

WELL LOGS

K Z

API number:	30-025-38955		
OGRID:		Operator:	CIMAREX ENERGY CO
		Property:	BLANCA 23 FEE # 1

surface	ULSTR:	H	23	T	15S	R	37E
			2160	FNL	480	FEL	

BH Loc	ULSTR:	A	23	T	15S	R	37E
			361	FNL	507	FEL	

Ground Level:	3774	DF:	3796	KB:	3797	
Datum:	KB			TD:	11040	

Land: STATE

Completion Date: (1) 2/11/2009
 Date Logs Received: 3/18/2009 **Late
 Date Logs Due in: (2) 3/3/2009

Confidential:	NO			Date out:		
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Confidential period: 90 Days for State & Fee, 1 Year for federal

Date Due In: (1) is equal to Completion Date (1) + 20 days

Logs	Depth interval		
MPD/MDN	100	9722	Compensated Neutron Photo Density GR
MLE/MMR	4474	9740	Dual Laterolog Micro Laterolog

K Z

OCD TOPS

Rustler	2133	Strawn			
Tansill		Atoka			
Yates	3154	Morrow			
7R	3427				
T. Bowers Sd					
B. Bowers Sd					
Queen					
Penrose					
Grayburg					
San Andres	4433				
Glorieta	6666				
Tubb	7451				
Drinkard	7702				
Abo	8177				
Wolfcamp	9390				

Results of Directional Survey

API number:	30-025-38955		
OGRID:		Operator:	CIMAREX ENERGY CO
		Property:	BLANCA 23 FEE # 1

surface	ULSTR:	H	23	T	15S	R	37E
			2160	FNL	480	FEL	

BH Loc	ULSTR:	A	23	T	15S	R	37E
			361	FNL	507	FEL	

	MD	N/S	E/W	VD
	9000	35.44	19.65	8999.73
TOP PERFS/OH	9073	35.61	19.88	9072.73
	9100	35.67	19.97	9099.73
	10976	1734.92	-24.12	9368.14
BOT PERFS/OH	11040	1798.84	-27.24	9368.19
	11000	1758.89	-25.29	9368.16

NEXT TO LAST	10976	1734.92	-24.12	9368.14
LAST READING	11000	1758.89	-25.29	9368.16
TD	11040	1798.84	-27.24	9368.19

Surface Location	2160	FN	480	FE
Projected BHL	361	FN	507	FE
Location of				
Top Perfs/OH	2124	FN	460	FE
Bottom Perfs/OH	361	FN	507	FE

SUMMARY of Subsurface Locations

Surface Location	H-23-15S-37E	2160	FN	480	FE	Vert. Depth
Top Perfs/OH	H-23-15S-37E	2124	FN	460	FE	9072.73
Bottom Perfs/OH	A-23-15S-37E	361	FN	507	FE	9368.19
Projected TD	A-23-15S-37E	361	FN	507	FE	9368.19

OPERATOR
WELL/LEASE
COUNTY

CIMAREX ENERGY COMPANY
BLANCO 23 FEE #1
LEA RIG 75

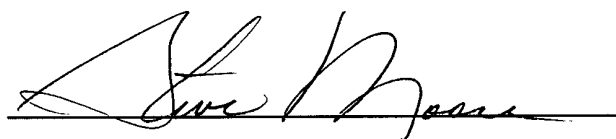
STATE OF NEW MEXICO
DEVIATION REPORT

294	1.00
896	0.50
1,280	0.75
1,722	1.25
2,167	1.00
2,727	1.00
3,057	1.25
3,510	1.25
3,950	1.00
4,405	0.75
4,850	1.50
5,294	1.50
5,822	1.50
6,184	1.75
6,628	1.00
7,041	0.75
7,568	1.00
7,962	1.00
8,407	1.00
8,853	1.00
9,238	0.50
9,654	0.75
9,737	0.75

SUR: H-23-15s-37e, 2160/N & 480/E
BHL: A-23-15s-37e, 361/N & 507/E
API # 30-025-38955

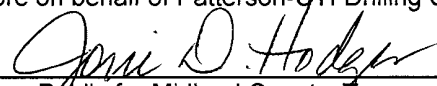
STATE OF TEXAS

COUNTY OF MIDLAND

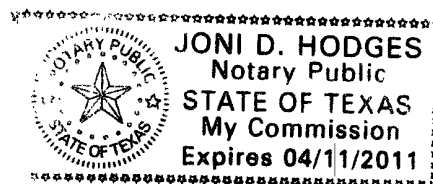
BY: 

The foregoing instrument was acknowledged before me on
Moore on behalf of Patterson-UTL Drilling Company LLC.

DECEMBER 8, 2008, by Steve


Notary Public for Midland County, Texas
My Commission Expires: 4/11/11

KZ





Cimarex Energy Co. of Colorado

Location: Lea County, NM
Field: (Blanca) Sec 23, T15S, R37E
Facility: Blanca 23 Fee No. 1H

Slot: No. 1H SHL
Well: No. 1H
Wellbore: No. 1H PWB



INTEQ

Well Profile Data

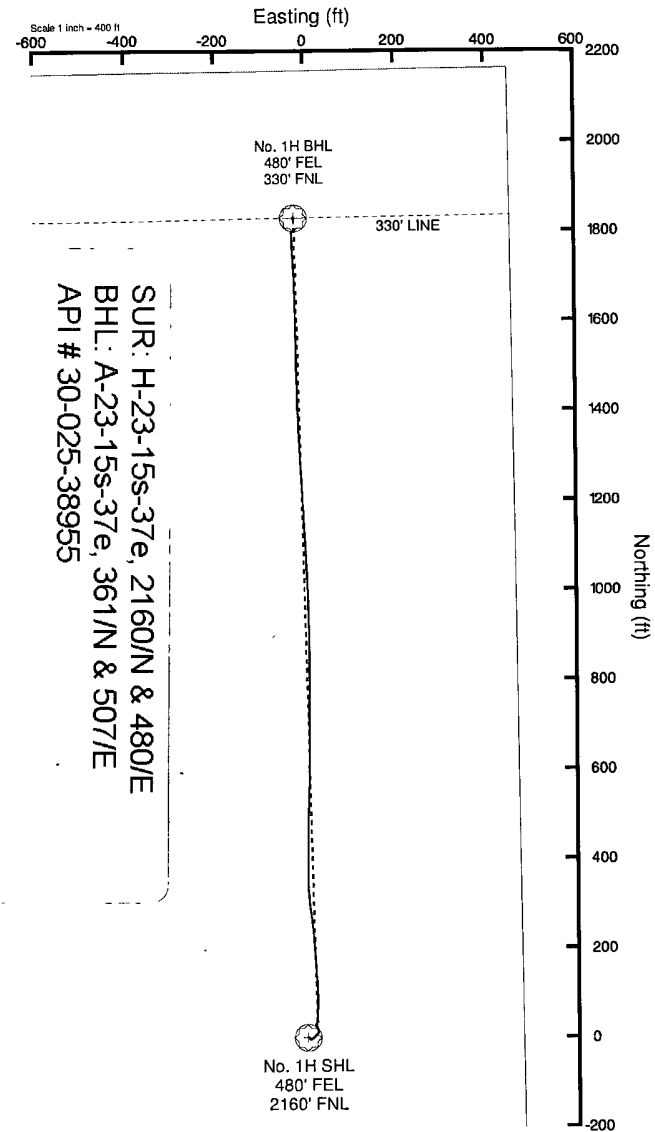
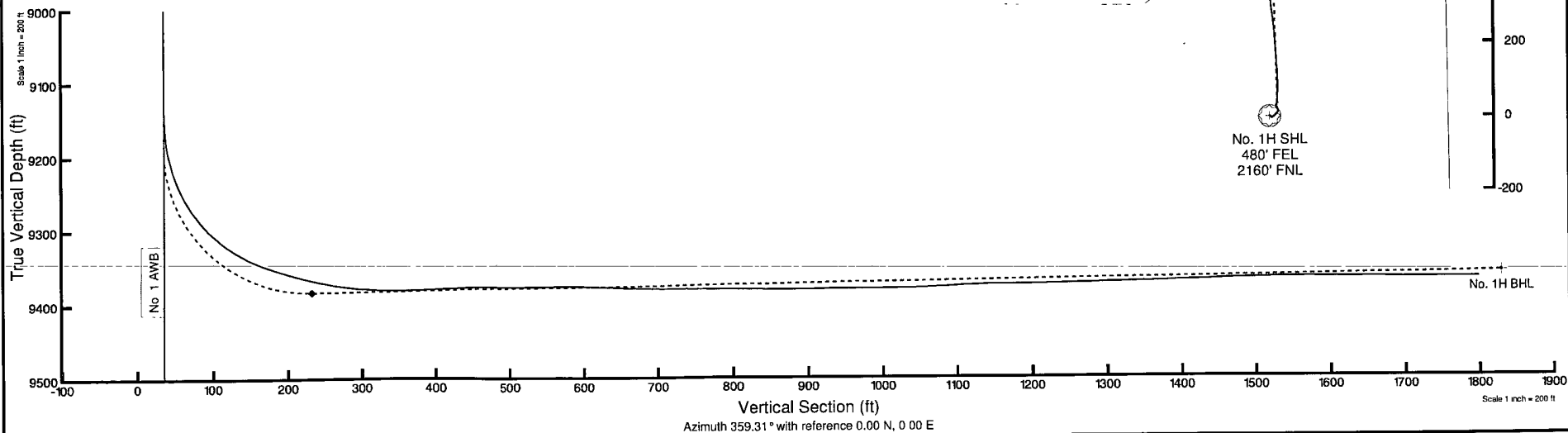
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	9100.00	0.160	54.610	9099.73	35.67	19.97	0.00	35.42
EST. KOP	9190.00	0.160	358.650	9189.73	35.87	20.07	0.17	35.62
END OF CURVE	9496.71	90.825	358.653	9383.00	232.43	15.45	29.56	232.23
No. 1H BHL	11094.40	90.825	358.653	9360.00	1829.51	-22.09	0.00	1829.64



BGGM (1945.0 to 2010.0) Dp 61.07" Field 49441.7 nT
Magnetic North is 7.82 degrees East of True North (at 12/18/2008)
Grid North is 0.64 degrees East of True North
To correct azimuth from True to Grid subtract 0.64 degrees
To correct azimuth from Magnetic to Grid add 7.18 degrees
For example if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 7.18 = 97.18

Plot reference wellpath is Plan #2_GYRO

True vertical depths are referenced to Rig on No. 1H SHL (RT)	Grid System: NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H SHL (RT)	North Reference: Grid north
Rig on No. 1H SHL (RT) to Mean Sea Level 3791.5 feet	Scale: True distance
Mean Sea Level to Mud line (Facility: Blanca 23 Fee No. 1H) -3774 feet	Depths are in feet
Coordinates are in feet referenced to Facility Center	Created by: Victor Hernandez on 1/12/2009



SUR: H-23-15s-37e, 2160/N & 480/E
BHL: A-23-15s-37e, 361/N & 507/E
API # 30-025-38955



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

REPORT SETUP INFORMATION

Projection System	NAD83 / TM New Mexico State Planes, Eastern Zone (3001), US feet	Software System	WellArchitect® 2.0
North Reference	Grid	User	Victor Hernandez
Scale	1.00006	Report Generated	1/12/2009 at 8:48:23 AM
Convergence at slot	0.64° East	Database/Source file	WA_Midland/No. 1H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[USft]	Northing[USft]	Latitude	Longitude
Slot Location	0.00	0.00	899877.70	731047.30	33°00'15.015"N	103°09'49.734"W
Facility Reference Pt			899877.70	731047.30	33°00'15.015"N	103°09'49.734"W
Field Reference Pt			899877.70	731047.30	33°00'15.015"N	103°09'49.734"W

WELLPATH DATUM

Calculation method	Minimum curvature	Rig on No. 1H SHL (RT) to Facility Vertical Datum	17.50ft
Horizontal Reference Pt	Facility Center	Rig on No. 1H SHL (RT) to Mean Sea Level	3791.50ft
Vertical Reference Pt	Rig on No. 1H SHL (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on No. 1H SHL (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	359.31°



Actual Wellpath Report

No. 1H AWP

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REFERENCE WELLPATH IDENTIFICATION

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Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

WELLPATH DATA (153 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
0.00	0.000	86.090	0.00	0.00	0.00	0.00	899877.70	731047.30	33°00'15.015"N	103°09'49.734"W	0.00	0.000	0.00
100.00	0.770	86.090	100.00	0.04	0.05	0.67	899878.37	731047.35	33°00'15.016"N	103°09'49.726"W	0.67	86.090	0.77
200.00	0.340	136.230	199.99	-0.14	-0.12	1.55	899879.25	731047.18	33°00'15.014"N	103°09'49.716"W	1.55	94.535	0.61
300.00	0.220	168.680	299.99	-0.55	-0.53	1.79	899879.49	731046.77	33°00'15.010"N	103°09'49.713"W	1.86	106.359	0.19
400.00	0.230	108.490	399.99	-0.80	-0.78	2.02	899879.72	731046.52	33°00'15.007"N	103°09'49.711"W	2.16	111.069	0.23
500.00	0.200	117.310	499.99	-0.95	-0.92	2.36	899880.06	731046.38	33°00'15.006"N	103°09'49.707"W	2.54	111.294	0.04
600.00	0.070	113.930	599.99	-1.06	-1.03	2.57	899880.27	731046.27	33°00'15.005"N	103°09'49.704"W	2.77	111.730	0.13
700.00	0.240	161.230	699.99	-1.28	-1.25	2.70	899880.40	731046.05	33°00'15.002"N	103°09'49.703"W	2.97	114.848	0.20
800.00	0.260	168.470	799.99	-1.70	-1.67	2.81	899880.51	731045.63	33°00'14.998"N	103°09'49.702"W	3.27	120.719	0.04
900.00	0.200	166.770	899.99	-2.10	-2.06	2.89	899880.59	731045.24	33°00'14.994"N	103°09'49.701"W	3.55	125.459	0.06
1000.00	0.150	176.770	999.99	-2.40	-2.36	2.94	899880.64	731044.94	33°00'14.991"N	103°09'49.700"W	3.77	128.762	0.06
1100.00	0.200	166.050	1099.99	-2.70	-2.66	2.99	899880.69	731044.64	33°00'14.988"N	103°09'49.700"W	4.00	131.668	0.06
1200.00	0.170	157.120	1199.99	-3.01	-2.97	3.09	899880.79	731044.33	33°00'14.985"N	103°09'49.698"W	4.29	133.839	0.04
1300.00	0.180	134.670	1299.99	-3.25	-3.22	3.26	899880.96	731044.08	33°00'14.983"N	103°09'49.696"W	4.58	134.601	0.07
1400.00	0.250	90.650	1399.99	-3.37	-3.33	3.59	899881.29	731043.97	33°00'14.982"N	103°09'49.693"W	4.90	132.831	0.17
1500.00	0.230	102.720	1499.98	-3.42	-3.37	4.00	899881.70	731043.92	33°00'14.981"N	103°09'49.688"W	5.24	130.125	0.05
1600.00	0.150	104.490	1599.98	-3.50	-3.45	4.33	899882.03	731043.85	33°00'14.981"N	103°09'49.684"W	5.54	128.582	0.08
1700.00	0.410	96.510	1699.98	-3.58	-3.53	4.81	899882.51	731043.77	33°00'14.980"N	103°09'49.678"W	5.96	126.243	0.26
1800.00	0.460	111.480	1799.98	-3.78	-3.71	5.54	899883.24	731043.59	33°00'14.978"N	103°09'49.670"W	6.67	123.838	0.12
1900.00	0.300	122.580	1899.98	-4.07	-4.00	6.13	899883.83	731043.30	33°00'14.975"N	103°09'49.663"W	7.32	123.121	0.18
2000.00	0.310	214.270	1999.98	-4.44	-4.37	6.20	899883.90	731042.93	33°00'14.971"N	103°09'49.662"W	7.58	125.146	0.44
2100.00	0.410	220.570	2099.97	-4.93	-4.86	5.82	899883.52	731042.44	33°00'14.966"N	103°09'49.667"W	7.58	129.889	0.11
2200.00	0.070	190.750	2199.97	-5.26	-5.19	5.57	899883.27	731042.11	33°00'14.963"N	103°09'49.670"W	7.62	132.984	0.35
2300.00	0.050	148.250	2299.97	-5.36	-5.29	5.58	899883.28	731042.01	33°00'14.962"N	103°09'49.669"W	7.69	133.454	0.05
2400.00	0.230	56.450	2399.97	-5.29	-5.22	5.77	899883.47	731042.08	33°00'14.963"N	103°09'49.667"W	7.78	132.096	0.24
2500.00	0.280	62.810	2499.97	-5.07	-4.99	6.16	899883.86	731042.31	33°00'14.965"N	103°09'49.663"W	7.93	129.037	0.06
2600.00	0.290	52.100	2599.97	-4.81	-4.73	6.57	899884.28	731042.57	33°00'14.968"N	103°09'49.658"W	8.10	125.709	0.05
2700.00	0.320	47.230	2699.97	-4.46	-4.38	6.98	899884.68	731042.92	33°00'14.971"N	103°09'49.653"W	8.24	122.116	0.04
2800.00	0.410	39.160	2799.97	-4.00	-3.91	7.41	899885.11	731043.39	33°00'14.976"N	103°09'49.648"W	8.38	117.841	0.10
2900.00	0.500	58.580	2899.96	-3.51	-3.41	8.01	899885.71	731043.89	33°00'14.981"N	103°09'49.641"W	8.70	113.057	0.18



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWP
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWP at 9100.00 MD

WELLPATH DATA (153 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
3000.00	0.630	59.660	2999.96	-3.01	-2.90	8.86	899886.56	731044.40	33°00'14.985"N	103°09'49.631"W	9.32	108.155	0.13
3100.00	0.760	54.880	3099.95	-2.36	-2.24	9.87	899887.57	731045.06	33°00'14.992"N	103°09'49.619"W	10.12	102.809	0.14
3200.00	0.820	51.890	3199.94	-1.55	-1.42	10.98	899888.68	731045.88	33°00'15.000"N	103°09'49.606"W	11.07	97.378	0.07
3300.00	0.760	56.180	3299.93	-0.76	-0.61	12.09	899889.79	731046.69	33°00'15.008"N	103°09'49.592"W	12.11	92.891	0.08
3400.00	0.820	42.570	3399.92	0.13	0.29	13.13	899890.83	731047.59	33°00'15.017"N	103°09'49.580"W	13.13	88.754	0.20
3500.00	0.820	47.530	3499.91	1.12	1.30	14.14	899891.84	731048.60	33°00'15.026"N	103°09'49.568"W	14.20	84.765	0.07
3600.00	0.820	42.270	3599.90	2.13	2.31	15.15	899892.85	731049.61	33°00'15.036"N	103°09'49.556"W	15.32	81.336	0.08
3700.00	0.890	36.510	3699.89	3.27	3.46	16.09	899893.79	731050.76	33°00'15.048"N	103°09'49.545"W	16.46	77.858	0.11
3800.00	0.810	42.550	3799.88	4.40	4.61	17.03	899894.73	731051.91	33°00'15.059"N	103°09'49.534"W	17.64	74.864	0.12
3900.00	0.870	43.790	3899.87	5.46	5.68	18.03	899895.74	731052.98	33°00'15.069"N	103°09'49.522"W	18.91	72.531	0.06
4000.00	0.840	44.330	3999.86	6.52	6.75	19.07	899896.77	731054.05	33°00'15.080"N	103°09'49.510"W	20.23	70.516	0.03
4100.00	0.790	38.120	4099.85	7.57	7.81	20.01	899897.71	731055.12	33°00'15.090"N	103°09'49.498"W	21.48	68.667	0.10
4200.00	0.680	40.870	4199.84	8.55	8.81	20.82	899898.53	731056.11	33°00'15.100"N	103°09'49.489"W	22.61	67.078	0.12
4300.00	0.670	35.180	4299.83	9.47	9.73	21.55	899899.25	731057.03	33°00'15.109"N	103°09'49.480"W	23.65	65.694	0.07
4400.00	0.440	40.640	4399.83	10.23	10.50	22.14	899899.84	731057.80	33°00'15.117"N	103°09'49.473"W	24.50	64.620	0.24
4500.00	0.320	2.520	4499.83	10.80	11.07	22.40	899900.10	731058.37	33°00'15.122"N	103°09'49.470"W	24.99	63.696	0.27
4600.00	0.510	348.350	4599.82	11.52	11.79	22.32	899900.02	731059.09	33°00'15.129"N	103°09'49.471"W	25.24	62.163	0.21
4700.00	0.610	348.820	4699.82	12.48	12.74	22.13	899899.83	731060.05	33°00'15.139"N	103°09'49.473"W	25.54	60.059	0.10
4800.00	0.610	351.780	4799.81	13.53	13.79	21.95	899899.65	731061.09	33°00'15.149"N	103°09'49.475"W	25.92	57.852	0.03
4900.00	0.640	350.080	4899.81	14.61	14.87	21.78	899899.48	731062.17	33°00'15.160"N	103°09'49.477"W	26.37	55.671	0.04
5000.00	0.640	350.070	4999.80	15.71	15.97	21.58	899899.28	731063.27	33°00'15.171"N	103°09'49.479"W	26.85	53.500	0.00
5100.00	0.490	357.160	5099.80	16.69	16.95	21.47	899899.17	731064.25	33°00'15.180"N	103°09'49.480"W	27.35	51.707	0.17
5200.00	0.500	356.840	5199.79	17.55	17.81	21.42	899899.12	731065.11	33°00'15.189"N	103°09'49.481"W	27.86	50.257	0.01
5300.00	0.570	352.830	5299.79	18.48	18.74	21.33	899899.04	731066.04	33°00'15.198"N	103°09'49.481"W	28.40	48.704	0.08
5400.00	0.490	333.100	5399.78	19.36	19.62	21.08	899898.78	731066.92	33°00'15.207"N	103°09'49.484"W	28.79	47.060	0.20
5500.00	0.530	335.080	5499.78	20.16	20.42	20.69	899898.39	731067.72	33°00'15.215"N	103°09'49.489"W	29.07	45.383	0.04
5600.00	0.490	337.090	5599.78	20.98	21.23	20.33	899898.03	731068.53	33°00'15.223"N	103°09'49.493"W	29.39	43.760	0.04
5700.00	0.360	334.930	5699.77	21.66	21.91	20.03	899897.73	731069.21	33°00'15.230"N	103°09'49.496"W	29.68	42.436	0.13
5800.00	0.370	319.390	5799.77	22.20	22.44	19.69	899897.39	731069.74	33°00'15.235"N	103°09'49.500"W	29.85	41.264	0.10
5900.00	0.260	317.200	5899.77	22.61	22.85	19.32	899897.02	731070.15	33°00'15.239"N	103°09'49.504"W	29.92	40.220	0.11



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

WELLPATH DATA (153 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
6000.00	0.110	300.860	5999.77	22.83	23.06	19.09	899896.79	731070.37	33°00'15.241"N	103°09'49.507"W	29.94	39.607	0.16
6100.00	0.150	304.530	6099.77	22.96	23.19	18.90	899896.60	731070.49	33°00'15.242"N	103°09'49.509"W	29.91	39.176	0.04
6200.00	0.150	292.550	6199.77	23.09	23.31	18.67	899896.37	731070.61	33°00'15.244"N	103°09'49.512"W	29.87	38.685	0.03
6300.00	0.050	304.970	6299.77	23.16	23.39	18.51	899896.21	731070.69	33°00'15.244"N	103°09'49.514"W	29.83	38.360	0.10
6400.00	0.220	323.030	6399.77	23.34	23.57	18.36	899896.06	731070.87	33°00'15.246"N	103°09'49.516"W	29.87	37.920	0.17
6500.00	0.270	318.290	6499.77	23.68	23.90	18.09	899895.79	731071.20	33°00'15.250"N	103°09'49.519"W	29.97	37.122	0.05
6600.00	0.150	330.290	6599.77	23.97	24.19	17.87	899895.57	731071.49	33°00'15.252"N	103°09'49.521"W	30.07	36.453	0.13
6700.00	0.220	348.080	6699.77	24.27	24.49	17.76	899895.46	731071.79	33°00'15.255"N	103°09'49.523"W	30.25	35.954	0.09
6800.00	0.200	350.260	6799.77	24.63	24.85	17.69	899895.39	731072.15	33°00'15.259"N	103°09'49.523"W	30.50	35.452	0.02
6900.00	0.160	341.250	6899.77	24.94	25.15	17.62	899895.32	731072.45	33°00'15.262"N	103°09'49.524"W	30.71	35.010	0.05
7000.00	0.150	348.480	6999.77	25.20	25.41	17.55	899895.25	731072.71	33°00'15.265"N	103°09'49.525"W	30.88	34.624	0.02
7100.00	0.170	341.050	7099.76	25.47	25.68	17.47	899895.17	731072.98	33°00'15.267"N	103°09'49.526"W	31.06	34.230	0.03
7200.00	0.260	349.300	7199.76	25.83	26.04	17.38	899895.08	731073.34	33°00'15.271"N	103°09'49.527"W	31.31	33.720	0.09
7300.00	0.230	355.720	7299.76	26.26	26.47	17.32	899895.03	731073.77	33°00'15.275"N	103°09'49.527"W	31.63	33.208	0.04
7400.00	0.220	347.660	7399.76	26.64	26.85	17.27	899894.97	731074.16	33°00'15.279"N	103°09'49.528"W	31.93	32.743	0.03
7500.00	0.280	356.350	7499.76	27.08	27.29	17.21	899894.91	731074.59	33°00'15.283"N	103°09'49.529"W	32.26	32.244	0.07
7600.00	0.170	348.950	7599.76	27.47	27.67	17.17	899894.87	731074.98	33°00'15.287"N	103°09'49.529"W	32.57	31.813	0.11
7700.00	0.180	10.520	7699.76	27.77	27.97	17.17	899894.87	731075.28	33°00'15.290"N	103°09'49.529"W	32.82	31.537	0.07
7800.00	0.230	30.060	7799.76	28.09	28.30	17.30	899895.00	731075.60	33°00'15.293"N	103°09'49.528"W	33.17	31.431	0.09
7900.00	0.190	27.350	7899.76	28.41	28.62	17.47	899895.17	731075.93	33°00'15.296"N	103°09'49.525"W	33.54	31.403	0.04
8000.00	0.290	41.100	7999.76	28.75	28.96	17.72	899895.42	731076.26	33°00'15.300"N	103°09'49.523"W	33.95	31.455	0.11
8100.00	0.300	36.900	8099.76	29.14	29.36	18.04	899895.74	731076.66	33°00'15.304"N	103°09'49.519"W	34.46	31.567	0.02
8200.00	0.350	25.020	8199.75	29.62	29.85	18.33	899896.03	731077.15	33°00'15.308"N	103°09'49.515"W	35.03	31.549	0.08
8300.00	0.420	9.960	8299.75	30.26	30.49	18.52	899896.22	731077.79	33°00'15.315"N	103°09'49.513"W	35.67	31.277	0.12
8400.00	0.510	12.010	8399.75	31.05	31.28	18.67	899896.38	731078.58	33°00'15.323"N	103°09'49.511"W	36.43	30.836	0.09
8500.00	0.460	8.360	8499.75	31.88	32.11	18.83	899896.53	731079.42	33°00'15.331"N	103°09'49.509"W	37.23	30.379	0.06
8600.00	0.500	4.330	8599.74	32.72	32.95	18.92	899896.62	731080.25	33°00'15.339"N	103°09'49.508"W	37.99	29.863	0.05
8700.00	0.470	12.010	8699.74	33.55	33.78	19.04	899896.74	731081.08	33°00'15.347"N	103°09'49.506"W	38.78	29.400	0.07
8800.00	0.340	7.890	8799.74	34.24	34.48	19.16	899896.86	731081.78	33°00'15.354"N	103°09'49.505"W	39.44	29.063	0.13
8900.00	0.330	24.360	8899.73	34.80	35.03	19.32	899897.02	731082.34	33°00'15.360"N	103°09'49.503"W	40.01	28.876	0.10



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

WELLPATH DATA (153 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
9000.00	0.290	54.990	8999.73	35.20	35.44	19.65	899897.35	731082.74	33°00'15.364"N	103°09'49.499"W	40.52	29.002	0.17
9100.00	0.160	54.610	9099.73	35.42	35.67	19.97	899897.67	731082.97	33°00'15.366"N	103°09'49.495"W	40.88	29.242	0.13
9162.00	2.600	358.000	9161.71	36.88	37.12	19.99	899897.69	731084.43	33°00'15.380"N	103°09'49.495"W	42.16	28.301	4.06
9193.00	10.500	2.200	9192.48	40.41	40.65	20.07	899897.77	731087.96	33°00'15.415"N	103°09'49.493"W	45.34	26.278	25.51
9225.00	18.600	3.900	9223.43	48.42	48.67	20.53	899898.23	731095.98	33°00'15.494"N	103°09'49.487"W	52.83	22.873	25.34
9253.00	25.700	3.600	9249.35	58.94	59.20	21.22	899898.92	731106.50	33°00'15.598"N	103°09'49.477"W	62.89	19.719	25.36
9285.00	35.000	1.100	9276.93	75.07	75.34	21.83	899899.53	731122.64	33°00'15.758"N	103°09'49.468"W	78.44	16.161	29.32
9316.00	44.500	358.200	9300.74	94.86	95.13	21.66	899899.36	731142.44	33°00'15.954"N	103°09'49.468"W	97.57	12.828	31.22
9348.00	54.200	357.000	9321.56	119.10	119.36	20.63	899898.33	731166.67	33°00'16.194"N	103°09'49.477"W	121.13	9.805	30.44
9378.00	63.000	357.000	9337.18	144.66	144.90	19.29	899896.99	731192.21	33°00'16.447"N	103°09'49.489"W	146.18	7.582	29.33
9409.00	70.700	356.400	9349.36	173.11	173.34	17.65	899895.35	731220.65	33°00'16.728"N	103°09'49.505"W	174.24	5.812	24.90
9440.00	73.500	355.500	9358.88	202.56	202.76	15.56	899893.26	731250.07	33°00'17.019"N	103°09'49.525"W	203.36	4.388	9.45
9472.00	76.200	354.400	9367.25	233.35	233.53	12.84	899890.54	731280.84	33°00'17.324"N	103°09'49.553"W	233.88	3.147	9.07
9503.00	80.500	353.300	9373.51	263.57	263.71	9.59	899887.29	731311.02	33°00'17.623"N	103°09'49.587"W	263.88	2.082	14.30
9534.00	84.800	353.100	9377.47	294.13	294.23	5.95	899883.65	731341.54	33°00'17.925"N	103°09'49.626"W	294.29	1.158	13.89
9566.00	87.100	356.700	9379.73	325.95	326.01	3.11	899880.81	731373.33	33°00'18.240"N	103°09'49.655"W	326.03	0.547	13.33
9597.00	90.700	0.100	9380.33	356.93	356.99	2.25	899879.95	731404.31	33°00'18.547"N	103°09'49.661"W	356.99	0.360	15.97
9628.00	91.400	0.100	9379.76	387.92	387.98	2.30	899880.00	731435.30	33°00'18.853"N	103°09'49.657"W	387.99	0.340	2.26
9659.00	92.300	0.300	9378.76	418.90	418.96	2.41	899880.11	731466.29	33°00'19.160"N	103°09'49.651"W	418.97	0.329	2.97
9691.00	91.700	0.800	9377.64	450.88	450.94	2.71	899880.41	731498.27	33°00'19.476"N	103°09'49.644"W	450.95	0.345	2.44
9722.00	89.100	1.200	9377.42	481.86	481.93	3.26	899880.96	731529.26	33°00'19.783"N	103°09'49.633"W	481.95	0.387	8.49
9754.00	90.000	1.800	9377.68	513.84	513.92	4.09	899881.79	731561.25	33°00'20.099"N	103°09'49.619"W	513.94	0.456	3.38
9786.00	91.400	1.600	9377.29	545.80	545.90	5.04	899882.74	731593.23	33°00'20.415"N	103°09'49.604"W	545.93	0.529	4.42
9817.00	90.700	1.000	9376.72	576.78	576.89	5.75	899883.45	731624.22	33°00'20.722"N	103°09'49.592"W	576.92	0.571	2.97
9849.00	88.500	0.200	9376.94	608.77	608.89	6.08	899883.78	731656.22	33°00'21.038"N	103°09'49.583"W	608.92	0.572	7.32
9880.00	87.600	359.900	9378.00	639.75	639.87	6.11	899883.81	731687.20	33°00'21.345"N	103°09'49.579"W	639.90	0.547	3.06
9911.00	87.700	0.300	9379.27	670.72	670.84	6.16	899883.86	731718.18	33°00'21.651"N	103°09'49.574"W	670.87	0.526	1.33
9942.00	88.900	359.900	9380.19	701.70	701.83	6.22	899883.92	731749.17	33°00'21.958"N	103°09'49.570"W	701.86	0.507	4.08
9974.00	89.400	0.600	9380.66	733.69	733.82	6.36	899884.06	731781.16	33°00'22.274"N	103°09'49.564"W	733.85	0.496	2.69
10005.00	89.300	0.900	9381.01	764.68	764.82	6.76	899884.46	731812.16	33°00'22.581"N	103°09'49.555"W	764.85	0.507	1.02



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION			
Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

WELLPATH DATA (153 stations)													
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
10037.00	89.100	0.700	9381.46	796.67	796.81	7.21	899884.91	731844.16	33°00'22.897"N	103°09'49.546"W	796.85	0.518	0.88
10068.00	89.800	359.400	9381.76	827.66	827.81	7.24	899884.94	731875.16	33°00'23.204"N	103°09'49.541"W	827.84	0.501	4.76
10100.00	89.900	359.700	9381.84	859.66	859.81	6.98	899884.68	731907.16	33°00'23.521"N	103°09'49.540"W	859.84	0.465	0.99
10131.00	89.900	359.600	9381.89	890.66	890.81	6.79	899884.49	731938.16	33°00'23.827"N	103°09'49.538"W	890.83	0.437	0.32
10162.00	90.300	358.600	9381.84	921.66	921.80	6.31	899884.01	731969.15	33°00'24.134"N	103°09'49.540"W	921.83	0.392	3.47
10194.00	90.200	358.500	9381.70	953.66	953.79	5.50	899883.20	732001.15	33°00'24.451"N	103°09'49.545"W	953.81	0.330	0.44
10224.00	90.300	358.400	9381.57	983.65	983.78	4.69	899882.39	732031.14	33°00'24.747"N	103°09'49.551"W	983.79	0.273	0.47
10255.00	90.500	358.100	9381.35	1014.65	1014.77	3.74	899881.44	732062.12	33°00'25.054"N	103°09'49.558"W	1014.77	0.211	1.16
10286.00	91.800	357.600	9380.73	1045.63	1045.74	2.58	899880.28	732093.10	33°00'25.361"N	103°09'49.568"W	1045.74	0.141	4.49
10318.00	93.100	357.000	9379.36	1077.58	1077.67	1.07	899878.77	732125.03	33°00'25.677"N	103°09'49.581"W	1077.67	0.057	4.47
10349.00	93.000	356.700	9377.71	1108.51	1108.58	-0.63	899877.07	732155.94	33°00'25.983"N	103°09'49.597"W	1108.58	359.967	1.02
10381.00	91.300	356.700	9376.51	1140.45	1140.51	-2.47	899875.23	732187.87	33°00'26.299"N	103°09'49.614"W	1140.51	359.876	5.31
10413.00	89.900	357.200	9376.18	1172.42	1172.46	-4.17	899873.53	732219.82	33°00'26.615"N	103°09'49.630"W	1172.46	359.796	4.65
10445.00	90.300	357.000	9376.12	1204.40	1204.42	-5.79	899871.91	732251.78	33°00'26.931"N	103°09'49.645"W	1204.43	359.724	1.40
10476.00	91.200	356.700	9375.72	1235.37	1235.37	-7.50	899870.20	732282.73	33°00'27.238"N	103°09'49.661"W	1235.39	359.652	3.06
10507.00	91.200	356.600	9375.07	1266.33	1266.31	-9.31	899868.39	732313.68	33°00'27.544"N	103°09'49.678"W	1266.34	359.579	0.32
10539.00	91.300	357.100	9374.37	1298.29	1298.25	-11.06	899866.64	732345.62	33°00'27.860"N	103°09'49.695"W	1298.30	359.512	1.59
10569.00	91.300	357.200	9373.69	1328.26	1328.21	-12.56	899865.14	732375.58	33°00'28.157"N	103°09'49.708"W	1328.27	359.458	0.33
10601.00	91.700	357.500	9372.85	1360.23	1360.16	-14.03	899863.66	732407.53	33°00'28.473"N	103°09'49.722"W	1360.23	359.409	1.56
10632.00	92.400	358.000	9371.74	1391.20	1391.12	-15.25	899862.45	732438.49	33°00'28.780"N	103°09'49.732"W	1391.20	359.372	2.77
10664.00	91.500	358.100	9370.65	1423.17	1423.08	-16.34	899861.36	732470.46	33°00'29.096"N	103°09'49.740"W	1423.17	359.342	2.83
10695.00	92.300	359.000	9369.63	1454.15	1454.05	-17.12	899860.58	732501.43	33°00'29.402"N	103°09'49.746"W	1454.15	359.325	3.88
10726.00	91.600	358.600	9368.57	1485.13	1485.03	-17.77	899859.93	732532.41	33°00'29.709"N	103°09'49.749"W	1485.13	359.314	2.60
10757.00	91.100	359.100	9367.84	1516.12	1516.01	-18.39	899859.30	732563.39	33°00'30.016"N	103°09'49.752"W	1516.12	359.305	2.28
10789.00	90.900	359.000	9367.28	1548.12	1548.00	-18.92	899858.77	732595.39	33°00'30.332"N	103°09'49.754"W	1548.12	359.300	0.70
10820.00	89.100	359.000	9367.28	1579.12	1579.00	-19.47	899858.23	732626.38	33°00'30.639"N	103°09'49.757"W	1579.12	359.294	-5.81
10852.00	89.300	358.800	9367.73	1611.11	1610.99	-20.08	899857.62	732658.37	33°00'30.955"N	103°09'49.760"W	1611.11	359.286	0.88
10882.00	89.700	358.500	9367.99	1641.11	1640.98	-20.79	899856.91	732688.37	33°00'31.252"N	103°09'49.764"W	1641.11	359.274	1.67
10914.00	89.900	358.200	9368.10	1673.10	1672.96	-21.71	899855.99	732720.35	33°00'31.569"N	103°09'49.771"W	1673.10	359.257	1.13
10954.00	90.000	357.700	9368.14	1713.09	1712.94	-23.14	899854.56	732760.33	33°00'31.964"N	103°09'49.782"W	1713.09	359.226	1.27



Actual Wellpath Report

No. 1H AWP

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INTEQ

REFERENCE WELLPATH IDENTIFICATION

Operator	Cimarex Energy Co. of Colorado	Slot	No. 1H SHL
Area	Lea County, NM	Well	No. 1H
Field	(Blanca) Sec 23, T15S, R37E	Wellbore	No. 1H AWB
Facility	Blanca 23 Fee No. 1H	Sidetrack from	No. 1 AWB at 9100.00 MD

WELLPATH DATA (153 stations) † = interpolated/extrapolated station

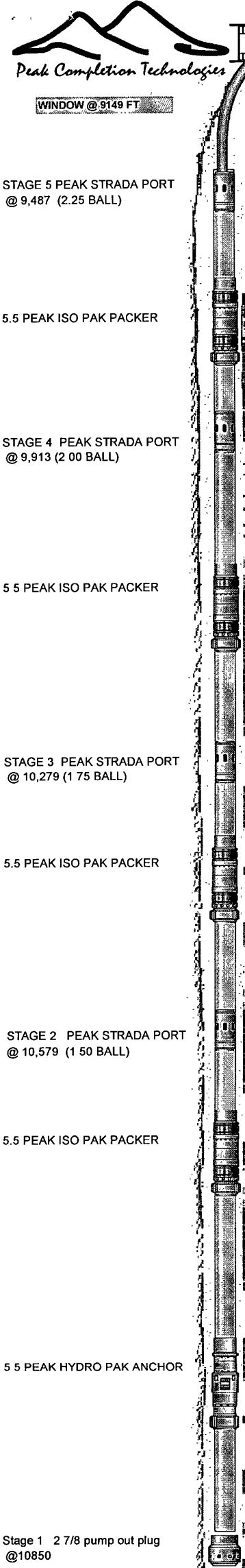
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]
10976.00	90.000	357.200	9368.14	1735.08	1734.92	-24.12	899853.58	732782.31	33°00'32.182"N	103°09'49.791"W	1735.08	359.204	2.27
11000.00	89.900	357.200	9368.16	1759.06	1758.89	-25.29	899852.41	732806.28	33°00'32.419"N	103°09'49.802"W	1759.07	359.176	0.42
11040.00†	89.900	357.200	9368.23	1799.04	1798.84	-27.24	899850.45	732846.24	33°00'32.815"N	103°09'49.819"W	1799.05	359.132	0.00

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
No. 1H BHL		9360.00	1829.51	-22.09	899855.61	732876.91	33°00'33.117"N	103°09'49.755"W	point

WELLPATH COMPOSITION Ref Wellbore: No. 1H AWB Ref Wellpath: No. 1H AWP

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
0.00	9100.00	Generic gyro - continuous (Standard)	GYRO	No. 1 AWB
9100.00	11000.00	NaviTrak (Standard)	MWD	No. 1H AWB
11000.00	11040.00	Blind Drilling (std)	Projection to bit	No. 1H AWB



STAGE 5 PEAK STRADA PORT
@ 9,487 (2.25 BALL)

5.5 PEAK ISO PAK PACKER

STAGE 4 PEAK STRADA PORT
@ 9,913 (2 00 BALL)

5 5 PEAK ISO PAK PACKER

STAGE 3 PEAK STRADA PORT
@ 10,279 (1 75 BALL)

5.5 PEAK ISO PAK PACKER

STAGE 2 PEAK STRADA PORT
@ 10,579 (1 50 BALL)

5.5 PEAK ISO PAK PACKER

5 5 PEAK HYDRO PAK ANCHOR

Stage 1 2 7/8 pump out plug
@10850

DOWN HOLE WELL PROFILE						
WELL NAME	BLANCA 23 FEE #1			DATE	1/11/09	
SUPERVISOR	STEVE WALKER			TOOL HAND	V.SAUCEDO	
PHONE #	432-425-4188			PHONE #	432-425-799	
RIG #	KEY RIG 880			FIELD TICKET #	10436	
ELEVATIONS						
KB ELEV	GL ELEV	KB TO THF	KB TO SCF	RIG KBD	PBTD	
				19		
CASING / OPEN HOLE LAYOUT	OD (IN)	LANDED DEPTH		WEIGHT (LB/FT)	TOP OF (FTKB)	
CASING DESCRIPTION	5 1/2			17#		
WINDOW DESCRIPTION	9149					
OPEN HOLE DESCRIPTION	4 3/4			JUNCTION @		
DESCRIPTION						
DID NOT BLOW OUT PUMP OUT PLUG						
STEERING DIRECTIONS						
DOWNHOLE DESCRIPTION FROM BOTTOM UP (Tubing String)						
BOTTOM @	DESCRIPTION			LENGTH	ID	OD
10850.00	2 7/8 8RD L-80 PUMP OUT PLUG			0.57	0.75	3.06
10849.43	2-JTS OF 2 7/8 8RD 6 5# L-80(#2)			65.11	2.44	2.88
10784.32	4 5/8 x 2 7/8 PEAK CENTRALIZERS			0.37	2.44	4.63
10783.95	5.5 x 2 7/8 PEAK HYDRO PAK ANCHOR			3.93	2.38	4.50
10780.02	2-JTS OF 2 7/8 8RD. 6 5# L-80(#4)			65.19	2.44	2.88
10714.83	4 5/8 x 2 7/8 PEAK CENTRALIZERS			0.60	2.44	4.63
10714.23	5.5 x 2 7/8 PEAK ISO PAK OPEN HOLE PACKER #1			4.42	2.44	4.50
10709.81	4-JTS OF 2 7/8 8RD. 6.5# L-80(#8)			130.34	2.44	2.88
10579.47	4" x 1.25 I.D.PEAK STRADA PORT #1			2.20	1.31	4.00
10577.27	4-JTS OF 2 7/8 8RD. 6.5# L-80(#12)			130.32	2.44	2.88
10446.95	4 5/8 x 2 7/8 PEAK CENTRALIZERS			0.60	2.44	4.63
10446.35	5.5 x 2 7/8 PEAK ISO PAK OPEN HOLE PACKER #2			4.42	2.44	4.50
10441.93	5-JTS OF 2 7/8 8RD. 6.5# L-80(#17)			162.78	2.44	2.88
10279.15	4" x 1.50 I.D. PEAK STRADA PORT #2			2.20	1.56	4.00
10276.95	4-JTS OF 2 7/8 8RD. 6.5# L-80(#21)			130.20	2.44	2.88
10146.75	4 5/8 x 2 7/8 PEAK CENTRALIZERS			0.60	2.44	4.63
10146.15	5.5 x 2 7/8 PEAK ISO PAK OPEN HOLE PACKER #3			4.42	2.44	4.50
10141.73	7-JTS OF 2 7/8 8RD 6.5# L-80(#28)			227.78	2.44	2.88
9913.95	4" x 1 75 I.D. PEAK STRADA PORT #3			2.20	1.81	4.00
9911.75	7-JTS OF 2 7/8 8RD. 6.5# L-80(#35)			225.13	2.44	2.88
9686.62	4 5/8 x 2 7/8 PEAK CENTRALIZERS			0.37	2.44	4.63
9686.25	5.5 x 2 7/8 PEAK ISO PAK OPEN HOLE PACKER #4			4.42	2.44	4.50
9681.83	6-JTS OF 2 7/8 8RD. 6.5# L-80 (#41)			194.25	2.44	2.88
9487.58	4" x 2.00 I.D. PEAK STRADA PORT #4			2.20	2.06	4.00
9485.38	2 7/8 EUE PIN x 2 7/8 EUE PIN CROSSOVER			0.65	2.44	3.12
9484.73	2 7/8 EUE BOX x 2 7/8 ULTRA-FX BOX X-OVER			1.10	2.44	3.63
9483.63	13-JTS OF 2 7/8 ULTRA-FX 6.4# L-80			408.48	2.44	3.06
9075.15	2 7/8 ULTRA-FX X 2 7/8 8RD. BOX X-OVER			0.83	2.44	3.69
9074.32	2 7/8 DOWNHOLE TUBING SWIVEL			1.32	2.44	3.63
9073.00	5 1/2 x 2 7/8 PEAK AS-1X PACKER 14-20#			7.20	2.44	4.63
9065.80	2 7/8 8RD. PIN x 2 7/8 8RD. PIN X-OVER			1.80	2.44	3.13
9064.00	2 7/8 x 5 1/2 ON/OFF TOOL INVERTED			3.38	2.44	4.50
9060.62	2 7/8 8RD. PIN x 2 7/8 AOH X-OVER			1.33	2.44	3.88
9059.29	288 JTS AOH DRILL PIPE/ 144 STDS			9073.58	0.00	0.00

TOTAL MEASURED DEPTH
@ 11040 FT

*** CONFIDENTIAL ***
NOT TO BE DISCLOSED OUTSIDE
** INSERT COMPANY **