

Results of Directional Survey

API number:	30-025-40872		
OGRID:		Operator:	CIMAREX ENERGY CO. OF COLORADO
		Property:	CHIEF 30 STATE # 3H

surface	ULSTR:	E	30	T	20S	R	35E
				1980	FNL	320	FWL

BH Loc	ULSTR:	H	30	T	20S	R	35E
15115	MD	10896.8	TVD	2248	FNL	335	FEL
						4945	FWL

Top Perf/OH	ULSTR:	E	30	T	20S	R	35E
10650	MD	10577.0	TVD	2034	FNL	521	FWL

Bot Perf/OH	ULSTR:	H	30	T	20S	R	35E
15087	MD	10895.7	TVD	2247	FNL	363	FEL
						4917	FWL

	MD	N/S	E/W	VD
	10622	-54.45	178.49	10560.08
TOP PERFS/OH	10650	-54.25	200.79	10577.02
	10654	-54.22	203.97	10579.44
	15043	-265.30	4553.31	10894.06
BOT PERFS/OH	15087	-267.21	4597.24	10895.73
	15115	-268.43	4625.19	10896.79

NEXT TO LAST	15043	-265.30	4553.31	10894.06
LAST READING	15115	-268.43	4625.19	10896.79
TD	15115	-268.43	4625.19	10896.79

Surface Location	1980	FN	320	FW
Projected BHL	2248	FN	4945	FW
Location of				
Top Perfs/OH	2034	FN	521	FW
Bottom Perfs/OH	2247	FN	4917	FW

SUMMARY of Subsurface Locations

Surface Location	E-30-20S-35E	1980	FN	320	FW	Vert. Depth
Top Perfs/OH	E-30-20S-35E	2034	FN	521	FW	10577.02
Bottom Perfs/OH	H-30-20S-35E	2247	FN	4917	FW	10895.73
Projected TD	H-30-20S-35E	2248	FN	4945	FW	10896.79

AUG 29 2013



Chief 30 State #3H Lea Co., NM

KB ELEV: 3732
GLE ELEV: 3707

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	10151.00	0.69	244.03	10148.84	-50.82	-12.16	0.00	0.00	-9.00	
2	10200.90	0.91	244.98	10198.74	-51.12	-12.78	0.45	3.86	-9.61	
3	10874.27	80.00	92.85	10675.64	-73.78	381.09	12.00	-152.19	384.91	
4	11024.21	89.00	92.85	10690.00	-81.21	529.99	6.00	0.00	533.99	
5	15134.75	89.00	92.85	10762.02	-285.90	4634.80	0.00	0.00	4643.61	PBHL

SITE DETAILS

Chief 30 State #3H
Site Centre Northing: 563334.20
Easting: 796846.80
Ground Level: 3707.00
Positional Uncertainty: 0.00
Convergence: 0.45

WELL DETAILS

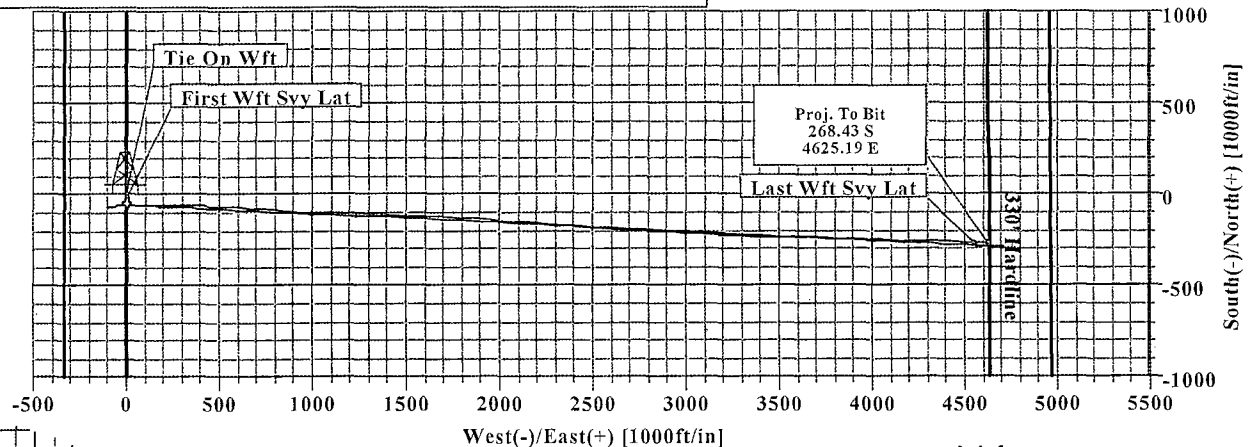
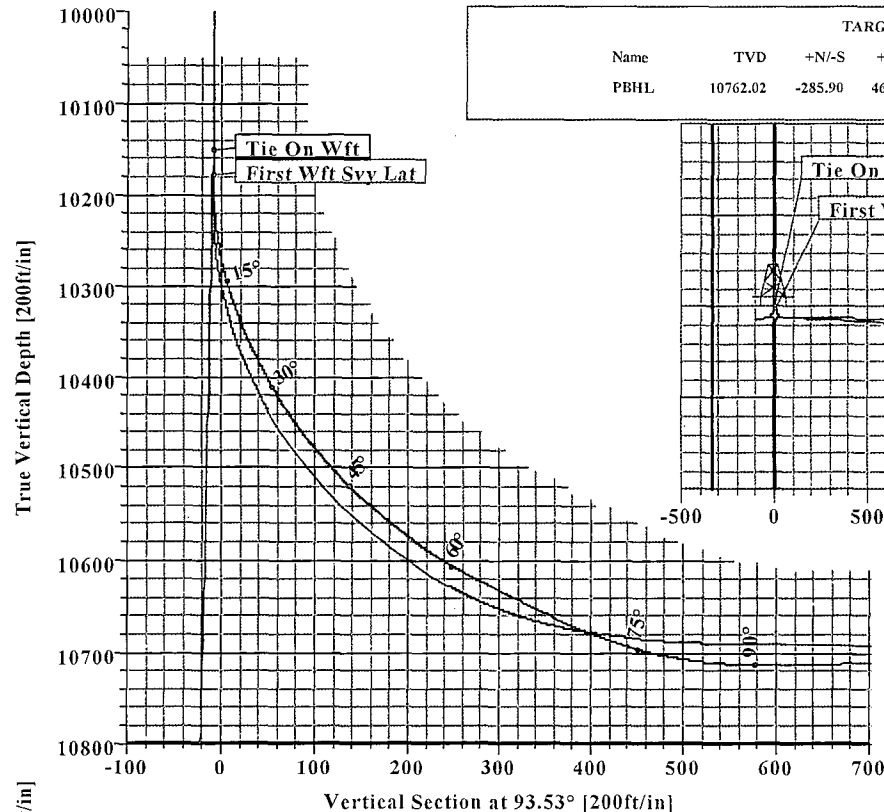
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Chief 30 State #3H	0.00	0.00	563334.20	796846.80	32°32'45.332N	103°30'14.921W	N/A

LEGEND

Chief 30 State #3H, Lateral, Plan #5
Chief 30 State #3H (Pilot)
Lateral
Wft Svy Lat

TARGET DETAILS

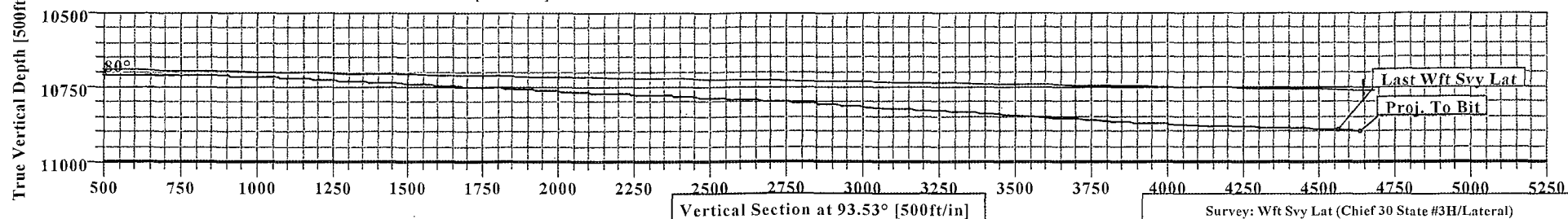
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	10762.02	-285.90	4634.80	563048.30	801481.60	Point



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Survey: Wft Svy Lat (Chief 30 State #3H/Lateral)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
75	15115.00	87.83	92.49	10896.79	-268.43	4625.19	0.00	0.00	4632.95



Created By: Russell W. Joyner

Date: 2/18/2013



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Wft Survey Report X Y's.



Weatherford

Company: Cimarex Energy Field: Lea Co., NM (NAD 83) Site: Chief 30 State #3H Well: Chief 30 State #3H Wellpath: 1	Date: 1/28/2013 Time: 07:54:07 Page: 1 Co-ordinate(NE) Reference: Well: Chief 30 State #3H, Grid North Vertical (TVD) Reference: SITE 3732.0 Section (VS) Reference: Well (0.00N,0.00E,93.53Azi) Survey Calculation Method: Minimum Curvature Db: Sybase
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Survey:	Start Date:
Company:	Engineer:
Tool:	Tied-to:

Site: Chief 30 State #3H

Site Position:	Northing: 563334.20 ft	Latitude: 32 32 45.332 N	
From: Map	Easting: 796846.80 ft	Longitude: 103 30 14.921 W	
Position Uncertainty: 0.00 ft		North Reference: Grid	
Ground Level: 3707.00 ft		Grid Convergence: 0.45 deg	

Well: Chief 30 State #3H	Slot Name:
Well Position: +N/-S 0.00 ft	Northing: 563334.20 ft
+E/-W 0.00 ft	Easting: 796846.80 ft
Position Uncertainty: 0.00 ft	

Wellpath: 1	Drilled From: Surface		
Current Datum: SITE	Tie-on Depth: 0.00 ft		
Magnetic Data: 1/25/2013	Above System Datum: Mean Sea Level		
Field Strength: 48682 nT	Declination: 7.38 deg		
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.46 deg		
ft	+N/-S ft	+E/-W ft	Direction deg
0.00	0.00	0.00	93.53

Survey											
MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	563334.20	796846.80		
100.00	0.34	129.22	100.00	-0.19	0.23	0.34	0.24	563334.01	796847.03		
200.00	0.65	133.98	200.00	-0.77	0.87	0.31	0.91	563333.43	796847.67		
300.00	0.79	147.35	299.99	-1.74	1.65	0.22	1.75	563332.46	796848.45		
400.00	0.94	154.34	399.98	-3.06	2.38	0.18	2.56	563331.14	796849.18		
500.00	1.07	157.21	499.96	-4.66	3.09	0.14	3.37	563329.54	796849.89		
600.00	1.61	149.62	599.93	-6.74	4.16	0.57	4.57	563327.46	796850.96		
700.00	2.07	151.04	699.88	-9.53	5.75	0.46	6.32	563324.67	796852.55		
814.50	2.74	155.70	814.28	-13.83	7.88	0.61	8.71	563320.37	796854.68		
909.30	3.29	157.05	908.95	-18.40	9.87	0.58	10.98	563315.80	796856.67		
1004.00	3.09	159.07	1003.50	-23.29	11.84	0.24	13.25	563310.91	796858.64		
1098.80	2.47	160.71	1098.19	-27.60	13.43	0.66	15.10	563306.60	796860.23		
1193.50	2.19	163.72	1192.81	-31.27	14.61	0.32	16.51	563302.93	796861.41		
1288.30	1.83	168.68	1287.55	-34.49	15.41	0.42	17.51	563299.71	796862.21		
1383.00	1.58	173.32	1382.21	-37.27	15.86	0.30	18.13	563296.93	796862.66		
1477.80	1.30	184.45	1476.98	-39.64	15.93	0.42	18.34	563294.56	796862.73		
1572.50	1.07	204.34	1571.66	-41.52	15.48	0.49	18.01	563292.68	796862.28		
1667.30	1.28	223.48	1666.44	-43.09	14.39	0.47	17.02	563291.11	796861.19		
1762.00	1.41	225.25	1761.12	-44.68	12.84	0.14	15.56	563289.52	796859.64		
1856.80	1.31	235.99	1855.89	-46.10	11.11	0.29	13.93	563288.10	796857.91		
1951.50	1.02	233.87	1950.57	-47.21	9.53	0.31	12.42	563286.99	796856.33		
2046.30	0.60	184.40	2045.36	-48.20	8.81	0.82	11.76	563286.00	796855.61		
2141.00	0.57	164.33	2140.06	-49.15	8.90	0.22	11.91	563285.05	796855.70		
2235.80	0.48	158.02	2234.85	-49.97	9.18	0.11	12.24	563284.23	796855.98		
2330.50	0.44	160.18	2329.55	-50.68	9.45	0.05	12.55	563283.52	796856.25		
2425.30	0.24	156.34	2424.35	-51.20	9.65	0.21	12.79	563283.00	796856.45		
2520.00	0.26	120.86	2519.05	-51.50	9.92	0.16	13.07	563282.70	796856.72		
2614.80	0.32	101.99	2613.84	-51.66	10.36	0.12	13.52	563282.54	796857.16		
2709.50	0.33	96.81	2708.54	-51.75	10.89	0.03	14.05	563282.45	796857.69		
2804.30	0.47	49.61	2803.34	-51.53	11.46	0.36	14.61	563282.67	796858.26		



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Wft Survey Report X Y's.



Weatherford®

Company: Cimarex Energy
Field: Lea Co., NM (NAD 83)
Site: Chief 30 State #3H
Well: Chief 30 State #3H
Wellpath: 1

Date: 1/28/2013 **Time:** 07:54:07 **Page:** 2
Co-ordinate(NE) Reference: Well: Chief 30 State #3H, Grid North
Vertical (TVD) Reference: SITE 3732.0
Section (VS) Reference: Well (0.00N,0.00E,93.53Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
2899.00	0.79	26.67	2898.04	-50.69	12.04	0.42	15.14	563283.51	796858.84	
2993.80	1.13	28.94	2992.82	-49.29	12.79	0.36	15.80	563284.91	796859.59	
3088.50	1.62	39.77	3087.49	-47.45	14.10	0.58	16.99	563286.75	796860.90	
3183.30	2.12	33.89	3182.24	-44.96	15.93	0.56	18.67	563289.24	796862.73	
3278.00	1.99	17.06	3276.88	-41.93	17.39	0.65	19.94	563292.27	796864.19	
3372.80	1.67	2.39	3371.64	-38.98	17.93	0.60	20.30	563295.22	796864.73	
3467.50	2.07	351.55	3466.29	-35.91	17.74	0.56	19.92	563298.29	796864.54	
3562.30	1.75	319.13	3561.04	-33.12	16.54	1.17	18.55	563301.08	796863.34	
3657.00	1.80	281.28	3655.69	-31.74	14.14	1.22	16.06	563302.46	796860.94	
3751.80	1.63	251.60	3750.45	-31.87	11.40	0.94	13.34	563302.33	796858.20	
3846.50	1.56	223.13	3845.12	-33.24	9.24	0.83	11.27	563300.96	796856.04	
3941.30	1.43	206.87	3939.89	-35.23	7.82	0.47	9.97	563298.97	796854.62	
4036.00	1.21	200.69	4034.56	-37.22	6.93	0.28	9.21	563296.98	796853.73	
4130.80	1.16	193.14	4129.34	-39.10	6.36	0.17	8.76	563295.10	796853.16	
4225.50	1.13	174.74	4224.02	-40.96	6.23	0.39	8.74	563293.24	796853.03	
4320.30	1.17	150.11	4318.80	-42.73	6.80	0.52	9.41	563291.47	796853.60	
4415.00	1.17	120.50	4413.48	-44.06	8.11	0.63	10.81	563290.14	796854.91	
4509.80	1.16	86.23	4508.27	-44.49	9.90	0.72	12.62	563289.71	796856.70	
4604.50	1.07	41.48	4602.95	-43.76	11.45	0.90	14.12	563290.44	796858.25	
4699.30	1.27	6.89	4697.73	-42.05	12.16	0.76	14.72	563292.15	796858.96	
4794.00	1.43	343.44	4792.41	-39.88	11.95	0.60	14.38	563294.32	796858.75	
4888.80	1.20	322.18	4887.18	-37.96	11.00	0.56	13.32	563296.24	796857.80	
4983.50	1.09	286.90	4981.86	-36.92	9.53	0.74	11.79	563297.28	796856.33	
5078.30	1.05	260.59	5076.65	-36.80	7.81	0.52	10.06	563297.40	796854.61	
5173.00	0.95	247.70	5171.33	-37.24	6.23	0.26	8.51	563296.96	796853.03	
5267.80	0.99	216.88	5266.12	-38.19	5.01	0.55	7.35	563296.01	796851.81	
5362.50	0.96	200.22	5360.81	-39.59	4.24	0.30	6.67	563294.61	796851.04	
5457.30	0.97	185.83	5455.59	-41.13	3.89	0.26	6.41	563293.07	796850.69	
5552.00	1.00	168.47	5550.28	-42.74	3.97	0.32	6.60	563291.46	796850.77	
5646.80	0.78	140.73	5645.07	-44.05	4.55	0.50	7.25	563290.15	796851.35	Tie On Gyrodata
5801.00	0.65	99.00	5799.26	-45.00	6.07	0.34	8.83	563289.20	796852.87	First Wft Svy
5896.00	0.65	102.01	5894.25	-45.19	7.13	0.04	9.90	563289.01	796853.93	
5991.00	0.76	105.40	5989.24	-45.47	8.27	0.12	11.05	563288.73	796855.07	
6086.00	0.84	114.46	6084.23	-45.93	9.51	0.16	12.32	563288.27	796856.31	
6180.00	0.82	112.72	6178.22	-46.47	10.76	0.03	13.60	563287.73	796857.56	
6275.00	0.78	112.54	6273.22	-46.99	11.98	0.04	14.85	563287.21	796858.78	
6370.00	0.94	117.56	6368.20	-47.59	13.27	0.19	16.17	563286.61	796860.07	
6465.00	0.80	137.60	6463.19	-48.44	14.41	0.35	17.36	563285.76	796861.21	
6559.00	0.72	143.17	6557.19	-49.40	15.20	0.12	18.22	563284.80	796862.00	
6654.00	0.63	139.05	6652.18	-50.27	15.90	0.11	18.97	563283.93	796862.70	
6748.00	0.65	147.26	6746.17	-51.11	16.53	0.10	19.65	563283.09	796863.33	
6938.00	0.60	174.30	6936.16	-53.01	17.21	0.16	20.44	563281.19	796864.01	
7032.00	0.55	176.03	7030.16	-53.95	17.29	0.06	20.58	563280.25	796864.09	
7127.00	0.58	178.53	7125.15	-54.88	17.34	0.04	20.68	563279.32	796864.14	
7222.00	0.66	181.78	7220.15	-55.91	17.33	0.09	20.74	563278.29	796864.13	
7316.00	0.69	187.40	7314.14	-57.01	17.24	0.08	20.72	563277.19	796864.04	
7411.00	0.66	196.28	7409.13	-58.11	17.02	0.11	20.56	563276.09	796863.82	
7505.00	0.73	210.28	7503.13	-59.14	16.56	0.19	20.17	563275.06	796863.36	
7600.00	0.76	215.79	7598.12	-60.18	15.89	0.08	19.56	563274.02	796862.69	
7694.00	0.91	222.36	7692.11	-61.23	15.02	0.19	18.76	563272.97	796861.82	
7789.00	0.84	231.45	7787.10	-62.23	13.97	0.16	17.77	563271.97	796860.77	
7883.00	0.88	236.95	7881.09	-63.05	12.82	0.10	16.68	563271.15	796859.62	



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Wft Survey Report X Y's.



Weatherford®

Company: Cimarex Energy
Field: Lea Co., NM (NAD 83)
Site: Chief 30 State #3H
Well: Chief 30 State #3H
Wellpath: 1

Date: 1/28/2013 **Time:** 07:54:07 **Page:** 3
Co-ordinate(NE) Reference: Well: Chief 30 State #3H, Grid North
Vertical (TVD) Reference: SITE 3732.0
Section (VS) Reference: Well (0.00N,0.00E,93.53Azi)
Survey Calculation Method: Minimum Curvature **Db:** Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
7977.00	0.90	244.54	7975.08	-63.76	11.55	0.13	15.46	563270.44	796858.35	
8071.00	0.91	250.83	8069.07	-64.32	10.18	0.11	14.12	563269.88	796856.98	
8167.00	0.31	296.59	8165.06	-64.46	9.23	0.76	13.18	563269.74	796856.03	
8262.00	0.42	301.56	8260.06	-64.16	8.70	0.12	12.64	563270.04	796855.50	
8356.00	0.69	289.61	8354.05	-63.79	7.88	0.31	11.79	563270.41	796854.68	
8451.00	1.02	307.95	8449.04	-63.08	6.67	0.45	10.54	563271.12	796853.47	
8545.00	1.29	303.16	8543.02	-61.98	5.12	0.30	8.93	563272.22	796851.92	
8640.00	0.56	292.97	8638.01	-61.22	3.80	0.78	7.56	563272.98	796850.60	
8734.00	1.40	287.26	8732.00	-60.70	2.28	0.90	6.01	563273.50	796849.08	
8829.00	0.78	301.59	8826.98	-60.01	0.62	0.71	4.32	563274.19	796847.42	
8923.00	0.88	293.71	8920.97	-59.39	-0.58	0.16	3.07	563274.81	796846.22	
9018.00	0.36	354.45	9015.96	-58.80	-1.28	0.81	2.34	563275.40	796845.52	
9112.00	0.76	324.20	9109.96	-58.00	-1.67	0.52	1.90	563276.20	796845.13	
9207.00	0.88	6.88	9204.95	-56.76	-1.95	0.64	1.54	563277.44	796844.85	
9302.00	1.15	341.82	9299.94	-55.13	-2.16	0.54	1.23	563279.07	796844.64	
9396.00	0.45	264.82	9393.93	-54.27	-2.83	1.21	0.52	563279.93	796843.97	
9491.00	0.87	283.34	9488.92	-54.14	-3.90	0.49	-0.56	563280.06	796842.90	
9586.00	0.30	16.53	9583.92	-53.73	-4.53	0.99	-1.21	563280.47	796842.27	
9680.00	0.80	309.95	9677.91	-53.08	-4.96	0.78	-1.69	563281.12	796841.84	
9775.00	1.19	296.61	9772.90	-52.21	-6.35	0.47	-3.13	563281.99	796840.45	
9870.00	1.19	293.54	9867.88	-51.37	-8.14	0.07	-4.96	563282.83	796838.66	
9964.00	1.40	283.70	9961.85	-50.71	-10.15	0.32	-7.01	563283.49	796836.65	
10059.00	0.25	249.65	10056.84	-50.51	-11.47	1.26	-8.34	563283.69	796835.33	
10154.00	0.70	243.96	10151.84	-50.83	-12.19	0.48	-9.04	563283.37	796834.61	
10279.00	1.26	245.92	10276.82	-51.73	-14.13	0.45	-10.92	563282.47	796832.67	
10374.00	0.78	256.95	10371.81	-52.30	-15.71	0.54	-12.46	563281.90	796831.09	
10468.00	1.20	275.19	10465.79	-52.36	-17.32	0.55	-14.06	563281.84	796829.48	
10563.00	1.28	259.04	10560.77	-52.47	-19.35	0.38	-16.08	563281.73	796827.45	
10657.00	1.56	243.55	10654.74	-53.24	-21.53	0.50	-18.21	563280.96	796825.27	
10752.00	1.82	245.33	10749.70	-54.44	-24.05	0.28	-20.66	563279.76	796822.75	
10847.00	2.25	250.98	10844.64	-55.68	-27.19	0.50	-23.71	563278.52	796819.61	
11036.00	2.94	257.50	11033.45	-57.94	-35.43	0.40	-31.79	563276.26	796811.37	
11131.00	3.17	259.15	11128.31	-58.96	-40.39	0.26	-36.68	563275.24	796806.41	
11226.00	3.57	254.15	11223.15	-60.26	-45.81	0.52	-42.01	563273.94	796800.99	
11321.00	3.93	255.12	11317.94	-61.91	-51.80	0.38	-47.89	563272.29	796795.00	
11415.00	4.31	255.24	11411.70	-63.64	-58.33	0.40	-54.30	563270.56	796788.47	
11510.00	4.54	255.60	11506.42	-65.48	-65.43	0.24	-61.27	563268.72	796781.37	
11605.00	5.15	259.07	11601.08	-67.22	-73.25	0.71	-68.98	563266.98	796773.55	
11698.00	5.51	260.88	11693.67	-68.72	-81.76	0.43	-77.37	563265.48	796765.04	
11793.00	5.80	262.44	11788.21	-70.08	-91.02	0.35	-86.53	563264.12	796755.78	
11890.00	6.38	263.00	11884.66	-71.38	-101.23	0.60	-96.64	563262.82	796745.57	Last Wft Svy

Annotation

MD ft	TVD ft	
5646.80	5645.07	Tie On Gyrodata
5801.00	5799.26	First Wft Svy
11890.00	11884.66	Last Wft Svy



Chief 30 State #3H Lea Co., NM

KB ELEV: 3732
GL ELEV: 3707

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	10151.00	0.69	244.03	10148.84	-50.82	-12.16	0.00	0.00	-9.00	
2	10200.90	0.91	244.98	10198.74	-51.12	-12.78	0.45	3.86	-9.61	
3	10874.27	80.00	92.85	10675.64	-73.78	381.09	12.00	-152.19	384.91	
4	11024.21	89.00	92.85	10690.00	-81.21	529.29	6.00	0.00	533.99	
5	15134.75	89.00	92.85	10762.02	-285.90	4634.80	0.00	0.00	4643.61	PBHL

SITE DETAILS

Chief 30 State #3H
Site Centre Northing: 563334.20
Easting: 796846.80
Ground Level: 3707.00
Positional Uncertainty: 0.00
Convergence: 0.45

WELL DETAILS

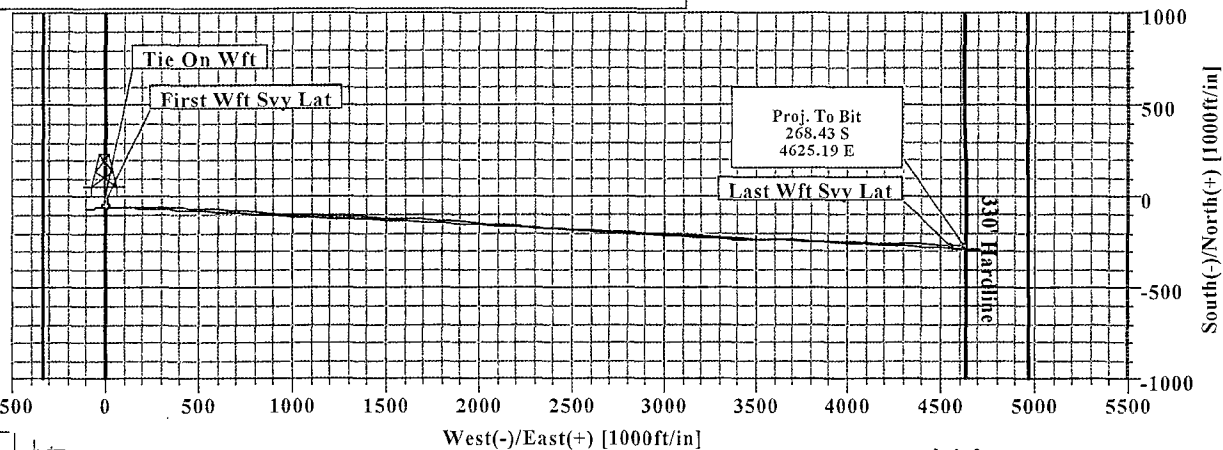
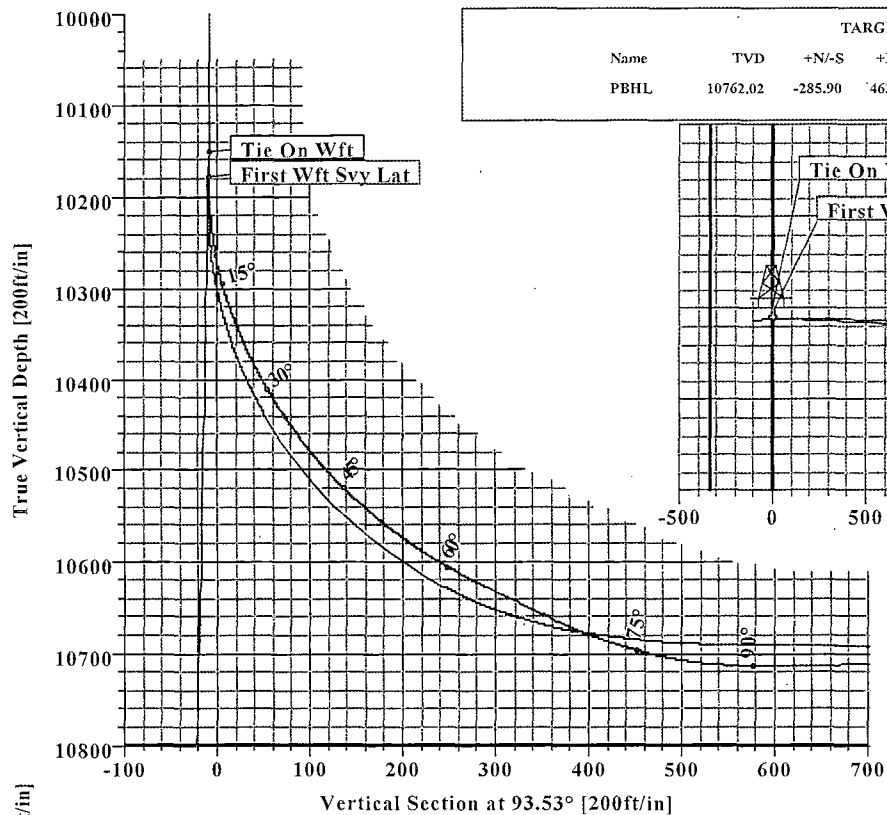
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Chief 30 State #3H	0.00	0.00	563334.20	796846.80	32°32'45.332N	103°30'14.921W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	10762.02	-285.90	4634.80	563048.30	801481.60	Point

LEGEND

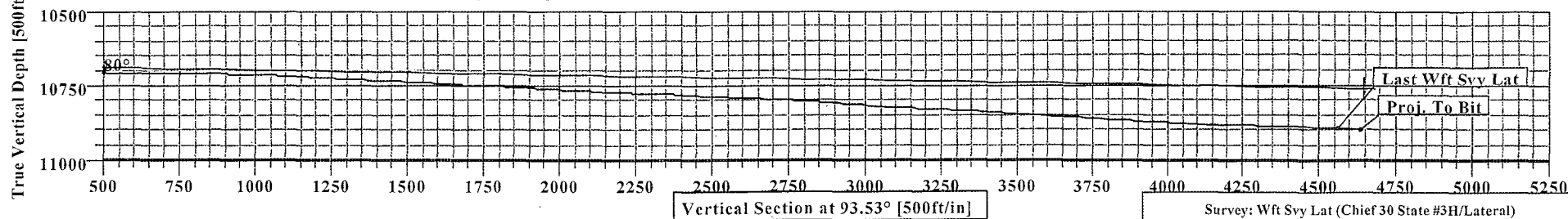
Chief 30 State #3H, Lateral, Plan #5
Chief 30 State #3H (Pilot)
Lateral
Wft Svy Lat



Weatherford

Survey: Wft Svy Lat (Chief 30 State #3H/Lateral)

No	MD	Inc	Az	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
75	15115.00	87.83	92.49	10896.79	-268.43	4625.19	0.00	0.00	4632.95



Survey: Wft Svy Lat (Chief 30 State #3H/Lateral)

Created By: Russell W. Joyner

Date: 2/18/2013



Weatherford

WFT Survey Report X & Y's



Weatherford

Company: Cimarex Energy Field: Lea Co., NM (NAD 83) Site: Chief 30 State #3H Well: Chief 30 State #3H Wellpath: Lateral	Date: 2/18/2013 Co-ordinate(NE) Reference: Well: Chief 30 State #3H, Grid North Vertical (TVD) Reference: SITE 3732.0 Section (VS) Reference: Well (0.00N,0.00E,93.53Azi) Survey Calculation Method: Minimum Curvature	Time: 09:11:29 Page: 1 Db: Sybase
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Survey: Wft Svy Lat Company: Weatherford Tool: MWD;MWD - Standard	Start Date: 2/4/2013 Engineer: Russell W. Joyner Tied-to: User Defined
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Site: Chief 30 State #3H

Site Position: From: Map Position Uncertainty: 0.00 ft Ground Level: 3707.00 ft	Northing: 563334.20 ft Easting: 796846.80 ft	Latitude: 32 32 45.332 N Longitude: 103 30 14.921 W North Reference: Grid Grid Convergence: 0.45 deg
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Well: Chief 30 State #3H **Slot Name:**

Well Position: +N/-S 0.00 ft +E/-W 0.00 ft Position Uncertainty: 0.00 ft	Northing: 563334.20 ft Easting: 796846.80 ft	Latitude: 32 32 45.332 N Longitude: 103 30 14.921 W
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Wellpath: Lateral Current Datum: SITE Magnetic Data: 1/25/2013 Field Strength: 48682 nT Vertical Section: Depth From (TVD) ft	Height 3732.00 ft +N/-S ft 0.00	Drilled From: Pilot Tie-on Depth: 10151.00 ft Above System Datum: Mean Sea Level Declination: 7.38 deg Mag Dip Angle: 60.46 deg +E/-W ft 0.00	Direction deg 93.53
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Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
10154.00	0.70	243.96	10151.84	-50.84	-12.19	0.00	-9.04	563283.36	796834.61	Tie On Wft
10181.00	1.07	171.08	10178.84	-51.16	-12.30	4.05	-9.12	563283.04	796834.50	First Wft Svy L
10212.00	4.16	125.58	10209.80	-52.10	-11.34	11.27	-8.11	563282.10	796835.46	
10244.00	8.03	110.34	10241.62	-53.55	-8.30	13.00	-4.98	563280.65	796838.50	
10275.00	11.95	101.89	10272.14	-54.97	-3.12	13.47	0.27	563279.23	796843.68	
10307.00	16.21	94.67	10303.18	-56.02	4.57	14.37	8.01	563278.18	796851.37	
10338.00	20.58	93.09	10332.59	-56.66	14.33	14.19	17.79	563277.54	796861.13	
10370.00	24.00	91.93	10362.19	-57.18	26.46	10.78	29.93	563277.02	796873.26	
10401.00	27.04	90.97	10390.16	-57.52	39.81	9.90	43.27	563276.68	796886.61	
10433.00	30.90	89.68	10418.15	-57.59	55.30	12.22	58.74	563276.61	796902.10	
10465.00	34.03	89.55	10445.15	-57.48	72.48	9.78	75.88	563276.72	796919.28	
10496.00	37.38	88.54	10470.32	-57.17	90.56	10.97	93.91	563277.03	796937.36	
10528.00	40.81	88.45	10495.15	-56.64	110.73	10.72	114.01	563277.56	796957.53	
10559.00	44.66	87.85	10517.92	-55.96	131.75	12.49	134.95	563278.24	796978.55	
10591.00	48.09	88.13	10539.99	-55.15	154.90	10.74	158.00	563279.05	797001.70	
10622.00	51.12	88.48	10560.08	-54.45	178.49	9.81	181.51	563279.75	797025.29	
10654.00	54.41	90.43	10579.44	-54.22	203.97	11.37	206.92	563279.98	797050.77	
10685.00	57.93	92.00	10596.70	-54.77	229.71	12.11	232.64	563279.43	797076.51	
10717.00	61.44	93.19	10612.85	-56.02	257.30	11.43	260.26	563278.18	797104.10	
10752.00	64.07	92.44	10628.87	-57.55	288.37	7.75	291.37	563276.65	797135.17	
10768.00	64.64	92.44	10635.79	-58.16	302.78	3.56	305.79	563276.04	797149.58	
10802.00	63.47	92.05	10650.67	-59.36	333.33	3.59	336.36	563274.84	797180.13	
10834.00	64.87	91.85	10664.61	-60.34	362.12	4.41	365.15	563273.86	797208.92	
10865.00	67.77	91.52	10677.06	-61.18	390.49	9.41	393.52	563273.02	797237.29	
10897.00	71.58	91.60	10688.17	-61.99	420.48	11.91	423.50	563272.21	797267.28	
10929.00	75.29	91.68	10697.29	-62.87	451.14	11.60	454.15	563271.33	797297.94	
10960.00	78.45	92.13	10704.34	-63.88	481.31	10.29	484.33	563270.32	797328.11	
10992.00	82.42	92.35	10709.65	-65.11	512.83	12.42	515.87	563269.09	797359.63	
11023.00	86.57	93.54	10712.63	-66.69	543.64	13.92	546.72	563267.51	797390.44	
11054.00	90.14	94.36	10713.51	-68.83	574.55	11.82	577.70	563265.37	797421.35	



Weatherford

WFT Survey Report X & Y's



Weatherford

Company: Cimarex Energy
Field: Lea Co., NM (NAD 83)
Site: Chief 30 State #3H
Well: Chief 30 State #3H
Wellpath: Lateral

Date: 2/18/2013 Time: 09:11:29 Page: 2
Co-ordinate(NE) Reference: Well: Chief 30 State #3H, Grid North
Vertical (TVD) Reference: SITE 3732.0
Section (VS) Reference: Well (0.00N,0.00E,93.53Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	DLS deg/100ft	VS ft	MapN ft	MapE ft	Comment
11085.00	90.56	94.67	10713.33	-71.27	605.45	1.68	608.69	563262.93	797452.25	
11146.00	90.99	93.58	10712.50	-75.66	666.29	1.92	669.68	563258.54	797513.09	
11217.00	89.86	94.88	10711.97	-80.89	737.09	2.43	740.67	563253.31	797583.89	
11312.00	89.79	94.32	10712.26	-88.51	831.78	0.59	835.65	563245.69	797678.58	
11406.00	87.76	93.29	10714.27	-94.75	925.55	2.42	929.63	563239.45	797772.35	
11501.00	88.53	92.74	10717.35	-99.74	1020.37	1.00	1024.57	563234.46	797867.17	
11596.00	87.20	91.95	10720.89	-103.63	1115.22	1.63	1119.48	563230.57	797962.02	
11690.00	86.36	91.93	10726.17	-106.80	1209.01	0.89	1213.30	563227.40	798055.81	
11785.00	87.06	91.70	10731.62	-109.81	1303.81	0.78	1308.10	563224.39	798150.61	
11880.00	87.76	92.10	10735.91	-112.95	1398.66	0.85	1402.96	563221.25	798245.46	
11975.00	87.27	92.17	10740.03	-116.49	1493.50	0.52	1497.84	563217.71	798340.30	
12069.00	86.57	92.24	10745.08	-120.10	1587.30	0.75	1591.68	563214.10	798434.10	
12164.00	87.20	92.94	10750.24	-124.39	1682.06	0.99	1686.53	563209.81	798528.86	
12259.00	88.25	93.40	10754.02	-129.64	1776.84	1.21	1781.45	563204.56	798623.64	
12353.00	86.92	93.60	10757.98	-135.37	1870.58	1.43	1875.36	563198.83	798717.38	
12448.00	86.29	93.40	10763.60	-141.16	1965.23	0.70	1970.20	563193.04	798812.03	
12543.00	87.06	94.02	10769.11	-147.30	2059.87	1.04	2065.03	563186.90	798906.67	
12637.00	87.83	94.16	10773.30	-154.00	2153.54	0.83	2158.94	563180.20	799000.34	
12732.00	88.32	95.28	10776.49	-161.81	2248.16	1.29	2253.86	563172.39	799094.96	
12827.00	87.55	94.67	10779.92	-170.04	2342.74	1.03	2348.77	563164.16	799189.54	
12921.00	86.15	93.81	10785.08	-176.98	2436.34	1.75	2442.61	563157.22	799283.14	
13016.00	86.85	93.57	10790.88	-183.08	2530.96	0.78	2537.44	563151.12	799377.76	
13110.00	87.55	93.66	10795.47	-189.00	2624.67	0.75	2631.32	563145.20	799471.47	
13205.00	87.20	93.77	10799.82	-195.15	2719.37	0.39	2726.22	563139.05	799566.17	
13300.00	86.01	94.22	10805.45	-201.76	2813.97	1.34	2821.05	563132.44	799660.77	
13394.00	86.16	93.13	10811.87	-207.77	2907.55	1.17	2914.83	563126.43	799754.35	
13489.00	86.50	93.35	10817.95	-213.13	3002.21	0.43	3009.63	563121.07	799849.01	
13584.00	86.50	92.53	10823.75	-217.99	3096.90	0.86	3104.45	563116.21	799943.70	
13678.00	86.85	92.23	10829.20	-221.89	3190.66	0.49	3198.27	563112.31	800037.46	
13772.00	87.13	92.37	10834.14	-225.66	3284.46	0.33	3292.12	563108.54	800131.26	
13867.00	86.79	92.00	10839.18	-229.27	3379.26	0.53	3386.96	563104.93	800226.06	
13962.00	86.22	91.84	10844.97	-232.45	3474.03	0.62	3481.75	563101.75	800320.83	
14057.00	86.29	91.72	10851.17	-235.39	3568.78	0.15	3576.50	563098.81	800415.58	
14151.00	86.43	91.79	10857.14	-238.27	3662.54	0.17	3670.26	563095.93	800509.34	
14246.00	86.71	91.78	10862.82	-241.22	3757.33	0.29	3765.05	563092.98	800604.13	
14341.00	86.85	91.70	10868.16	-244.10	3852.13	0.17	3859.85	563090.10	800698.93	
14436.00	87.41	91.56	10872.92	-246.80	3946.98	0.61	3954.68	563087.40	800793.78	
14530.00	87.83	91.65	10876.82	-249.43	4040.86	0.46	4048.55	563084.77	800887.66	
14625.00	87.83	91.47	10880.42	-252.01	4135.75	0.19	4143.42	563082.19	800982.55	
14720.00	88.04	91.59	10883.84	-254.55	4230.66	0.25	4238.30	563079.65	801077.46	
14814.00	88.60	91.78	10886.60	-257.31	4324.58	0.63	4332.21	563076.89	801171.38	
14909.00	87.97	91.91	10889.44	-260.37	4419.48	0.68	4427.13	563073.83	801266.28	
15003.00	88.12	92.14	10892.65	-263.69	4513.37	0.29	4521.04	563070.51	801360.17	
15043.00	87.83	92.49	10894.06	-265.30	4553.31	1.14	4561.01	563068.90	801400.11	Last Wft Svy La
15115.00	87.83	92.49	10896.79	-268.43	4625.19	0.00	4632.95	563065.77	801471.99	Proj. To Bit

Annotation

MD ft	TVD ft	
10154.00	10151.84	Tie On Wft
10181.00	10178.84	First Wft Svy Lat
15043.00	10894.06	Last Wft Svy Lat
15115.00	10896.79	Proj. To Bit