

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

AMENDED REPORT
EMNRD-OCD ARTESIA

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45830	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp (Gas)
⁴ Property Code 325314	⁵ Property Name BRADLEY 14-11 FEDERAL COM	⁶ Well Number 1H
⁷ OGRID No. 162683	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3289.0'

"Surface Location

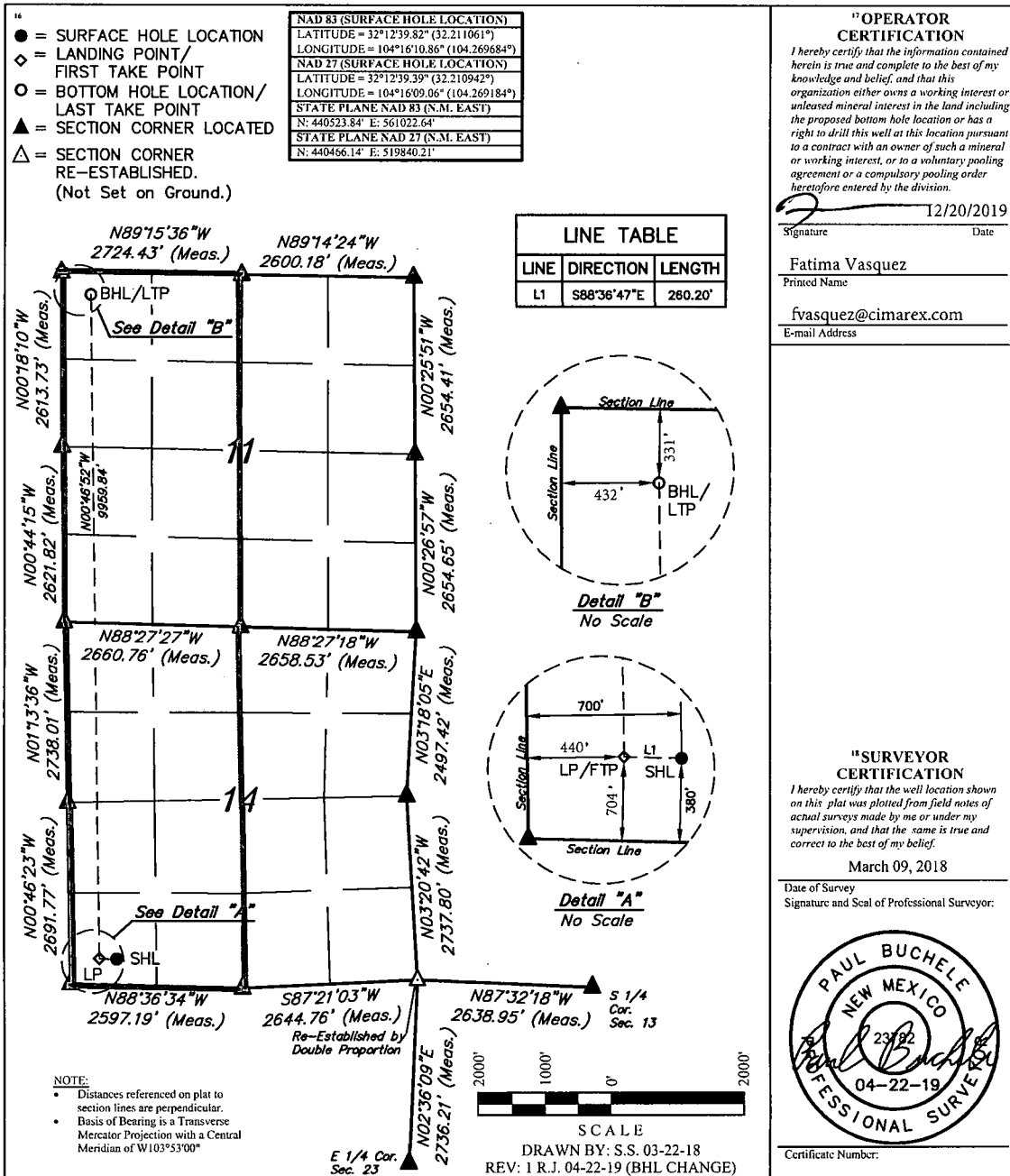
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	14	24S	26E		380	SOUTH	700	WEST	EDDY

"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
D	11	24S	26E		331	NORTH	432	WEST	EDDY

¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



Intent ☐ As Drilled ☒

API # 30-015-45830			
Operator Name: Cimarex Energy Co. of Colorado		Property Name: Bradley 14-11 Federal Com	Well Number 1H

Kick Off Point (KOP)

UL M	Section 14	Township 24S	Range 26E	Lot	Feet 368	From N/S South	Feet 439	From E/W West	County Eddy
Latitude 32.211014					Longitude -104.270528			NAD 83	

First Take Point (FTP)

UL M	Section 14	Township 24S	Range 26E	Lot	Feet 704	From N/S South	Feet 440	From E/W West	County Eddy
Latitude 32.211939					Longitude -104.270542			NAD 83	

Last Take Point (LTP)

UL D	Section 11	Township 24S	Range 26E	Lot	Feet 331	From N/S North	Feet 432	From E/W West	County Eddy
Latitude 32.2383					Longitude -104.271092			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☐ Yes

Is this well an infill well? ☐ No

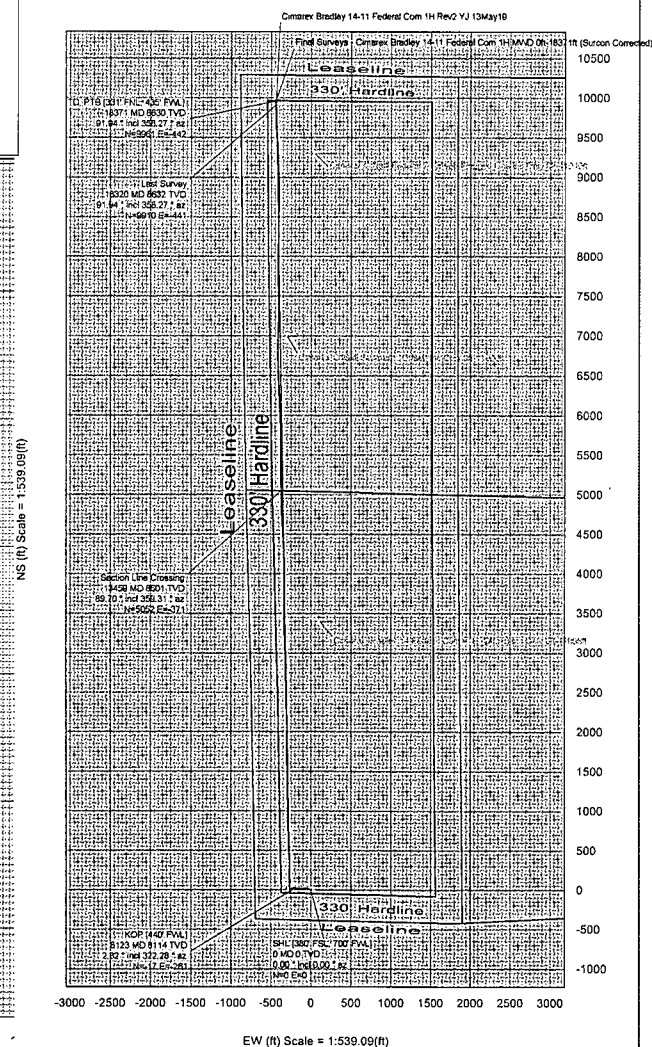
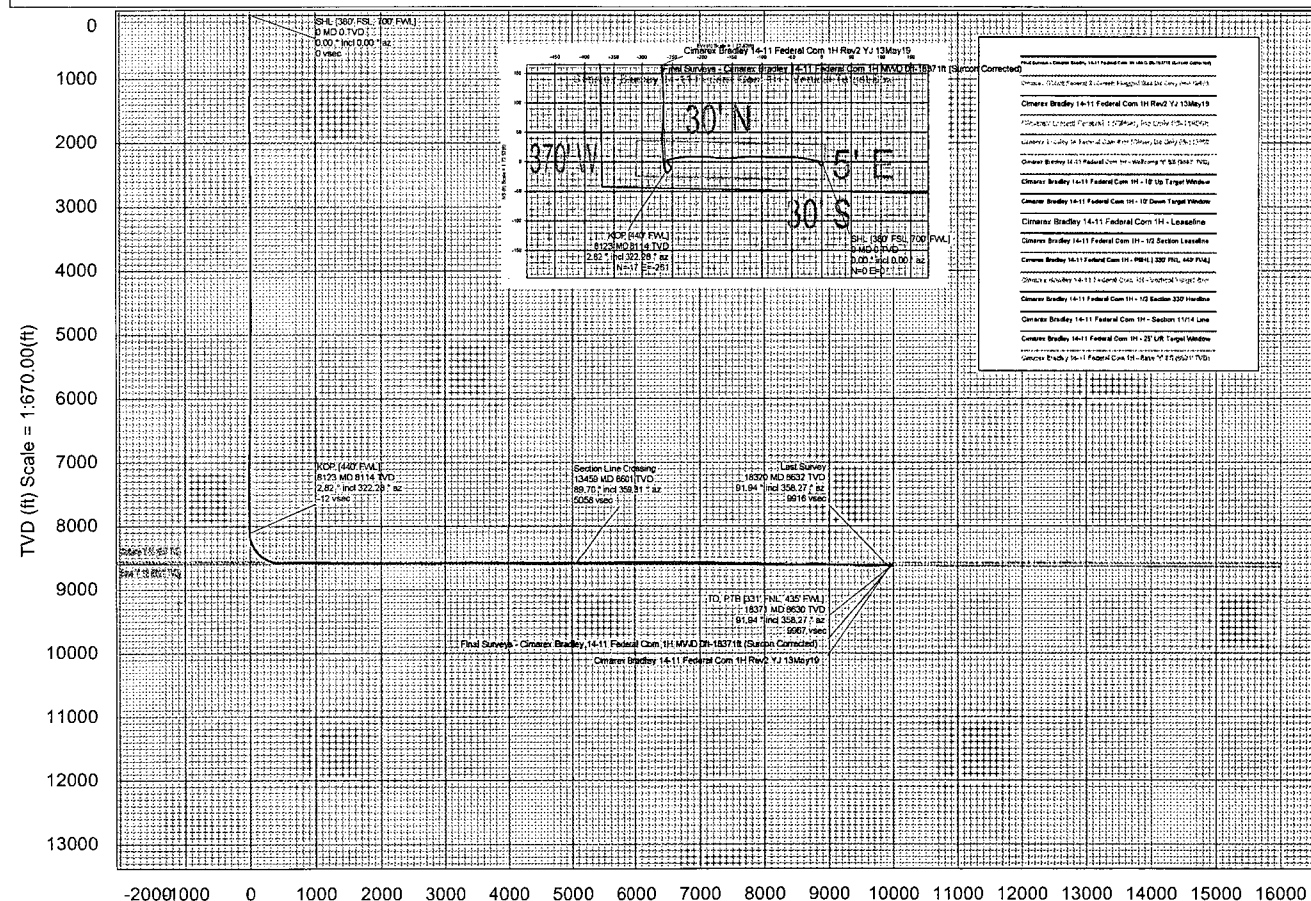
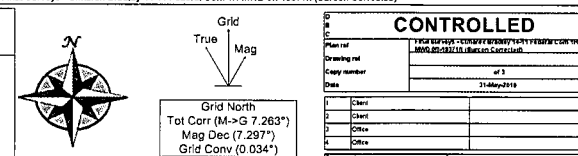
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #			
Operator Name:		Property Name:	Well Number

Borehole:	Well:	Field:	Structure:
Original Borehole	Cimarex Bradley 14-11 Federal Com 1H	NM Eddy County (NAD 83)	Cimarex Bradley 14-11 Federal Com 1H

Gravity & Magnetic Parameters				Surface Location				NAOBS New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HGGM 2019	Dip:	69.859°	Date:	14-May-2019	Lat:	N 32 12 39.82	Nothing:	440623.84NUS	Grid Conv:	0.0339°	Plot:	Climarx Bradley 14-11	TVD Ref:	RXB (3161ft above MSL)
MagDec:	7.297°	FS:	47823.37mT	Gravity FS:	998.45mgm (8.00655 Based)	Lon:	W 104 16 10.86	Eastng:	5461022.84NUS	Scale Fact:	0.99900963	Station:	Federal Com 1H		
												Final Surveys - Climarx Bradley 14-11 Federal Com 1H MWD 0H 10371H (Surcon Corrected)			

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
SHL [380' FSL, 700' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP [440' FWL]	8123.37	2.82	322.28	8113.52	-12.28	-16.84	-261.05	12.43
Section Line Crossing	13458.75	89.70	359.31	8601.18	5058.09	5052.36	-370.86	1.66
Last Survey	18320.00	91.94	358.27	8631.63	9916.34	9910.13	-440.92	2.48
TD, PTB [331' FNIL, 435' FWL]	18371.00	91.94	358.27	8629.90	9967.30	9961.07	-442.46	0.00





Final Surveys - Cimarex Bradley 14-11 Federal Com 1H MWD 0ft-18371ft
(Surcon Corrected) Survey Geodetic Report
(Def Survey)



Report Date: May 31, 2019 - 01:46 PM
Client: Cimarex
Field: NM Eddy County (NAD 83)
Structure / Slot: Cimarex Bradley 14-11 Federal Com 1H / Cimarex Bradley 14-11 Federal Com 1H
Well: Cimarex Bradley 14-11 Federal Com 1H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Final Surveys - Cimarex Bradley 14-11 Federal Com 1H MWD 0ft-18371ft (Surcon Corrected)
Survey Date: May 03, 2019
Tort / AHD / DDI / ERD Ratio: 296.961 ° / 10304.050 ft / 6.814 / 1.193
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 12' 39.81908", W 104° 16' 10.86315"
Location Grid N/E Y/X: N 440523.840 ftUS, E 561022.640 ftUS
CRS Grid Convergence Angle: 0.0339 °
Grid Scale Factor: 0.99990953
Version / Patch: 2.10.760.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 358.995 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3315.000 ft above MSL
Seabed / Ground Elevation: 3289.000 ft above MSL
Magnetic Declination: 7.297 °
Total Gravity Field Strength: 998.4499mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47823.379 nT
Magnetic Dip Angle: 59.858 °
Declination Date: May 14, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.0339 °
Total Corr Mag North->Grid North: 7.2635 °
Local Coord Referenced To: Structure Reference Point

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FEB 05 2020

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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [380' FSL, 700' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	440523.84	561022.64	N 32 12 39.82	W 104 16 10.86
	213.00	0.35	0.66	213.00	0.65	0.65	0.01	0.16	440524.49	561022.65	N 32 12 39.83	W 104 16 10.86
	304.00	0.38	1.38	304.00	1.23	1.23	0.02	0.03	440525.07	561022.66	N 32 12 39.83	W 104 16 10.86
	369.00	0.40	24.80	369.00	1.65	1.65	0.12	0.25	440525.49	561022.76	N 32 12 39.84	W 104 16 10.86
	483.00	0.13	334.38	482.99	2.13	2.13	0.23	0.29	440525.97	561022.87	N 32 12 39.84	W 104 16 10.86
	573.00	0.17	79.22	572.99	2.24	2.25	0.32	0.27	440526.09	561022.96	N 32 12 39.84	W 104 16 10.86
	663.00	0.42	110.11	662.99	2.14	2.16	0.76	0.32	440526.00	561023.40	N 32 12 39.84	W 104 16 10.85
	754.00	0.42	177.99	753.99	1.69	1.71	1.08	0.52	440525.55	561023.72	N 32 12 39.84	W 104 16 10.85
	844.00	0.86	247.89	843.99	1.12	1.13	0.47	0.91	440524.97	561023.11	N 32 12 39.83	W 104 16 10.86
	938.00	1.16	250.55	937.97	0.56	0.54	-1.08	0.32	440524.38	561021.56	N 32 12 39.82	W 104 16 10.88
	1032.00	1.16	244.56	1031.95	-0.13	-0.18	-2.84	0.13	440523.66	561019.80	N 32 12 39.82	W 104 16 10.90
	1127.00	1.02	211.73	1126.94	-1.24	-1.31	-4.15	0.66	440522.53	561018.49	N 32 12 39.81	W 104 16 10.91
	1221.00	1.30	165.74	1220.92	-2.98	-3.06	-4.33	1.00	440520.78	561018.31	N 32 12 39.79	W 104 16 10.91
	1315.00	2.04	126.88	1314.88	-5.05	-5.10	-2.73	1.40	440518.74	561019.91	N 32 12 39.77	W 104 16 10.89
	1410.00	0.85	135.33	1409.85	-6.60	-6.61	-0.88	1.27	440517.23	561021.76	N 32 12 39.75	W 104 16 10.87
	1504.00	0.22	118.25	1503.84	-7.19	-7.19	-0.23	0.68	440516.65	561022.41	N 32 12 39.75	W 104 16 10.87
	1598.00	0.77	57.87	1597.84	-6.95	-6.94	0.46	0.73	440516.90	561023.10	N 32 12 39.75	W 104 16 10.86
	1692.00	0.97	45.39	1691.83	-6.08	-6.05	1.56	0.29	440517.79	561024.20	N 32 12 39.76	W 104 16 10.84
	1738.00	0.83	32.49	1737.82	-5.53	-5.49	2.02	0.53	440518.35	561024.66	N 32 12 39.76	W 104 16 10.84
	1870.00	0.87	356.71	1869.81	-3.73	-3.69	2.48	0.40	440520.15	561025.12	N 32 12 39.78	W 104 16 10.83
	1964.00	1.50	312.15	1963.79	-2.18	-2.15	1.52	1.14	440521.69	561024.16	N 32 12 39.80	W 104 16 10.85
	2058.00	2.52	293.61	2057.73	-0.47	-0.50	-1.28	1.27	440523.34	561021.36	N 32 12 39.81	W 104 16 10.88
	2153.00	3.92	285.57	2152.58	1.32	1.21	-6.33	1.54	440525.05	561016.32	N 32 12 39.83	W 104 16 10.94
	2247.00	5.27	281.28	2246.28	3.16	2.92	-13.65	1.48	440526.76	561008.99	N 32 12 39.85	W 104 16 11.02

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	2341.00	5.36	281.08	2339.87	5.00	4.61	-22.20	0.10	440528.45	561000.45	N 32 12 39.86	W 104 16 11.12
	2435.00	4.74	279.81	2433.51	6.64	6.11	-30.33	0.67	440529.95	560992.31	N 32 12 39.88	W 104 16 11.22
	2530.00	4.01	273.64	2528.23	7.65	6.99	-37.51	0.91	440530.83	560985.13	N 32 12 39.89	W 104 16 11.30
	2624.00	4.95	271.66	2621.94	8.10	7.32	-44.85	1.01	440531.16	560977.80	N 32 12 39.89	W 104 16 11.39
	2718.00	4.51	270.87	2715.62	8.41	7.49	-52.60	0.47	440531.33	560970.05	N 32 12 39.89	W 104 16 11.48
	2812.00	4.51	269.21	2809.33	8.55	7.50	-59.99	0.14	440531.34	560962.66	N 32 12 39.89	W 104 16 11.56
	2907.00	4.32	269.64	2904.05	8.60	7.42	-67.30	0.20	440531.26	560955.34	N 32 12 39.89	W 104 16 11.65
	3001.00	4.24	271.68	2997.79	8.81	7.50	-74.32	0.18	440531.34	560948.33	N 32 12 39.89	W 104 16 11.73
	3095.00	4.25	269.36	3091.53	8.99	7.57	-81.27	0.18	440531.41	560941.38	N 32 12 39.89	W 104 16 11.81
	3190.00	4.03	271.50	3186.28	9.16	7.61	-88.13	0.28	440531.45	560934.52	N 32 12 39.89	W 104 16 11.89
	3284.00	3.96	273.90	3280.05	9.58	7.92	-94.67	0.19	440531.76	560927.98	N 32 12 39.90	W 104 16 11.96
	3379.00	4.72	270.70	3374.78	9.98	8.19	-101.85	0.84	440532.03	560920.80	N 32 12 39.90	W 104 16 12.05
	3473.00	4.51	270.93	3468.48	10.22	8.30	-109.41	0.22	440532.14	560913.24	N 32 12 39.90	W 104 16 12.14
	3567.00	4.24	270.44	3562.20	10.43	8.39	-116.58	0.29	440532.23	560906.07	N 32 12 39.90	W 104 16 12.22
	3662.00	4.03	265.88	3656.96	10.34	8.17	-123.42	0.41	440532.01	560899.23	N 32 12 39.90	W 104 16 12.30
	3756.00	4.55	265.82	3750.69	9.95	7.66	-130.44	0.55	440531.50	560892.21	N 32 12 39.90	W 104 16 12.38
	3850.00	4.41	264.73	3844.40	9.48	7.06	-137.75	0.17	440530.90	560884.90	N 32 12 39.89	W 104 16 12.47
	3945.00	4.19	264.27	3939.14	8.92	6.38	-144.84	0.23	440530.22	560877.81	N 32 12 39.88	W 104 16 12.55
	4039.00	4.21	266.94	4032.88	8.51	5.85	-151.71	0.21	440529.69	560870.95	N 32 12 39.88	W 104 16 12.63
	4133.00	3.83	267.21	4126.65	8.29	5.51	-158.29	0.40	440529.35	560864.37	N 32 12 39.87	W 104 16 12.71
	4228.00	4.39	275.59	4221.41	8.61	5.71	-165.08	0.86	440529.55	560857.58	N 32 12 39.88	W 104 16 12.78
	4322.00	4.33	276.68	4315.14	9.50	6.48	-172.18	0.11	440530.32	560850.48	N 32 12 39.88	W 104 16 12.87
	4416.00	4.24	276.37	4408.87	10.42	7.28	-179.16	0.10	440531.12	560843.50	N 32 12 39.89	W 104 16 12.95
	4511.00	4.15	273.65	4503.62	11.15	7.88	-186.08	0.23	440531.72	560836.58	N 32 12 39.90	W 104 16 13.03
	4605.00	4.06	272.65	4597.38	11.63	8.25	-192.80	0.12	440532.09	560829.86	N 32 12 39.90	W 104 16 13.11
	4699.00	4.00	269.98	4691.15	11.90	8.41	-199.40	0.21	440532.25	560823.26	N 32 12 39.90	W 104 16 13.18
	4793.00	3.76	269.58	4784.93	11.99	8.38	-205.76	0.26	440532.22	560816.90	N 32 12 39.90	W 104 16 13.26
	4888.00	3.74	268.21	4879.73	11.98	8.26	-211.97	0.10	440532.10	560810.69	N 32 12 39.90	W 104 16 13.33
	4983.00	3.64	268.17	4974.53	11.89	8.07	-218.08	0.11	440531.91	560804.58	N 32 12 39.90	W 104 16 13.40
	5078.00	3.58	267.95	5069.34	11.80	7.87	-224.06	0.06	440531.71	560798.60	N 32 12 39.90	W 104 16 13.47
	5172.00	3.36	265.61	5163.17	11.58	7.55	-229.74	0.28	440531.39	560792.92	N 32 12 39.90	W 104 16 13.54
	5266.00	3.29	262.69	5257.01	11.12	7.00	-235.16	0.19	440530.84	560787.50	N 32 12 39.89	W 104 16 13.60
	5360.00	2.80	263.75	5350.88	10.62	6.41	-240.12	0.52	440530.24	560782.54	N 32 12 39.88	W 104 16 13.66
	5454.00	2.66	261.29	5444.77	10.11	5.83	-244.56	0.19	440529.66	560778.10	N 32 12 39.88	W 104 16 13.71
	5548.00	2.35	256.95	5538.68	9.42	5.06	-248.59	0.39	440528.90	560774.07	N 32 12 39.87	W 104 16 13.76
	5643.00	2.17	252.14	5633.61	8.49	4.07	-252.20	0.28	440527.91	560770.46	N 32 12 39.86	W 104 16 13.80
	5737.00	1.56	255.47	5727.56	7.68	3.20	-255.13	0.66	440527.04	560767.53	N 32 12 39.85	W 104 16 13.83
	5831.00	0.92	262.76	5821.54	7.29	2.79	-257.12	0.70	440526.63	560765.54	N 32 12 39.85	W 104 16 13.86
	5926.00	0.50	280.14	5916.53	7.29	2.76	-258.29	0.49	440526.60	560764.38	N 32 12 39.85	W 104 16 13.87
	6020.00	0.58	206.46	6010.52	6.95	2.41	-258.90	0.69	440526.25	560763.76	N 32 12 39.84	W 104 16 13.88
	6115.00	1.19	161.62	6105.51	5.58	1.04	-258.81	0.93	440524.88	560763.86	N 32 12 39.83	W 104 16 13.88
	6209.00	1.55	147.60	6199.49	3.56	-0.96	-257.82	0.52	440522.88	560764.85	N 32 12 39.81	W 104 16 13.86
	6303.00	1.59	145.44	6293.45	1.39	-3.11	-256.40	0.08	440520.73	560766.27	N 32 12 39.79	W 104 16 13.85
	6397.00	1.34	143.97	6387.42	-0.59	-5.07	-255.01	0.27	440518.77	560767.65	N 32 12 39.77	W 104 16 13.83
	6492.00	1.12	138.41	6482.40	-2.21	-6.66	-253.74	0.26	440517.18	560768.92	N 32 12 39.75	W 104 16 13.82
	6586.00	1.08	138.23	6576.38	-3.58	-8.01	-252.54	0.04	440515.83	560770.12	N 32 12 39.74	W 104 16 13.80
	6680.00	0.90	127.00	6670.37	-4.70	-9.11	-251.36	0.28	440514.73	560771.30	N 32 12 39.73	W 104 16 13.79
	6775.00	1.46	204.39	6765.35	-6.26	-10.67	-251.26	1.62	440513.18	560771.40	N 32 12 39.72	W 104 16 13.79
	6869.00	1.67	210.29	6859.32	-8.51	-12.94	-252.45	0.28	440510.90	560770.21	N 32 12 39.69	W 104 16 13.80
	6963.00	1.67	225.94	6953.28	-10.61	-15.07	-254.12	0.48	440508.77	560768.54	N 32 12 39.67	W 104 16 13.82
	7058.00	1.69	222.10	7048.24	-12.58	-17.08	-256.06	0.12	440506.77	560766.61	N 32 12 39.65	W 104 16 13.84
	7152.00	1.17	220.01	7142.21	-14.32	-18.84	-257.60	0.56	440505.00	560765.06	N 32 12 39.63	W 104 16 13.86
	7247.00	0.44	248.13	7237.20	-15.18	-19.72	-258.57	0.85	440504.12	560764.10	N 32 12 39.63	W 104 16 13.87
	7341.00	0.44	340.70	7331.20	-14.97	-19.51	-259.02	0.68	440504.33	560763.64	N 32 12 39.63	W 104 16 13.88
	7435.00	0.31	159.21	7425.20	-14.86	-19.41	-259.05	0.80	440504.43	560763.61	N 32 12 39.63	W 104 16 13.88
	7529.00	0.20	221.80	7519.19	-15.22	-19.77	-259.07	0.30	440504.07	560763.59	N 32 12 39.62	W 104 16 13.88
	7624.00	0.32	7.08	7614.19	-15.08	-19.63	-259.15	0.52	440504.21	560763.52	N 32 12 39.63	W 104 16 13.88
	7718.00	0.89	25.67	7708.19	-14.17	-18.71	-258.80	0.63	440505.13	560763.87	N 32 12 39.64	W 104 16 13.88

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	7812.00	0.69	21.87	7802.18	-12.99	-17.53	-258.27	0.22	440506.31	560764.39	N 32 12 39.65	W 104 16 13.87
	7906.00	0.23	285.84	7896.18	-12.42	-16.95	-258.24	0.80	440506.89	560764.42	N 32 12 39.65	W 104 16 13.87
	8001.00	0.58	251.59	7991.17	-12.51	-17.05	-258.88	0.43	440506.79	560763.78	N 32 12 39.65	W 104 16 13.88
	8038.00	0.69	251.82	8028.17	-12.63	-17.18	-259.27	0.30	440506.66	560763.39	N 32 12 39.65	W 104 16 13.88
	8107.00	1.54	277.55	8097.16	-12.61	-17.19	-260.58	1.40	440506.65	560762.08	N 32 12 39.65	W 104 16 13.90
KOP [440' FWL]	8123.37	2.82	322.28	8113.52	-12.26	-16.84	-261.05	12.43	440507.00	560761.62	N 32 12 39.65	W 104 16 13.90
	8138.00	4.46	334.84	8128.12	-11.45	-16.04	-261.51	12.43	440507.80	560761.15	N 32 12 39.66	W 104 16 13.91
	8170.00	8.96	348.26	8159.89	-7.87	-12.47	-262.55	14.80	440511.37	560760.12	N 32 12 39.70	W 104 16 13.92
	8201.00	13.34	352.74	8190.30	-1.94	-6.56	-263.49	14.39	440517.28	560759.17	N 32 12 39.76	W 104 16 13.93
	8248.00	20.14	354.63	8235.28	11.54	6.89	-264.94	14.51	440530.73	560757.73	N 32 12 39.89	W 104 16 13.95
	8296.00	24.50	356.51	8279.68	29.73	25.06	-266.31	9.20	440548.90	560756.35	N 32 12 40.07	W 104 16 13.96
	8343.00	28.09	1.60	8321.81	50.53	45.86	-266.60	9.01	440569.70	560756.07	N 32 12 40.27	W 104 16 13.97
	8390.00	29.51	3.06	8363.00	73.13	68.48	-265.67	3.37	440592.31	560756.99	N 32 12 40.50	W 104 16 13.95
	8437.00	35.83	0.99	8402.54	98.45	93.82	-264.82	13.65	440617.65	560757.85	N 32 12 40.75	W 104 16 13.94
	8484.00	42.14	357.31	8439.06	127.99	123.36	-265.32	14.30	440647.19	560757.35	N 32 12 41.04	W 104 16 13.95
	8531.00	48.11	356.31	8472.21	161.26	156.60	-267.19	12.79	440680.42	560755.48	N 32 12 41.37	W 104 16 13.97
	8579.00	54.73	358.74	8502.13	198.75	194.06	-268.77	14.35	440717.88	560753.90	N 32 12 41.74	W 104 16 13.99
	8626.00	61.51	2.48	8526.94	238.60	233.93	-268.30	15.93	440757.75	560754.37	N 32 12 42.14	W 104 16 13.98
	8673.00	65.73	1.89	8547.82	280.64	276.00	-266.70	9.05	440799.81	560755.97	N 32 12 42.55	W 104 16 13.97
	8720.00	69.84	1.18	8565.59	324.09	319.49	-265.53	8.86	440843.30	560757.13	N 32 12 42.98	W 104 16 13.95
	8768.00	76.00	358.20	8579.68	369.95	365.34	-265.80	14.14	440889.15	560756.86	N 32 12 43.44	W 104 16 13.95
	8806.00	82.18	356.10	8586.87	407.22	402.59	-267.66	17.14	440926.39	560755.00	N 32 12 43.80	W 104 16 13.98
	8893.00	91.18	358.59	8591.91	493.94	489.25	-271.67	10.73	441013.05	560750.99	N 32 12 44.66	W 104 16 14.02
	8988.00	92.92	358.32	8588.51	588.87	584.15	-274.23	1.85	441107.94	560748.43	N 32 12 45.60	W 104 16 14.05
	9082.00	91.68	358.44	8584.74	682.79	678.04	-276.89	1.33	441201.81	560745.78	N 32 12 46.53	W 104 16 14.08
	9176.00	90.67	357.64	8582.81	776.75	771.96	-280.10	1.37	441295.73	560742.56	N 32 12 47.46	W 104 16 14.12
	9270.00	89.44	358.62	8582.72	870.74	865.91	-283.17	1.67	441389.67	560739.50	N 32 12 48.39	W 104 16 14.15
	9364.00	88.54	359.39	8584.37	964.73	959.88	-284.80	1.26	441483.63	560737.86	N 32 12 49.32	W 104 16 14.17
	9459.00	89.89	359.35	8585.68	1059.71	1054.86	-285.85	1.42	441578.60	560736.82	N 32 12 50.26	W 104 16 14.18
	9553.00	89.78	359.09	8585.95	1153.71	1148.85	-287.13	0.30	441672.59	560735.54	N 32 12 51.19	W 104 16 14.20
	9647.00	87.76	358.84	8587.96	1247.68	1242.81	-288.82	2.17	441766.53	560733.84	N 32 12 52.12	W 104 16 14.22
	9741.00	89.50	358.69	8590.21	1341.65	1336.76	-290.85	1.86	441860.47	560731.82	N 32 12 53.05	W 104 16 14.24
	9836.00	91.57	359.04	8589.32	1436.64	1431.73	-292.73	2.21	441955.44	560729.94	N 32 12 53.99	W 104 16 14.26
	9930.00	89.72	359.11	8588.27	1530.63	1525.71	-294.25	1.97	442049.41	560728.42	N 32 12 54.92	W 104 16 14.28
	10024.00	89.10	359.81	8589.23	1624.62	1619.70	-295.13	0.99	442143.39	560727.53	N 32 12 55.85	W 104 16 14.29
	10119.00	90.84	359.89	8589.28	1719.61	1714.69	-295.38	1.83	442238.37	560727.28	N 32 12 56.79	W 104 16 14.29
	10213.00	88.09	0.27	8590.16	1813.58	1808.68	-295.25	2.95	442332.35	560727.42	N 32 12 57.72	W 104 16 14.29
	10307.00	88.37	359.91	8593.07	1907.52	1902.63	-295.10	0.49	442426.30	560727.56	N 32 12 58.65	W 104 16 14.28
	10402.00	87.37	359.03	8596.60	2002.45	1997.56	-295.98	1.40	442521.22	560726.69	N 32 12 59.59	W 104 16 14.29
	10496.00	90.28	358.95	8598.52	2096.42	2091.52	-297.64	3.10	442615.16	560725.03	N 32 13 0.52	W 104 16 14.31
	10590.00	88.99	358.13	8599.12	2190.41	2185.48	-300.03	1.63	442709.12	560722.63	N 32 13 1.45	W 104 16 14.34
	10684.00	90.95	358.42	8599.17	2284.40	2279.44	-302.86	2.11	442803.06	560719.81	N 32 13 2.38	W 104 16 14.37
	10779.00	89.05	358.63	8599.17	2379.39	2374.40	-305.31	2.01	442898.02	560717.36	N 32 13 3.32	W 104 16 14.40
	10873.00	88.43	358.78	8601.24	2473.36	2468.35	-307.43	0.68	442991.96	560715.24	N 32 13 4.25	W 104 16 14.42
	10967.00	90.95	359.07	8601.75	2567.36	2562.33	-309.19	2.70	443085.93	560713.47	N 32 13 5.18	W 104 16 14.44
	11061.00	89.38	359.10	8601.48	2661.35	2656.31	-310.70	1.67	443179.91	560711.97	N 32 13 6.11	W 104 16 14.46
	11155.00	90.84	359.27	8601.30	2755.35	2750.30	-312.03	1.56	443273.88	560710.64	N 32 13 7.04	W 104 16 14.48
	11250.00	91.96	359.19	8598.97	2850.32	2845.26	-313.31	1.18	443368.84	560709.36	N 32 13 7.98	W 104 16 14.49
	11344.00	90.34	358.40	8597.09	2944.29	2939.22	-315.29	1.92	443462.78	560707.38	N 32 13 8.90	W 104 16 14.51
	11438.00	88.10	357.27	8598.37	3038.26	3033.13	-318.84	2.67	443556.69	560703.83	N 32 13 9.83	W 104 16 14.55
	11532.00	89.78	357.12	8600.11	3132.19	3127.00	-323.43	1.79	443650.55	560699.23	N 32 13 10.76	W 104 16 14.61
	11627.00	91.57	357.04	8598.99	3227.13	3221.87	-328.27	1.89	443745.41	560694.40	N 32 13 11.70	W 104 16 14.66
	11721.00	90.73	359.09	8597.10	3321.09	3315.79	-331.45	2.36	443839.32	560691.22	N 32 13 12.63	W 104 16 14.70
	11816.00	89.72	359.51	8596.73	3416.09	3410.78	-332.61	1.15	443934.30	560690.06	N 32 13 13.57	W 104 16 14.71
	11910.00	89.83	0.57	8597.10	3510.07	3504.78	-332.54	1.13	444028.29	560690.13	N 32 13 14.50	W 104 16 14.71
	12004.00	88.66	0.30	8598.34	3604.03	3598.77	-331.83	1.28	444122.27	560690.84	N 32 13 15.43	W 104 16 14.70
	12098.00	91.34	0.70	8598.34	3697.99	3692.75	-331.01	2.88	444216.25	560691.66	N 32 13 16.36	W 104 16 14.69

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	12192.00	89.83	359.86	8597.38	3791.96	3786.74	-330.55	1.84	444310.23	560692.12	N 32 13 17.29	W 104 16 14.68
	12287.00	87.81	358.93	8599.33	3886.93	3881.71	-331.55	2.34	444405.19	560691.12	N 32 13 18.23	W 104 16 14.70
	12381.00	92.52	359.76	8599.06	3980.90	3975.68	-332.63	5.09	444499.15	560690.05	N 32 13 19.16	W 104 16 14.71
	12475.00	87.53	359.32	8599.02	4074.87	4069.65	-333.38	5.33	444593.11	560689.29	N 32 13 20.09	W 104 16 14.72
	12570.00	89.05	358.70	8601.86	4169.82	4164.59	-335.02	1.73	444688.04	560687.65	N 32 13 21.03	W 104 16 14.73
	12664.00	90.62	358.51	8602.13	4263.82	4258.55	-337.31	1.68	444782.00	560685.36	N 32 13 21.96	W 104 16 14.76
	12758.00	90.00	357.32	8601.62	4357.80	4352.49	-340.73	1.43	444875.93	560681.94	N 32 13 22.89	W 104 16 14.80
	12852.00	89.44	356.72	8602.08	4451.74	4446.36	-345.62	0.87	444969.79	560677.06	N 32 13 23.82	W 104 16 14.86
	12947.00	90.17	356.50	8602.40	4546.65	4541.19	-351.23	0.80	445064.61	560671.44	N 32 13 24.76	W 104 16 14.92
	13041.00	89.55	356.20	8602.63	4640.55	4635.00	-357.22	0.73	445158.41	560665.46	N 32 13 25.69	W 104 16 14.99
	13135.00	90.28	356.27	8602.77	4734.44	4728.80	-363.39	0.78	445252.20	560659.28	N 32 13 26.61	W 104 16 15.06
	13230.00	90.34	357.66	8602.26	4829.38	4823.66	-368.42	1.46	445347.05	560654.25	N 32 13 27.55	W 104 16 15.12
	13324.00	91.23	0.45	8600.97	4923.36	4917.63	-369.97	3.12	445441.01	560652.70	N 32 13 28.48	W 104 16 15.14
	13418.00	89.05	359.14	8600.74	5017.34	5011.62	-370.31	2.71	445535.00	560652.37	N 32 13 29.41	W 104 16 15.14
Section Line Crossing	13458.75	89.70	359.31	8601.18	5058.09	5052.36	-370.86	1.66	445575.74	560651.82	N 32 13 29.82	W 104 16 15.15
	13512.00	90.56	359.53	8601.06	5111.34	5105.61	-371.40	1.66	445628.98	560651.28	N 32 13 30.34	W 104 16 15.15
	13607.00	91.18	359.04	8599.62	5206.33	5200.59	-372.58	0.83	445723.95	560650.09	N 32 13 31.28	W 104 16 15.16
	13701.00	90.17	0.61	8598.51	5300.30	5294.58	-372.87	1.99	445817.93	560649.81	N 32 13 32.21	W 104 16 15.17
	13795.00	89.38	359.88	8598.88	5394.28	5388.58	-372.47	1.14	445911.92	560650.21	N 32 13 33.14	W 104 16 15.16
	13890.00	90.78	359.80	8598.74	5489.27	5483.57	-372.73	1.48	446006.91	560649.94	N 32 13 34.08	W 104 16 15.16
	13984.00	91.74	359.50	8596.68	5583.24	5577.55	-373.31	1.07	446100.87	560649.37	N 32 13 35.01	W 104 16 15.17
	14078.00	92.24	359.05	8593.41	5677.18	5671.48	-374.50	0.72	446194.80	560648.18	N 32 13 35.94	W 104 16 15.18
	14172.00	91.40	359.63	8590.43	5771.13	5765.43	-375.58	1.09	446288.74	560647.10	N 32 13 36.87	W 104 16 15.20
	14267.00	88.54	358.31	8590.48	5866.12	5860.40	-377.28	3.32	446383.70	560645.39	N 32 13 37.81	W 104 16 15.21
	14361.00	89.66	357.66	8591.95	5960.09	5954.33	-380.59	1.38	446477.62	560642.09	N 32 13 38.74	W 104 16 15.25
	14455.00	91.06	358.09	8591.36	6054.07	6048.26	-384.07	1.56	446571.54	560638.60	N 32 13 39.67	W 104 16 15.29
	14549.00	88.54	356.31	8591.69	6148.01	6142.14	-388.67	3.28	446665.41	560634.01	N 32 13 40.60	W 104 16 15.35
	14643.00	90.50	356.97	8592.48	6241.92	6235.97	-394.17	2.20	446759.23	560628.50	N 32 13 41.53	W 104 16 15.41
	14738.00	91.85	357.88	8590.53	6336.86	6330.85	-398.44	1.71	446854.10	560624.23	N 32 13 42.47	W 104 16 15.46
	14832.00	89.89	356.54	8589.10	6430.80	6424.72	-403.02	2.53	446947.96	560619.66	N 32 13 43.39	W 104 16 15.51
	14926.00	91.34	358.22	8588.09	6524.75	6518.61	-407.31	2.36	447041.85	560615.36	N 32 13 44.32	W 104 16 15.56
	15020.00	91.91	358.81	8585.43	6618.71	6612.54	-409.75	0.87	447135.77	560612.93	N 32 13 45.25	W 104 16 15.59
	15115.00	86.13	358.31	8587.05	6713.65	6707.45	-412.13	6.11	447230.67	560610.54	N 32 13 46.19	W 104 16 15.61
	15209.00	88.21	0.22	8591.69	6807.53	6801.32	-413.34	3.00	447324.53	560609.34	N 32 13 47.12	W 104 16 15.63
	15303.00	89.50	0.94	8593.57	6901.47	6895.30	-412.39	1.57	447418.50	560610.29	N 32 13 48.05	W 104 16 15.62
	15397.00	90.90	1.43	8593.24	6995.40	6989.27	-410.44	1.58	447512.47	560612.24	N 32 13 48.98	W 104 16 15.59
	15492.00	90.56	2.15	8592.03	7090.27	7084.22	-407.47	0.84	447607.40	560615.20	N 32 13 49.92	W 104 16 15.56
	15586.00	89.83	1.92	8591.71	7184.14	7178.16	-404.14	0.81	447701.33	560618.54	N 32 13 50.85	W 104 16 15.52
	15680.00	87.20	0.13	8594.15	7278.04	7272.10	-402.45	3.38	447795.27	560620.22	N 32 13 51.78	W 104 16 15.50
	15774.00	86.92	359.06	8598.97	7371.91	7365.97	-403.12	1.18	447889.13	560619.56	N 32 13 52.71	W 104 16 15.51
	15868.00	88.04	358.85	8603.10	7465.82	7459.86	-404.83	1.21	447983.01	560617.85	N 32 13 53.64	W 104 16 15.52
	15963.00	90.06	359.39	8604.68	7560.80	7554.83	-406.29	2.20	448077.97	560616.39	N 32 13 54.58	W 104 16 15.54
	16057.00	92.35	359.10	8602.70	7654.77	7648.80	-407.53	2.46	448171.93	560615.15	N 32 13 55.51	W 104 16 15.55
	16151.00	89.94	358.89	8600.82	7748.74	7742.76	-409.18	2.57	448265.88	560613.50	N 32 13 56.44	W 104 16 15.57
	16245.00	89.83	359.21	8601.01	7842.74	7836.74	-410.73	0.36	448359.86	560611.94	N 32 13 57.37	W 104 16 15.59
	16339.00	89.38	0.18	8601.66	7936.73	7930.74	-411.24	1.14	448453.85	560611.44	N 32 13 58.30	W 104 16 15.60
	16434.00	89.55	0.72	8602.55	8031.70	8025.73	-410.49	0.60	448548.83	560612.19	N 32 13 59.24	W 104 16 15.59
	16528.00	88.99	0.38	8603.75	8125.65	8119.72	-409.59	0.70	448642.81	560613.09	N 32 14 0.17	W 104 16 15.58
	16602.00	88.82	1.88	8605.16	8199.59	8193.69	-408.13	2.04	448716.77	560614.55	N 32 14 0.90	W 104 16 15.56
	16686.00	88.14	0.70	8607.39	8283.49	8277.64	-406.24	1.62	448800.71	560616.44	N 32 14 1.73	W 104 16 15.54
	16780.00	87.67	0.43	8610.82	8377.39	8371.57	-405.31	0.58	448894.63	560617.37	N 32 14 2.66	W 104 16 15.52
	16874.00	88.32	0.81	8614.11	8471.29	8465.51	-404.29	0.80	448988.56	560618.38	N 32 14 3.59	W 104 16 15.51
	16968.00	90.56	0.20	8615.03	8565.25	8559.49	-403.47	2.47	449082.54	560619.21	N 32 14 4.52	W 104 16 15.50
	17062.00	92.15	0.29	8612.81	8659.20	8653.46	-403.06	1.69	449176.50	560619.61	N 32 14 5.45	W 104 16 15.50
	17156.00	92.07	359.91	8609.35	8753.12	8747.40	-402.90	0.41	449270.43	560619.78	N 32 14 6.38	W 104 16 15.49
	17251.00	89.81	359.52	8607.79	8848.09	8842.38	-403.37	2.41	449365.40	560619.30	N 32 14 7.32	W 104 16 15.50
	17345.00	88.89	359.14	8608.86	8942.08	8936.36	-404.47	1.06	449459.38	560618.21	N 32 14 8.25	W 104 16 15.51

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17439.00	87.09	358.62	8612.15	9036.02	9030.28	-406.31	1.99	449553.29	560616.37	N 32 14 9.18	W 104 16 15.53
	17533.00	87.20	357.53	8616.84	9129.89	9124.11	-409.46	1.16	449647.11	560613.22	N 32 14 10.11	W 104 16 15.57
	17628.00	88.07	357.05	8620.76	9224.77	9218.92	-413.95	1.05	449741.91	560608.73	N 32 14 11.04	W 104 16 15.62
	17722.00	87.33	356.87	8624.53	9318.63	9312.71	-418.93	0.81	449835.69	560603.75	N 32 14 11.97	W 104 16 15.68
	17816.00	88.30	357.35	8628.11	9412.51	9406.53	-423.67	1.15	449929.50	560599.01	N 32 14 12.90	W 104 16 15.73
	17910.00	88.12	358.19	8631.05	9506.44	9500.41	-427.32	0.91	450023.37	560595.36	N 32 14 13.83	W 104 16 15.77
	18004.00	89.03	358.07	8633.39	9600.40	9594.33	-430.39	0.98	450117.28	560592.29	N 32 14 14.76	W 104 16 15.81
	18099.00	90.50	357.71	8633.78	9695.38	9689.26	-433.89	1.59	450212.20	560588.79	N 32 14 15.70	W 104 16 15.85
	18193.00	89.94	358.47	8633.41	9789.37	9783.21	-437.02	1.00	450306.14	560585.66	N 32 14 16.63	W 104 16 15.88
	18287.00	91.15	358.06	8632.52	9883.35	9877.16	-439.86	1.36	450400.08	560582.82	N 32 14 17.56	W 104 16 15.92
Last Survey TD, PTB [331' FNL, 435' FWL]	18320.00	91.94	358.27	8631.63	9916.34	9910.13	-440.92	2.48	450433.05	560581.76	N 32 14 17.88	W 104 16 15.93
	18371.00	91.94	358.27	8629.90	9967.30	9961.07	-442.46	0.00	450483.99	560580.22	N 32 14 18.39	W 104 16 15.95

Survey Type: 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 (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/98.425	17.500	13.375	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Bradley 14-11 Federal Com 1H MWD 0ft-18371ft (Surcon
	1	26.000	26.000	Act Stns	17.500	13.375	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Bradley 14-11 Federal Com 1H MWD 0ft-18371ft (Surcon
	1	26.000	417.000	Act Stns	17.500	13.375	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Bradley 14-11 Federal
	1	417.000	1823.000	Act Stns	12.250	9.625	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Bradley 14-11 Federal
	1	1823.000	18371.000	Act Stns	8.750	7.000	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Bradley 14-11 Federal