1488.83	-44.89	-43.64	36.48	0.09	118.68M	0.00	-2.01	56.88	140.11
	1585.00	3.21	118.68	1583.71	-47.53	-46.14	40.48	0.84	132.47M	0.75	-7.91	61.38	138.74
	1680.00	2.42	132.47	1678.59	-50.29	-48.77	44.29	1.09	123.29M	-0.83	14.52	65.88	137.75
	1775.00	2.90	133.29	1773.49	-53.09	-51.45	47.78	0.67	165.79M	0.51	-9.66	70.21	137.11
	1868.00	1.32	165.79	1866.43	-55.49	-53.78	50.01	2.28	183.28M	-1.70	45.70	73.44	137.08
	1967.00	1.58	163.28	1965.40	-57.97	-56.24	50.21	0.52	189.96M	0.26	17.67	75.40	138.24
	2062.00	1.71	189.96	2060.36	-60.66	-58.95	49.89	0.24	196.15M	0.14	7.03	77.23	139.75
	2157.00	1.71	196.15	2155.32	-63.39	-61.71	49.26	0.19	193.47M	0.00	6.52	78.95	141.40
	2252.00	1.80	193.47	2250.27	-66.18	-64.52	48.51	0.13	197.07M	0.09	-2.82	80.72	143.06
	2347.00	1.71	197.07	2345.23	-68.95	-67.32	47.75	0.15	195.58M	-0.09	3.79	82.54	144.65
	2442.00	1.80	195.58	2440.18	-71.71	-70.12	48.93	0.11	199.89M	0.09	-1.57	84.37	146.20
	2537.00	1.80	199.89	2535.14	-74.52	-72.96	48.02	0.14	200.15M	0.00	4.54	86.28	147.75
	2631.00	1.58	200.15	2629.10	-77.09	-75.56	45.08	0.23	200.85M	-0.23	0.28	87.98	149.18
	2726.00	1.80	200.85	2724.05	-79.68	-78.19	44.09	0.23	202.48M	0.23	0.74	89.78	150.58
	2821.00	1.71	202.48	2819.01	-82.34	-80.89	43.02	0.11	207.75M	-0.09	1.72	91.62	151.99
	2916.00	1.58	207.75	2913.97	-84.77	-83.36	41.87	0.21	205.78M	-0.14	5.55	93.28	153.33
	3011.00	1.71	205.78	3008.93	-87.16	-85.79	40.64	0.15	200.46M	0.14	-2.07	94.93	154.65
	3105.00	1.71	200.46	3102.89	-89.70	-88.37	39.54	0.17	203.36M	0.00	-5.66	96.81	155.89
	3200.00	1.80	203.36	3197.84	-92.36	-91.07	38.46	0.13	206.08M	0.09	3.05	98.85	157.11
	3295.00	1.80	206.08	3292.80	-95.02	-93.78	37.21	0.09	209.29M	0.00	2.86	100.89	158.36
	3390.00	1.71	209.29	3387.75	-97.55	-96.35	35.86	0.14	208.06M	-0.09	3.38	102.81	159.59
	3484.00	1.80	208.06	3481.71	-100.03	-98.88	34.48	0.10	206.87M	0.10	-1.31	104.72	160.78
	3579.00	1.58	206.87	3576.67	-102.46	-101.37	33.18	0.23	206.95M	-0.23	-1.25	106.66	161.87
	3674.00	1.71	206.95	3671.63	-104.85	-103.80	31.95	0.14	208.08M	0.14	0.09	108.60	162.89
	3769.00	1.80	208.08	3766.58	-107.39	-106.38	30.60	0.10	208.76M	0.09	1.16	110.69	163.95
	3864.00	1.71	206.58	3861.54	-109.89	-108.94	29.22	0.10	213.86M	-0.09	0.74	112.79	164.98
	3958.00	1.71	213.86	3955.50	-112.23	-111.33	27.76	0.16	220.98M	0.00	5.43	114.74	166.00
	4053.00	1.49	220.98	4050.46	-114.29	-113.44	26.17	0.31	221.55M	-0.23	7.49	116.42	167.01
	4148.00	1.49	221.55	4145.43	-116.08	-115.30	24.54	0.02	221.07M	0.00	0.60	117.88	167.99
	4243.00	1.49	221.07	4240.40	-117.88	-117.15	22.91	0.01	227.97M	0.00	-0.51	119.37	168.94
	4337.00	1.58	227.97	4334.36	-119.61	-118.94	21.14	0.22	220.98M	0.10	7.34	120.80	169.92
	4432.00	1.49	220.98	4429.33	-121.35	-120.75	19.36	0.22	224.89M	-0.09	-7.36	122.29	170.89
	4527.00	1.58	224.89	4524.29	-123.15	-122.81	17.62	0.15	220.98M	0.09	4.12	123.87	171.82
	4622.00	1.49	220.98	4619.26	-124.95	-124.47	15.89	0.15	217.29M	-0.09	-4.12	125.48	172.73
	4716.00	1.41	217.29	4713.23	-126.74	-126.31	14.39	0.13	214.56M	-0.09	-3.93	127.13	173.50
	4811.00	1.41	214.56	4808.20	-128.58	-128.21	13.01	0.07	202.38M	0.00	-2.87	128.85	174.20
	4906.00	1.41	202.38	4903.17	-130.39	-130.25	11.91	0.32	209.38M	0.00	-12.95	130.79	174.78
	5001.00	1.32	209.38	4998.15	-132.59	-132.29	10.93	0.20	200.99M	-0.09	7.49	132.74	175.28
	5096.00	1.41	200.99	5093.12	-134.80	-134.33	9.97	0.23	201.95M	0.09	-8.83	134.70	175.75
	5190.00	1.41	201.95	5187.09	-136.72	-136.48	9.13	0.03	199.58M	0.00	1.02	136.79	176.17
	5285.00	1.41	199.58	5282.06	-138.87	-138.67	8.30	0.06	204.46M	0.00	-2.49	138.92	176.58
	5380.00	1.41	204.46	5377.03	-141.01	-140.83	7.42	0.13	218.35M	0.00	5.14	141.03	176.98
	5475.00	0.88	218.35	5472.01	-142.60	-142.46	6.48	0.64	221.46M	-0.56	15.67	142.61	177.40
	5569.00	1.01	221.46	5566.00	-143.74	-143.64	5.47	0.14	213.77M	0.14	2.24	143.74	177.82
	5664.00	1.19	213.77	5660.98	-145.15	-145.09	4.37	0.24	227.48M	0.19	-8.09	145.15	178.28
	5759.00	1.19	227.48	5755.96	-146.59	-146.57	3.09	0.30	246.38M	0.00	14.43	146.61	178.79
	5854.00	1.32	246.38	5850.94	-147.64	-147.68	1.36	0.45	242.56M	0.14	19.89	147.69	179.47
	5948.00	1.58	242.56	5944.91	-148.59	-148.71	-0.78	0.29	230.56M	0.28	-4.06	148.71	180.30
	6043.00	1.58	230.56	6039.88	-149.95	-150.15	-2.95	0.35	211.27M	0.00	-12.63	150.18	181.13
	6138.00	2.11	211.27	6134.83	-152.21	-152.47	-4.87	0.85	196.88M	0.56	-20.31	152.55	181.83
	6233.00	3.12	186.66	6229.73	-156.23	-156.54	-6.08	1.57	165.85M	1.06	-25.91	156.85	182.22
	6328.00	1.10	186.65	6324.66	-159.87	-159.99	-8.15	2.24	131.29M	-2.13	-22.12	160.11	182.20

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	TF (°)	BR (°/100ft)	TR (°/100ft)	Closure (ft)	Closure Azimuth (°)
Final Extreme MWD Survey	6422.00	2.02	131.29	6418.63	-161.69	-161.95	-4.69	1.35	125.75M	0.98	-36.55	162.02	181.66
	6517.00	2.29	125.75	6513.56	-164.00	-164.17	-1.89	0.36	128.17M	0.28	-5.83	164.18	180.66
	6612.00	2.11	128.17	6608.49	-166.29	-166.36	1.03	0.21	125.36M	-0.19	2.55	166.36	179.65
	6665.00	1.89	125.36	6661.46	-167.45	-167.47	2.51	0.45	132.14M	-0.42	-5.30	167.49	179.14
	6710.00	2.14	132.14	6706.43	-168.49	-168.46	3.74	0.77	46.52M	0.56	15.07	168.50	178.73
	6740.00	2.07	46.52	6736.42	-168.52	-168.46	4.54	9.54	13.17M	-0.23	-285.40	168.52	178.45
	6788.00	8.44	13.17	6784.20	-164.54	-164.43	5.98	14.18	7.46L	13.27	-69.48	164.54	177.92
	6836.00	14.96	9.88	6831.17	-155.07	-154.89	7.85	13.65	3.01L	13.58	-6.85	155.09	177.10
	6883.00	21.83	8.91	6875.75	-140.53	-140.26	10.24	14.83	5.12L	14.62	-2.06	140.63	175.82
	6931.00	28.65	7.84	6919.14	-120.40	-120.02	13.16	14.26	8.15R	14.21	-2.65	120.73	173.74
	6979.00	34.91	8.20	6959.07	-96.08	-95.55	16.81	13.43	7.11R	13.32	3.32	97.02	170.02
	7026.00	39.68	10.13	6997.25	-67.61	-66.89	21.70	10.01	3.91R	9.94	1.94	70.32	162.02
	7073.00	44.17	10.57	7032.21	-36.04	-36.00	27.35	9.57	6R	9.55	0.94	45.21	142.78
	7121.00	48.37	11.16	7085.38	-3.13	-1.95	33.89	8.79	6.45R	8.75	1.23	33.95	93.29
	7168.00	53.96	11.94	7094.84	32.44	33.90	41.23	11.96	4.49L	11.89	1.86	53.38	50.57
	7215.00	59.34	11.45	7120.67	70.57	72.34	49.18	11.48	37.32L	11.45	-1.04	87.47	34.21
	7262.00	64.19	7.40	7142.91	111.14	113.16	55.92	12.81	41.33L	10.32	-6.62	126.23	28.30
	7310.00	68.68	3.22	7162.10	154.76	156.95	59.97	12.29	37.84L	9.35	-6.71	168.02	20.91
	7356.00	72.72	359.96	7177.30	198.07	200.33	61.15	11.04	2.43L	8.78	-7.09	209.46	16.98
	7405.00	78.26	359.72	7189.57	245.47	247.75	61.02	11.32	11.55R	11.31	-0.49	255.16	13.84
	7452.00	83.37	0.77	7197.07	291.81	294.13	61.22	11.09	10.72L	10.87	2.23	300.44	11.76
	7500.00	89.35	359.64	7200.12	339.66	342.01	61.39	12.68	14.54L	12.46	-2.35	347.48	10.18
	7530.00	91.20	359.16	7199.98	369.85	372.01	61.08	8.37	41.46L	6.17	-1.60	376.99	9.32
	7578.00	91.89	358.55	7199.68	417.62	419.98	60.12	1.92	20.84L	1.44	-1.27	424.28	8.15
	7633.00	92.31	358.39	7196.07	472.58	474.93	58.05	0.82	94.12R	0.76	-0.29	476.53	7.04
	7728.00	92.13	0.68	7192.99	567.47	569.85	58.03	2.60	68.71L	-0.19	2.60	572.79	5.81
	7823.00	92.55	359.78	7189.11	662.31	664.76	58.56	1.22	107.28L	0.44	-1.14	667.34	5.03
	7918.00	92.27	358.88	7185.11	757.20	759.67	57.45	0.99	134.49L	-0.29	-0.95	761.84	4.32
	8013.00	91.72	358.32	7181.81	852.13	854.58	55.13	0.83	96.11L	-0.58	-0.59	856.36	3.69
	8107.00	91.68	358.04	7179.01	946.09	948.50	52.15	0.30	82.83L	-0.03	-0.30	949.83	3.15
	8202.00	92.17	354.19	7175.81	1040.97	1043.21	45.72	4.08	50.33L	0.51	-4.05	1044.21	2.51
	8297.00	93.13	353.03	7171.42	1135.59	1137.51	35.15	1.58	124.35L	1.01	-1.22	1138.05	1.77
	8392.00	92.31	351.83	7166.91	1230.03	1231.57	22.65	1.53	169.31L	-0.86	-1.26	1231.78	1.05
	8487.00	91.41	351.66	7163.82	1324.41	1325.54	9.02	0.96	109.85R	-0.95	-0.18	1325.57	0.39
	8582.00	90.52	354.15	7162.22	1419.02	1419.79	-2.71	2.78	102.53L	-0.94	2.62	1419.79	359.89
	8676.00	90.48	353.97	7161.40	1512.79	1513.28	-12.44	0.20	99.21R	-0.04	-0.19	1513.33	359.53
	8771.00	90.17	355.88	7160.86	1607.65	1607.90	-20.84	2.04	35.54L	-0.33	2.01	1608.04	359.26
	8866.00	90.45	355.68	7160.35	1702.59	1702.65	-27.83	0.36	23.3L	0.29	-0.21	1702.87	359.06
	8961.00	91.10	355.40	7159.07	1797.48	1797.35	-35.22	0.74	161.03L	0.68	-0.29	1797.69	358.88
	9056.00	90.14	355.07	7158.04	1892.36	1892.01	-43.11	1.07	100.91R	-1.01	-0.35	1892.50	358.69
	9150.00	89.66	357.56	7156.20	1986.31	1986.81	-49.15	2.70	73.67R	-0.51	2.65	1986.42	358.58
	9245.00	89.63	358.14	7155.62	2081.31	2080.74	-52.71	0.64	63.25L	0.18	0.61	2081.41	358.55
	9340.00	90.45	356.91	7158.39	2178.31	2178.65	-56.82	1.45	90L	0.65	-1.29	2176.39	358.50
	9435.00	90.45	356.16	7157.65	2271.27	2270.47	-62.58	0.79	99.87R	0.00	-0.79	2271.34	358.42
	9529.00	90.41	356.39	7156.94	2365.23	2364.27	-68.88	0.25	66.25R	-0.04	0.24	2365.27	358.34
	9624.00	90.52	356.64	7156.17	2460.19	2459.09	-74.44	0.29	96.27R	0.12	0.25	2460.22	358.27
	9719.00	90.41	357.64	7155.40	2555.18	2553.97	-79.18	1.06	157.38R	-0.12	1.05	2555.20	358.22
	9813.00	89.69	357.94	7155.32	2649.18	2647.90	-82.80	0.83	43.64R	-0.77	0.32	2649.20	358.21
	9908.00	90.55	358.76	7155.12	2744.17	2742.86	-85.54	1.25	15.33L	0.91	0.86	2744.19	358.21
	10003.00	91.17	358.59	7153.69	2839.16	2837.82	-87.74	0.68	114.2L	0.65	-0.18	2839.18	358.23
	10098.00	90.59	357.30	7152.23	2934.14	2932.75	-91.14	1.49	122.11R	-0.61	-1.36	2934.16	358.22
	10192.00	90.00	358.24	7151.75	3028.14	3026.67	-94.80	1.18	66.45L	-0.63	1.00	3028.16	358.21
	10287.00	90.34	357.46	7151.47	3123.14	3121.61	-98.36	0.90	106.66L	0.36	-0.82	3123.16	358.20
	10382.00	90.14	356.80	7151.07	3218.12	3216.49	-103.12	0.73	10.01L	-0.21	-0.69	3218.14	358.16
	10476.00	90.48	359.74	7150.58	3312.10	3310.33	-108.42	0.37	113.2R	0.36	-0.06	3312.11	358.12
	10571.00	90.24	357.30	7149.96	3407.08	3405.20	-113.35	0.84	67.86L	-0.25	0.59	3407.09	358.09
	10666.00	90.48	356.71	7149.37	3502.07	3500.07	-118.32	0.67	141.89R	0.25	-0.62	3502.07	358.06
	10761.00	89.97	357.11	7148.99	3597.05	3594.93	-123.44	0.68	95.31R	-0.54	0.42	3597.05	358.03
	10855.00	89.93	357.54	7149.08	3691.04	3688.83	-127.83	0.46	68.2R	-0.04	0.46	3691.04	358.02
	10950.00	90.31	358.49	7148.88	3786.04	3783.77	-131.12	1.08	69.74R	0.40	1.00	3786.04	358.02
	11045.00	90.62	359.33	7148.11	3881.03	3878.75	-132.92	0.94	65.1R	0.33	0.88	3881.03	358.04
	11139.00	91.07	0.30	7148.72	3974.97	3972.74	-133.23	1.14	131.42L	0.48	1.03	3974.97	358.08
	11234.00	90.62	359.79	7145.32	4069.90	4067.73	-133.15	0.72	84.2L	-0.47	-0.54	4069.91	358.13
	11329.00	90.76	358.41	7144.17	4164.87	4162.71	-134.64	1.46	79.63L	0.15	-1.45	4164.88	358.15
	11424.00	90.93	357.48	7142.77	4259.88	4257.63	-138.05	1.00	164.06L	0.18	-0.98	4259.87	358.14
	11519.00	90.86	357.46	7141.29	4354.84	4352.53	-142.24	0.08	78.9L	-0.07	-0.02	4354.85	358.13
	11614.00	90.96	358.95	7139.78	4449.82	4447.40	-146.88	0.55	137.94L	0.11	-0.54	4449.83	358.11
	11708.00	90.55	358.58	7138.54	4543.79	4541.25	-152.18	0.59	163.61R	-0.44	-0.39	4543.79	358.08
	11738.00	90.38	356.63	7138.30	4573.78	4571.19	-153.96	0.59	HS	-0.57	0.17	4573.78	358.07
	11805.00	90.38	356.63	7137.85	4640.76	4638.07	-157.89	0.00		0.00	0.00	4640.76	358.05
Projection to Bit													

Survey Type: Non-Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	25.000	1/98.425	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / Cimarex Marquardt Federal 17H XEM +
	1	25.000	25.000	Act Sens	30.000	30.000	SLB_MWD-STD-Depth Only	Original Borehole / Cimarex Marquardt Federal 17H XEM +
	1	25.000	11805.000	Act Sens	30.000	30.000	SLB_MWD-STD	Original Borehole / Cimarex Marquardt Federal 17H XEM +

NM OIL CONSERVATION ARTESIA DISTRICT

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
1220 E. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised July 16, 2010

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-42487	Pool Code 97494	Pool Name Cottonwood Draw; Bone Spring (O)
Property Code 37374	Property Name MARQUARDT FEDERAL	
Well Number 16H	Elevation 3310'	
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	12	25 S	26 E		20	NORTH	610	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 4	1	25 S	26 E		330	NORTH	474	WEST	EDDY
Dedicated Acres 160.21	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

PROPOSED BOTTOM HOLE LOCATION
Lot - N 32°09'55.76"
Long - W 104°15'10.76"
NMSPC- E 566198.3
(NAD-83)

SURFACE LOCATION
Lot - N 32°09'06.35"
Long - W 104°15'11.93"
NMSPC- E 566100.9
(NAD-83)

OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Aricka Easterling* Date: 3/4/16

Printed Name: Aricka Easterling
Email Address: aeasterling@cimarex.com

N 424284.566
E 565341.584
(NAD-83)

N 418980.576
E 565490.677
(NAD-83)

N 413679.892
E 565572.574
(NAD-83)

N 424249.445
E 570831.740
(NAD-83)

N 418952.948
E 570845.386
(NAD-83)

N 413657.232
E 570859.764
(NAD-83)

SURVEYOR CERTIFICATION
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date Surveyed: AUG 16, 2015
Signature: *Gary L. Jones*
Professional Surveyor No. 7977

Certificate No. Gary L. Jones 7977
BASIN SURVEYS 29093

1" = 2000'