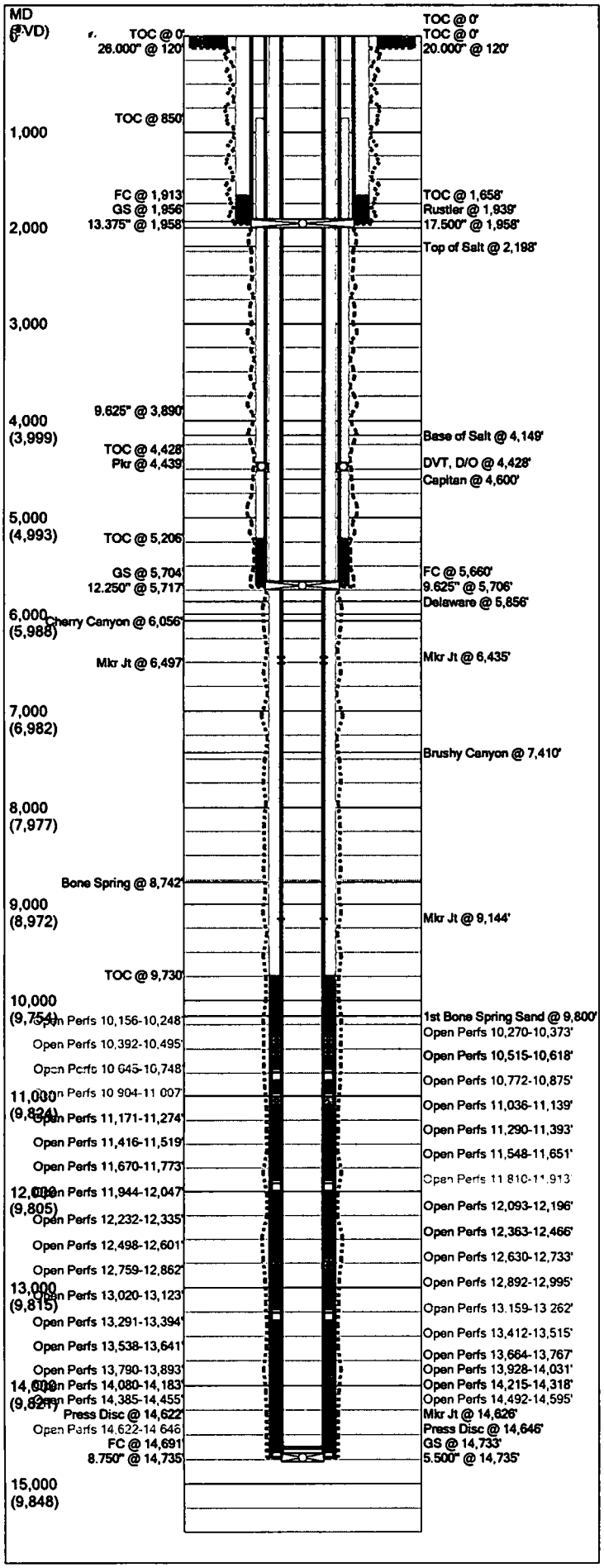

Last Updated: 4/24/2019 01:11 PM

Caza Petroleum

Field Name	Lease Name	Well No.
Lennox	Lennox 32 State	9H

County	State	API No.
Lea	New Mexico	30025453070000

Version	Version Tag
1	Completed

GL (ft)	KB (ft)	Section	Township/Block	Range/Survey
3,539.0	3,561.0	32	22S	35E

Operator	Well Status	Latitude	Longitude
Caza Operating	Completed	32.355203	-103.384912

Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
100	FNL	1170	FEL	SECTION

Prop Num	Spud Date	Comp. Date
39019	1/18/2019	

Additional Information

DIRECTIONS TO LOCATION: FROM EUNICE CITY LIMITS GO SOUTH ON ST. HWY. 207 APPROX. 2.0 MILES TO CO. RD. 21(DELAWARE BASIN). TURN RIGHT AND GO WEST APPROX. 16.9 MILES TO CALICHE LSE. ROAD, TURN RIGHT AND GO NORTH-NORTHWEST APPROX. 1.1 MILE, TURN LEFT AND GO SOUTHWEST APPROX. 0.4 MILES VEER RIGHT AND CONTINUE NORTHWEST APPROX. 0.3 MILES TO LENNOX 32 STATE #2H FOLLOW ROAD SURVEY NORTHWEST 69 FEET TO THIS PAD.

OGRID	Pool Name and Code	Well Type	Dedicated Acres
249099	Featherstone; Bone Spring (24250)	Hz, Oil	160

Prepared By	Updated By	Last Updated
Steve Morris	Steve Morris	4/24/2019 1:11 PM

Hole Summary

Date	Diam. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	26.000	0	120	
1/20/2019	17.500	120	1,958	
1/25/2019	12.250	1,958	5,717	
3/5/2019	8.750	5,697	14,735	

Tubular Summary

Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
	Conductor Casing	20.000	94.00	H40	0	120
1/21/2019	Surface Casing	13.375	54.50	J55	0	1,958
1/25/2019	Intermediate Casing	9.625	40.00	J55	0	3,890
1/25/2019	Intermediate Casing	9.625	40.00	HCL80	3,890	5,706
3/15/2019	Production Casing	5.500	17.00	P110	0	14,735

Casing Cement Summary

C	Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
■		100	20.000	0	120	
	1/21/2019	1,386	13.375	0	1,658	Circ 578 sx to surface
■	1/21/2019	345	13.375	1,658	1,958	
	1/26/2019	1,755	9.625	850	4,428	Stage 2 Lead TOC @ 850' - Temp Survey
	1/26/2019	218	9.625	4,428	5,206	Stage 1 Lead
■	1/26/2019	248	9.625	5,206	5,706	Stage 1 Tail
	3/8/2019	461	5.500	0	9,730	TOC @ 7400'MD CBL
■	3/8/2019	2,318	5.500	9,730	14,735	

Tools/Problems Summary

Date	Tool Type	O.D. (In)	I.D. (In)	Top (MD ft)	Bottom (MD ft)
1/21/2019	FC	13.375	0.000	1,913	0
1/21/2019	GS	13.375	0.000	1,956	0
1/25/2019	DVT, D/O	9.625	0.000	4,428	0
1/25/2019	Pkr	9.625	8.835	4,439	0
1/25/2019	FC	9.625	0.000	5,660	0
1/25/2019	GS	9.625	0.000	5,704	0
3/15/2019	Mkr Jt	5.500	0.000	6,435	6,456
3/15/2019	Mkr Jt	5.500	0.000	6,497	6,517
3/15/2019	Mkr Jt	5.500	0.000	9,144	9,164
3/15/2019	Press Disc	5.500	0.000	14,622	0
3/15/2019	Mkr Jt	5.500	0.000	14,626	14,646
3/15/2019	Press Disc	5.500	0.000	14,646	0
3/15/2019	FC	5.500	0.000	14,691	0
3/15/2019	GS	5.500	0.000	14,733	0

Perforation Summary

C	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)
	4/21/2019	Open	1st Bone Spring Sand	10156	10,248
	4/21/2019	Open	1st Bone Spring Sand	10270	10,373
	4/21/2019	Open	1st Bone Spring Sand	10392	10,495
	4/20/2019	Open	1st Bone Spring Sand	10515	10,618
	4/20/2019	Open	1st Bone Spring Sand	10645	10,748
	4/20/2019	Open	1st Bone Spring Sand	10772	10,875
	4/20/2019	Open	1st Bone Spring Sand	10904	11,007
	4/20/2019	Open	1st Bone Spring Sand	11036	11,139
	4/19/2019	Open	1st Bone Spring Sand	11171	11,274
	4/19/2019	Open	1st Bone Spring Sand	11290	11,393
	4/19/2019	Open	1st Bone Spring Sand	11416	11,519
	4/19/2019	Open	1st Bone Spring Sand	11548	11,651
	4/18/2019	Open	1st Bone Spring Sand	11670	11,773
	4/18/2019	Open	1st Bone Spring Sand	11810	11,913
	4/18/2019	Open	1st Bone Spring Sand	11944	12,047
	4/18/2019	Open	1st Bone Spring Sand	12093	12,196
	4/17/2019	Open	1st Bone Spring Sand	12232	12,335
	4/17/2019	Open	1st Bone Spring Sand	12363	12,466
	4/17/2019	Open	1st Bone Spring Sand	12498	12,601
	4/17/2019	Open	1st Bone Spring Sand	12630	12,733
	4/16/2019	Open	1st Bone Spring Sand	12759	12,862
	4/15/2019	Open	1st Bone Spring Sand	12892	12,995
	4/15/2019	Open	1st Bone Spring Sand	13020	13,123

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Caza Petroleum

C	Date	Perf. Status	Formation	OA Top (MD ft)	OA Bottom (MD ft)
	4/15/2019	Open	1st Bone Spring Sand	13159	13,262
	4/14/2019	Open	1st Bone Spring Sand	13291	13,394
	4/14/2019	Open	1st Bone Spring Sand	13412	13,515
	4/13/2019	Open	1st Bone Spring Sand	13538	13,641
	4/13/2019	Open	1st Bone Spring Sand	13664	13,767
	4/13/2019	Open	1st Bone Spring Sand	13790	13,893
	4/13/2019	Open	1st Bone Spring Sand	13928	14,031
	4/12/2019	Open	1st Bone Spring Sand	14080	14,183
	4/12/2019	Open	1st Bone Spring Sand	14215	14,318
	4/12/2019	Open	1st Bone Spring Sand	14385	14,455
	4/11/2019	Open	1st Bone Spring Sand	14492	14,595
	4/11/2019	Open	1st Bone Spring Sand	14622	14,646

Formation Tops Summary

Formation	Top (TVD ft)	Comments
Rustler	1,939	
Top of Salt	2,198	
Base of Salt	4,149	
Capitan	4,600	
Delaware	5,856	
Cherry Canyon	6,056	
Brushy Canyon	7,410	
Bone Spring	8,742	
1st Bone Spring Sand	9,800	

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Caza Petroleum

Field Name	Lease Name	Well No.	County	State	API No.
Lennox	Lennox 32 State	9H	Lea	New Mexico	30025453070000

Version	Version Tag	Spud Date	Comp. Date	GL (ft)	KB (ft)
1	Completed	1/18/2019		3,539.0	3,561.0

Section	Township/Block	Range/Survey	Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From
32	22S	35E	100	FNL	1,170	FEL	SECTION

Operator	Well Status	Latitude	Longitude	Prop Num
Caza Operating	Completed	32.355203	-103.384912	39019

OGRID	Pool Name and Code	Well Type	Dedicated Acres
249099	Featherstone; Bone Spring (24250)	Hz, Oil	160

Last Updated	Prepared By	Updated By
04/24/2019 1:11 PM	Steve Morris	Steve Morris

Additional Information

DIRECTIONS TO LOCATION: FROM EUNICE CITY LIMITS GO SOUTH ON ST. HWY. 207 APPROX. 2.0 MILES TO CO. RD. 21(DELAWARE BASIN). TURN RIGHT AND GO WEST APPROX. 16.9 MILES TO CALICHE LSE. ROAD, TURN RIGHT AND GO NORTH-NORTHWEST APPROX. 1.1 MILE, TURN LEFT AND GO SOUTHWEST APPROX. 0.4 MILES VEER RIGHT AND CONTINUE NORTHWEST APPROX. 0.3 MILES TO LENNOX 32 STATE #2H FOLLOW ROAD SURVEY NORTHWEST 69 FEET TO THIS PAD.

Hole Summary

Date	Diam. (In)	Top (MD ft)	Bottom (MD ft)	Comments
	26.000	0	120	
1/20/2019	17.500	120	1,958	
1/25/2019	12.250	1,958	5,717	
3/5/2019	8.750	5,697	14,735	

Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Coupling	Top (MD ft)	Bottom (MD ft)	Comments
	Conductor Casing	3	20.000	94.00	H40		0	120	
1/21/2019	Surface Casing	47	13.375	54.50	J55	STC	0	1,958	
1/25/2019	Intermediate Casing	97	9.625	40.00	J55	LTC	0	3,890	
1/25/2019	Intermediate Casing	43	9.625	40.00	HCL80	LTC	3,890	5,706	
3/15/2019	Production Casing	357	5.500	17.00	P110	GBCD	0	14,735	

Casing Cement Summary

C	Date	No. Sx	Yield (ft3/sk)	Vol. (ft3)	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
■		100	1.35	135	20.000	0	120		
	1/21/2019	1,386	1.65	2,287	13.375	0	1,658	Class C 13.7ppg + 0.2% KCA-2, 3% Bentonite, 0.2% KCFP-6, 0.25#/sk Cello Flake	Circ 578 sx to surface
■	1/21/2019	345	1.33	459	13.375	1,658	1,958	Class C 14.8ppg + 0.1% KCA-2, 0.2%KCFP-6, 0.25#/SK Cello Flake	
	1/26/2019	1,755	1.72	3,019	9.625	850	4,428	Class C 12.9ppg	Stage 2 Lead TOC @ 850' - Temp Survey
	1/26/2019	218	1.72	375	9.625	4,428	5,206	Class C 12.9ppg	Stage 1 Lead
■	1/26/2019	248	1.33	330	9.625	5,206	5,706	Class C 14.8ppg	Stage 1 Tail
	3/8/2019	461	2.94	1,355	5.500	0	9,730	Class H + 3% Extender + 0.2% LCM + 0.8% Retarder	TOC @ 7400'MD CBL
■	3/8/2019	2,318	1.54	3,570	5.500	9,730	14,735	Class H + 3% Extender + 0.35% LCM + 0.1% Viscosifier	

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
1/21/2019	Float Collar	13.375	0.000	1,913	0		
1/21/2019	Guide Shoe	13.375	0.000	1,956	0		
1/25/2019	DV tool (drilled out)	9.625	0.000	4,428	0		
1/25/2019	Packer	9.625	8.835	4,439	0		
1/25/2019	Float Collar	9.625	0.000	5,660	0		
1/25/2019	Guide Shoe	9.625	0.000	5,704	0		
3/15/2019	Marker Joint	5.500	0.000	6,435	6,456		

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
3/15/2019	Marker Joint	5.500	0.000	6,497	6,517		
3/15/2019	Marker Joint	5.500	0.000	9,144	9,164		
3/15/2019	Pressure Disc	5.500	0.000	14,622	0		
3/15/2019	Marker Joint	5.500	0.000	14,626	14,646		
3/15/2019	Pressure Disc	5.500	0.000	14,646	0		
3/15/2019	Float Collar	5.500	0.000	14,691	0		
3/15/2019	Guide Shoe	5.500	0.000	14,733	0		

Perforation Summary

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/11/2019	Open	1st Bone Spring Sand		Stage 2 Pumped 302,365 lbs 40/70 white and 70,712 lbs CRC-E 40/70. Max proppant concentration 3.33 ppg. AP-5049 psi AR-80 bpm MP-6202 psi ISIP-1865 psi FG-0.62

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
14492	14,496	8	32	60	
14525	14,529	8	32	60	
14558	14,562	8	32	60	
14591	14,595	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/11/2019	Open	1st Bone Spring Sand		Stage 1 Pumped 296,555 lbs 40/70 white and 95,086 lbs CRC-E 40/70. Max proppant concentration 2.72 ppg. AP-3499 psi AR-81 bpm MP-3726 psi ISIP-1691 psi FG-0.61

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
14622	14,623	6	6	60	
14645	14,646	6	6	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/12/2019	Open	1st Bone Spring Sand		Stage 5 Pumped 287,417 lbs 40/70 white and 93,544 lbs CRC-E 40/70. Max proppant concentration 2.23 ppg. AP-5,368 psi AR-81 bpm MP-6759 psi ISIP-2759 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
14080	14,084	8	32	60	
14113	14,117	8	32	60	
14146	14,150	8	32	60	
14179	14,183	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/12/2019	Open	1st Bone Spring Sand		Stage 4 Pumped 355,919 lbs 40/70 white and 89,220 lbs CRC-E 40/70. Max proppant concentration 3.05 ppg. AP-4,827 psi AR-82 bpm MP-5515 psi ISIP-1738 psi FG-0.61

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
14215	14,219	8	32	60	
14248	14,252	8	32	60	
14281	14,285	8	32	60	
14314	14,318	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/12/2019	Open	1st Bone Spring Sand		Stage 3 Pumped 304,200 lbs 40/70 white and 79,321 lbs CRC-E 40/70. Max proppant concentration 2.44 ppg. AP-5665 psi AR-81 bpm MP-6568 psi ISIP-2178 psi FG-0.54

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
14385	14,389	8	32	60	
14418	14,422	8	32	60	
14451	14,455	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/13/2019	Open	1st Bone Spring Sand		Stage 9 Pumped 310,907 lbs 40/70 white and 98,740 lbs CRC-E 40/70. Max proppant concentration 2.78 ppg. AP-5,106 psi AR-81 bpm MP-8136 psi ISIP-2716 psi FG-0.74

C	Date	Perf. Status	Formation	Closed Date	Comments

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13538	13,542	8	32	60	
13571	13,575	8	32	60	
13604	13,608	8	32	60	
13637	13,641	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/13/2019	Open	1st Bone Spring Sand		Stage 8 Pumped 290,760 lbs 40/70 white and 94,667 lbs CRC-E 40/70. Max proppant concentration 2.71 ppg. AP-5,072 psi AR-81 bpm MP-6153 psi ISIP-2660 psi FG-0.70.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13664	13,668	8	32	60	
13697	13,701	8	32	60	
13730	13,734	8	32	60	
13763	13,767	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/13/2019	Open	1st Bone Spring Sand		Stage 7 Pumped 300,500 lbs 40/70 white and 94,580 lbs CRC-E 40/70. Max proppant concentration 2.82 ppg. AP-5,604 psi AR-81 bpm MP-6788 psi ISIP-2921 psi FG-0.73.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13790	13,794	8	32	60	
13823	13,827	8	32	60	
13856	13,860	8	32	60	
13889	13,893	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/13/2019	Open	1st Bone Spring Sand		Stage 6 Pumped 292,642 lbs 40/70 white and 89,450 lbs CRC-E 40/70. Max proppant concentration 2.40 ppg. AP-4,749 psi AR-81 bpm MP-6106 psi ISIP-2738 psi FG-0.75

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13928	13,932	8	32	60	
13961	13,965	8	32	60	
13994	13,998	8	32	60	
14027	14,031	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/14/2019	Open	1st Bone Spring Sand		Stage 11 Pumped 298,132 lbs 40/70 white and 91,422 lbs CRC-E 40/70. Max proppant concentration 2.75 ppg. AP-5,022 psi AR-80.7 bpm MP-8898 psi ISIP-2685 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13291	13,295	8	32	60	
13324	13,328	8	32	60	
13357	13,361	8	32	60	
13390	13,394	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/14/2019	Open	1st Bone Spring Sand		Stage 10 Pumped 301,000 lbs 40/70 white and 104,840 lbs CRC-E 40/70. Max proppant concentration 2.49 ppg. AP-4947 psi AR-80 bpm MP-8472 psi ISIP-2614 psi FG-0.68.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13412	13,416	8	32	60	
13445	13,449	8	32	60	
13478	13,482	8	32	60	
13511	13,515	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/15/2019	Open	1st Bone Spring Sand		Stage 14 Pumped 304,085 lbs 40/70 white and 86,216 lbs CRC-E 40/70. Max proppant concentration 2.74 ppg. AP-5496 psi AR-80.8 bpm MP-8304 psi ISIP-2628 psi FG-0.67

C	Date	Perf. Status	Formation	Closed Date	Comments

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12892	12,896	8	32	60	
12925	12,929	8	32	60	
12958	12,962	8	32	60	
12991	12,995	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/15/2019	Open	1st Bone Spring Sand		Stage 13 Pumped 69,710 lbs 40/70 white and 0 lbs CRC-E 40/70. Max proppant concentration 1.79 ppg. AP-8174 psi AR-76 bpm MP-8635 psi ISIP-2520 psi FG-0.69

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13020	13,024	8	32	60	
13053	13,057	8	32	60	
13086	13,090	8	32	60	
13119	13,123	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/15/2019	Open	1st Bone Spring Sand		Stage 12 Pumped 305,400 lbs 40/70 white and 92,088 lbs CRC-E 40/70. Max proppant concentration 2.84 ppg. AP-5374 psi AR-80 bpm MP-7708 psi ISIP-2697 psi FG-0.70

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
13159	13,163	8	32	60	
13192	13,196	8	32	60	
13225	13,229	8	32	60	
13258	13,262	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/16/2019	Open	1st Bone Spring Sand		Stage 15 Pumped 307,648 lbs 40/70 white and 107,360 lbs CRC-E 40/70. Max proppant concentration 2.78 ppg. AP-5,654 psi AR-85 bpm MP-8,139 psi ISIP-2,706 psi FG-0.72

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12759	12,763	8	32	60	
12792	12,796	8	32	60	
12825	12,829	8	32	60	
12858	12,862	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/17/2019	Open	1st Bone Spring Sand		Stage 19 Pumped 296,877 lbs 40/70 white and 94,062 lbs CRC-E 40/70. Max proppant concentration 2.64 ppg. AP-6039 psi AR-85 bpm MP-8392 psi ISIP-2692 psi FG-0.70

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12232	12,236	8	32	60	
12265	12,269	8	32	60	
12298	12,302	8	32	60	
12331	12,335	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/17/2019	Open	1st Bone Spring Sand		Stage 18 Pumped 295,159 lbs 40/70 white and 107,642 lbs CRC-E 40/70. Max proppant concentration 3.14 ppg. AP-6,358 psi AR-86 bpm MP-7,654 psi ISIP-3,087 psi FG-0.75

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12363	12,367	8	32	60	
12396	12,400	8	32	60	
12429	12,433	8	32	60	
12462	12,466	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/17/2019	Open	1st Bone Spring Sand		Stage 17 Pumped 308,726 lbs 40/70 white and 80,000 lbs CRC-E 40/70. Max proppant concentration 3.17 ppg. AP-6,266 psi AR-86 bpm MP-7,615 psi ISIP-2,416 psi FG-0.68

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments

C	Date	Perf. Status	Formation	Closed Date	Comments

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12498	12,502	8	32	60	
12531	12,535	8	32	60	
12564	12,568	8	32	60	
12597	12,601	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/17/2019	Open	1st Bone Spring Sand		Stage 16 Pumped 290,251 lbs 40/70 white and 87,491 lbs CRC-E 40/70. Max proppant concentration 3.1 ppg. AP-6,252 psi, AR-85 bpm, MP-7,887 psi, ISIP-2,721 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12630	12,634	8	32	60	
12663	12,667	8	32	60	
12696	12,700	8	32	60	
12729	12,733	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/18/2019	Open	1st Bone Spring Sand		Stage 23 Pumped 296,000 lbs 40/70 white and 92,000 lbs CRC-E 40/70. Max proppant concentration 3.98 ppg. AP-5971 psi AR-85 bpm MP-8202 psi ISIP-2769 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11670	11,674	8	32	60	
11703	11,707	8	32	60	
11736	11,740	8	32	60	
11769	11,773	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/18/2019	Open	1st Bone Spring Sand		Stage 22 Pumped 310,500 lbs 40/70 white and 93,120 lbs CRC-E 40/70. Max proppant concentration 3.39 ppg. AP-5878 psi AR-85 bpm MP-8294 psi ISIP-2641 psi FG-0.70

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11810	11,814	8	32	60	
11843	11,847	8	32	60	
11876	11,880	8	32	60	
11909	11,913	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/18/2019	Open	1st Bone Spring Sand		Stage 21 Pumped 293,090 lbs 40/70 white and 87,510 lbs CRC-E 40/70. Max proppant concentration 3.00 ppg. AP-5717 psi AR-85 bpm MP-6891 psi ISIP-2822 psi FG-0.73

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11944	11,948	8	32	60	
11977	11,981	8	32	60	
12010	12,014	8	32	60	
12043	12,047	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/18/2019	Open	1st Bone Spring Sand		Stage 20 Pumped 301,031 lbs 40/70 white and 91,025 lbs CRC-E 40/70. Max proppant concentration 2.66 ppg. AP-6026 psi AR-85 bpm MP-8312 psi ISIP-2727 psi FG-0.66

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
12093	12,097	8	32	60	
12126	12,130	8	32	60	
12159	12,163	8	32	60	
12192	12,196	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/19/2019	Open	1st Bone Spring Sand		Stage 27 Pumped 271,210 lbs 40/70 white and 100,579 lbs CRC-E 40/70. Max proppant concentration 3.19 ppg. AP-6020 psi AR-86 bpm MP-8154 psi ISIP-3512 psi FG-0.70.

C	Date	Perf. Status	Formation	Closed Date	Comments

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11171	11,175	8	32	60	
11204	11,208	8	32	60	
11237	11,241	8	32	60	
11270	11,274	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/19/2019	Open	1st Bone Spring Sand		Stage 26 Pumped 301,500 lbs 40/70 white and 102,200 lbs CRC-E 40/70. Max proppant concentration 3.25 ppg. AP-5748 psi AR-87 bpm MP-8066 psi ISIP-2723 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11290	11,294	8	32	60	
11323	11,327	8	32	60	
11356	11,360	8	32	60	
11389	11,393	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/19/2019	Open	1st Bone Spring Sand		Stage 25 Pumped 308,600 lbs 40/70 white and 97,440 lbs CRC-E 40/70. Max proppant concentration 3.89 ppg. AP-5686 psi AR-85 bpm MP-8213 psi ISIP-2863 psi FG-0.72.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11416	11,420	8	32	60	
11449	11,453	8	32	60	
11482	11,486	8	32	60	
11515	11,519	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/19/2019	Open	1st Bone Spring Sand		Stage 24 Pumped 289,320 lbs 40/70 white and 93,020 lbs CRC-E 40/70. Max proppant concentration 3.80 ppg. AP-5878 psi AR-85 bpm MP-8645 psi ISIP-2850 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11548	11,552	8	32	60	
11581	11,585	8	32	60	
11614	11,618	8	32	60	
11647	11,651	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/20/2019	Open	1st Bone Spring Sand		Stage 32 Pumped 308,540 lbs 40/70 white and 87,125 lbs CRC-E 40/70. Max proppant concentration 3.20 ppg. AP-7127 psi AR-76.7 bpm MP-8363 psi ISIP-2525 psi FG-0.69

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10515	10,519	8	32	60	
10548	10,552	8	32	60	
10581	10,585	8	32	60	
10614	10,618	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/20/2019	Open	1st Bone Spring Sand		Stage 31 Pumped 295,000 lbs 40/70 white and 88,000 lbs CRC-E 40/70. Max proppant concentration 3.27 ppg. AP-4676 psi AR-85.2 bpm MP-8308 psi ISIP-2705 psi FG-0.71.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10645	10,649	8	32	60	
10678	10,682	8	32	60	
10711	10,715	8	32	60	
10744	10,748	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/20/2019	Open	1st Bone Spring Sand		Stage 30 Pumped 294,000 lbs 40/70 white and 95,000 lbs CRC-E 40/70. Max proppant concentration 3.37 ppg. AP-5334 psi AR-70.7 bpm MP-8503 psi ISIP-2757 psi FG-0.71

C	Date	Perf. Status	Formation	Closed Date	Comments

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10772	10,776	8	32	60	
10805	10,809	8	32	60	
10838	10,842	8	32	60	
10871	10,875	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/20/2019	Open	1st Bone Spring Sand		Stage 29 Pumped 297,507 lbs 40/70 white and 94,636 lbs CRC-E 40/70. Max proppant concentration 4.11 ppg. AP-5468 psi AR-85.2 bpm MP-7240 psi ISIP-2496 psi FG-0.69

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10904	10,908	8	32	60	
10937	10,941	8	32	60	
10970	10,974	8	32	60	
11003	11,007	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/20/2019	Open	1st Bone Spring Sand		Stage 28 Pumped 279,779 lbs 40/70 white and 91,658 lbs CRC-E 40/70. Max proppant concentration 3.53ppg. AP-5520 psi AR-85.6 bpm MP-7633 psi ISIP-2444 psi FG-0.68.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
11036	11,040	8	32	60	
11069	11,073	8	32	60	
11102	11,106	8	32	60	
11135	11,139	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/21/2019	Open	1st Bone Spring Sand		Stage 35 Pumped 394,243 lbs 40/70 white and 93,723 lbs CRC-E 40/70. Max proppant concentration 3.31 ppg. AP-5277 psi AR-86.9 bpm MP-8041 psi ISIP-2925 psi FG-0.73

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10156	10,160	8	32	60	
10185	10,189	8	32	60	
10215	10,219	8	32	60	
10244	10,248	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/21/2019	Open	1st Bone Spring Sand		Stage 34 Pumped 291,368 lbs 40/70 white and 88,000 lbs CRC-E 40/70. Max proppant concentration 3.31 ppg. AP-4916 psi AR-86.5 bpm MP-7922 psi ISIP-2869 psi FG-0.73.

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10270	10,274	8	32	60	
10303	10,307	8	32	60	
10336	10,340	8	32	60	
10369	10,373	8	32	60	

C	Date	Perf. Status	Formation	Closed Date	Comments
	4/21/2019	Open	1st Bone Spring Sand		Stage 33 Pumped 297,510 lbs 40/70 white and 99,526 lbs CRC-E 40/70. Max proppant concentration 3.26 ppg. AP-5610 psi AR-81.3 bpm MP-5949 psi ISIP-2691 psi FG-0.71

Top (MD ft)	Bottom (MD ft)	SPF	Shots	Phasing (deg)	Interval Comments
10392	10,396	8	32	60	
10425	10,429	8	32	60	
10458	10,462	8	32	60	
10491	10,495	8	32	60	

Formation Top Summary

Formation Name	Top(TVD ft)	Comments
Rustler	1,939	

Formation Name	Top(TVD ft)	Comments
Top of Salt	2,198	
Base of Salt	4,149	
Capitan	4,600	
Delaware	5,856	
Cherry Canyon	6,056	
Brushy Canyon	7,410	
Bone Spring	8,742	
1st Bone Spring Sand	9,800	

Well History Summary

Date	Comments	Daily Cost
12/20/2018	Sweat GCI contracted and built location. Start tank battery construction.	$127,270
1/13/2019	First truck showed up at 07:30hrs this morning. Held pre-job safety meeting with Nabors employees and TransPecos trucking at 08:15hrs. Move rig to Lennox State 32 9H. 85% moved in, 0%rigged up. After positioning shaker pit, pole trucks tied off to pad eye on all four corners and attempted to lift upper section when pad eyes broke off. At this point Rig up came to a halt at 17:15hrs. Will need to machine donuts on pad eyes and weld and perform a pull test. Continued to haul rig equipment onto location and stage out on location. Moved in crew quarters at 20:00hrs. Trucks shut down due to no daylight. Wait on daylight to continue rig move. No crews working.	$230,234
1/14/2019	Safety meeting with rig crews and Trans Pecos trucking. Continue to rig up with rig crews MI/RU trucks left at 20:00hrs. Derrick pinned to sub and on headache rack. Install cable tray stands, run out power cables and connect to rig floor, dress out derrick. 100% moved & 75% rigged up. Wait on daylight	$28,885
1/15/2019	Rig up stand pipe, vib hoses, dress out derrick, install monkey board. Hand blocks, inspect mud pumps. Attempt to raise derrick mast at 15:00hrs mast at 45 deg. Canrig onsite trouble shooting hydraulic unit. Lower derrick down to headache rack, trouble shoot gateway hydraulic system, continue rigging up back yard, gas buster, install hand rails on shaker skid, finish working and inspecting mud pumps and misc. around the rig.	$44,119
1/16/2019	NPT: Continue trouble shooting hydraulic system to derrick scoping cylinder. Raise derrick mast very slowly, still not at 100%. Lift substructure 3 ft and install vibrating hose, raised and pinned substructure at 16:30hrs. Continue to rig up with rig crews. Fill pits up with fresh water, rig up floor, scope up derrick, spool up draw works, install kelly hose and vibrator hose, un dock TDS, dress out TDS, Trouble shoot TDS.	$46,657
1/17/2019	Continue to rig up fresh water lines from mud tanks to frac tank manifold and brine, and OBM to 4" transfer pump. 1ST truck arrived at 07:00hrs, set in and RU walking package, B.O.P wrangler, pragma, and flow line package, set in accumulator skid and released trucks at 12:30hrs. Remove spacer spool from B.O.P and stand up, install flow line and mud lines. While waiting on trouble shooting top drive. While waiting on top drive to be repaired: Install conductor and weld, install flow line, center and install turn buckles, NPT: While trouble shooting incoders in VFD house to Top Drive: Setup pipe racks and stage out vertical control BHA.	$57,964
1/18/2019	Trouble shoot 600 volt encoder to drawwork. Wait on encoder to arrive. Replaced drawwork encoder. Pick up and make up, BHA #1. Tag bottom at 115' Drill 115' - 140' Wob 10, 400 Gpm, 40 Rpm, 300 Diff, SPP 1,000, 5k TQ. Trouble shoot MWD, change out cable and clean out transducer. Drill 140' - 170' Wob 10, 400 Gpm, 90 Rpm, 300 Diff, SPP 1,000, 5k TQ. Rig Service and change out stand pipe gasket. Drill 170' - 275' Wob 10, 400 Gpm, 40 Rpm, 300 Diff, SPP 1,000, 5k TQ TIH 120' - 275'. Drill 275' - 320' Wob 10, Gpm 600-700, 500 Diff, 50-90 Rpm, 1,250 SPP, 5k TQ	$60,369
1/19/2019	Drill F/ 320' T/342' (22'@44FPH) WOB/4-5, GPM/650, RPM/40 MRPM/101, DIFF/115.. Make connection and pump up survey. Drill F/ 342' T/402' (60@60FPH) WOB/4-16, GPM/700, RPM/90 MRPM/106, DIFF/350-550. Make connection -st-80 not biting. Drill F/ 402' T/576' (174@116FPH) WOB/16, GPM/700, RPM/90 MRPM/106, DIFF/350-600. NPT: 3rd party D.E.S working on all three dryer shakers. Drill F/ 576' T/1,685' (176@117FPH) WOB/16, GPM/700, RPM/90 MRPM/106, DIFF/350-600.	$46,203
1/20/2019	Drill F/ 1685' T/1718' (33'@8.3FPH) WOB/30-40, GPM/700, RPM/80 MRPM/108, DIFF/350-500.Pumped high viscous sweep and circulated hole clean. Trip out of hole for bit F/1,718' T/SURFACE. Bled mud motor and broke off. Make up new bit #2 Ulterra 17.5 CF616 SN# 42593 and surface test mud. Drill F/ 1718' T/ 1,958' (240'@53FPH) WOB/25, GPM/650, RPM/80 MRPM/101, DIFF/350-500. POOH 1,958' - 1,066' work tight hole.	$61,731
1/21/2019	RIH 13 3/8" casing 1,917', rig up Keane cementers & cement, Cut off conductor and weld on Wellhead. Pumped 30bbls H20 with blue dye, Lead 1386 sks class "C" 13.7 ppg 1.65 yield, 8.55gal/sk. 0.2% KCA-2, 3% Bentonite, 0.2% KCFP-6, 0.25#/sk Cello Flake, Tail: 345sks class "C" 0.1% KCA-2, 0.2%KCFP-6, 0.25#/SK Cello Flake. Shut down washed lines and drop wiper plug at 19:41hrs and displaced with 289 bbls FW. Final circulating pressure 690psi, landed wiper plug at 16:33 NM time. Pressured up to 1600 psi.. Held pressure. 5 minutes and bled off, received 2.5 bbls back into tubb. Checked floats, floats are holding. Circ. back 170 bbls (578sks) cement to surface. Rig down cementers.	$87,018

Date	Comments	Daily Cost
1/22/2019	Install and weld on Multi wellhead bowl system. Test casing head assembly 13-5/8"5M X 13- 3/8" SOW. NUBOPE. Test the choke manifold and all 4" related valves to 250psi low and 5000psi high. Function test BOPE. Install flow line, rig up fill up line and installed mouse hole and filled working pits with cut brine. Rig up flare. Stage out Schlumberger directional tools and pick up scribe and surface test. Trip in hole with DC's, HWDP, and DP. Drill cement F/8=1875' T/1916'. Rotate F/1916' T/2042'. Remove trip nipple, install rotating head. Rotate F/1978' T/ 2075'. WOB-30 Diff- 400-450 GPM- 400 Rotary-55.	$167,515
1/23/2019	Rotate & Slide F/2,082' T/4,262' WOB-25 to 30, GPM-600 RPM-75 DIFF-200 to 500 TQ-6k, SPP 2200 to 3300.	$57,971
1/24/2019	Rotate & Slide F/4,262' T/5,706' WOB-25 to 30, GPM-600 RPM-75 DIFF-200 to 500 TQ-6k, SPP 2200 to 3300. Lost circulation at 4,695'. Pump hole volume prepare rig floor for trip, No Returns.	$67,282
1/25/2019	Circulate & Condition hole. POOH 5,706' - 1,600' pump calculated fill. Remove rot. Head & install trip nipple. POOH 1,600'-136' rack back all Dc's. Laydown Directional tools. Service Top Drive & Rig change out die blocks on Tm-80. PJSM with Butch's Casing Crew & Crt & rig up. Dry fit Landing joint. M/U shoe and float track, test and RIH with csg 0' -1247'. Pick up DV Tool, Run Casing 1247' - 5706'. Land casing in wellhead. Circulate with CRT. Wait on Keane Cementers Cement Head. Lay down CRT. Rig up cement crew. Pump truck having issues waiting on Mechanic.	$97,607
1/26/2019	PJSM, Cement 9 5/8" casing 1st stage with 30 bbls spacer fresh water followed by 67 bbls of 12.9 ppg yield 1.72 lead cement followed by 59 bbls of 14.8 ppg yield 1.33 tail cement, shut down and drop plug and displace with 429 bbls of fresh water, slow rate to 4bbls/min 350 psi bump plug @ 1,150 psi and held for 5 mins, FH No returns throughout 1st stage. Drop bomb and inflated ECP. Pressure up 1,420 psi, stage up 200 psi increments to total of 1610 psi opened ECP pressured up to 1,750 psi hold 5 minutes, bled back 3.75 bbls. Dropped bomb & opened Dv-tool, circulated 20 bbls turn over to rig. Circulate Dv-Tool. Cement 2nd stage with 30 bbls spacer of fresh water followed by 538 bbls of 12.9ppg yield 1.77 lead cement drop plug and displace with 336 bbls of fresh water, slow rate 4bpm @ 800psi bump plug and pressure up to 2,400psi, and held for 5 mins bled back 3 bbls FH. Had full returns throughout 2nd stage. Did not circulate cement to surface. Rig down cementers. WOC for Temperature Survey. Rig up Wireline & run temperature survey. TOC @ 850'. Jet mud tanks, prep for nipple down, Remove turnbuckles, unbolt flow line, remove mouse hole, unbolt kill line. Remove landing jt, drain stack, empty cellar. Install pack off and energize. Test pack off to 5,000psi for 15 min. Nipple down BOP. Nipple down speed adapter. Wait on Sweco to get Well head cap to location. Install Wellhead cap. Release Rig 1/27/19 @ 06:00.	$362,120
2/10/2019	Skid rig from Lennox 32 state 10H to Lennox State 32- 9H. Nipple up B.O.P. Test Choke manifold to 5,000 psi high and 250 psi low, Test Back to the pumps 2,500 psi high, 250 pis low. Had to remove kill line valve up right, so mouse hole could be set in. Test Blinds 5,000 psi high and 250 psi low, test lower pipe rams 5,000 psi high and 250 psi low, test upper pipe rams 5,000 psi high and 250 psi low, test Hydrill 1,000 high psi and 250 psi low. Lay out Collars on cat walk. Rig down testers, install pollution pan. Pick and make up bit, pick up and make up 2 out of 6 - 6" collars to 239'.	$42,692
2/11/2019	Trip in hole F/250' T/4411' tagged cmt . Ream and wash F/ 4411' T/4429' and tag DVT. Circulate hole clean with 2 bottoms up. Close annular and test casing to 1500psi for 30 minutes (good). Drill out DVT F/4429' T/4451' and cement. Work bit through DVT 4 times. TIH F/ 4451' T/5660' and tagged float collar. Drill out float collar and cmt f/ 4460' t/4468'. Circulate hole clean with 2 bottoms up. Test casing to 1,500 psi for 30 minutes. Drill 5,665' - 5,717' Wob 30, Gpm 400, Rpm 35, TQ-4k. Circulate bottoms up. Jet out mud tanks and clean out of water base mud and cuttings. Safety meeting on transfer oil base mud into mud tanks and displace hole. Transfer oil base from frac tanks into mud tanks & displace with oil base mud. Fill up trip tanks and make slug Flow check and pump slug. POOH 5,717' - 989'.	$34,840
2/12/2019	P.O.O.H 989' to surface and broke off bit and lay down bit sub. Clean rig floor and pre to pick up directional tools. Install wear bushing and could not release from retriever. Service top drive. Pick up bha and scribe and surface test and make up bit. TIH with Directional tangent BHA. Remove Trip nipple and install rotating head. Fill up and wash to bottom 5,733' Got on bottom and Directional does not match bottom hole tag. 36' too deep. Circulate and fill up tanks and build slug. Flow check and POOH and strap all Drill pipe, HWDP and DC's.(Found Error in HWDP) The directional driller working days averaged the pipe length and told the driller to change the length of the HWDP. Both Company men were not aware of the change being made to the HWDP. Could not find it because the DD's averaged HWDP jts at 32.33 when the actual average of 30.56 a difference of 37.29' deeper. TIH from DD tools to 5,733' & SYNC with MWD.	$80,574
2/13/2019	Sync MWD and wash and ream to bottom F/ 5700' T/5708. Drill rotate and Slide F/5708' T/7260' (330'@60FPH) WOB/30, SPP/3169psi, GPM/550, DIFF/425, RPM/60, MTR-RPM/156, TQ/9177. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures.	$68,047
2/14/2019	Rotate & Slide F/7,260' T/8,114'(7 FPH to 55 FPH) WOB/30, SPP/3095, GPM/550, MMRPM/160, RPM/55, DIFF/290, TQ/8982. Circulate and condition, prep rig floor for trip. Check Flow, Pump slug, POOH. F/8114' T/6,500'. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$88,773
2/15/2019	P.O.O.H F/6500' T/ surface, bled motor down and broke off bit. Laid down mud motor and picked up new NOV 6.75" 7/8 5.0 1.83° SN#1080125-8, scribe and surface test, TIH with BHA #6 f/0' t/8095'. Break circulation and wash to bottom F/8095' T/8114'. Break circulation and wash to bottom F/8095' T/8114'. Rotate & Slide F/8114' T/8593' (12'@8FPH) TF-275 WOB/30 DIFF/100 GPM/550 MMRM-146.	$101,811
2/16/2019	Rotate and Slide F/8593' T/9100' (285'@32.3FPH) WOB/35, SPP/ 3109, DIFF/396, GPM/500 MMRPM/146, RPM/50, TQ 10. Change gauge on choke panel & sensor on lower stand pipe. Circulate and condition hole, prepare rig floor for trip. Checked flow, pumped slug. NPT: Rig repair, breaker to statics control in VFD house tripped causing to lose communication to rig floor console. POOH F/9100' T/6320'.	$110,371
2/17/2019	Trip out F/6320' to 474' top of 6.5" DC's. Lay down 6.5" DC's. F/474' to108' top of directional tools. Lay down 1.83 deg bend mtr sn#1080125-8. P/U Nov 6.75" 7/8 5.0 2.25deg 0.29rpg sn# W1652136-1 mud mtr scribe, surface test and M/U Ulterra 8.75" CF613 SN#42723. TIH f/surface to 5067'. Install rotating head. TIH F/5067' T/6000'. Reprogram mwd tool @ 6000'. TIH F/6000' T/8741. Pick up drill pipe F/8741' T/9089'. Circulate and condition hole Sync MWD tool. Circulate and condition hole Sync MWD tool. Slide Drill F/9100' T/ 9200'. WOB-30 SPP/2050 GPM/400 MMRPM/116	$82,121

Date	Comments	Daily Cost
2/18/2019	Slide and Rotate Drill F/9200' T/ 9387' (14'@7FPH) TF/ 175, WOB-30 SPP/2006 GPM/400 MMRPM/116. Motor stalled and started to lose all differential and rop. Circulate: pump 2 high viscous sweeps and circulated hole clean, pumped slug. Flow check. Pump slug. Pooh F/9387' T/surface. Bled motor and laid down bit and motor.	$60,312
2/19/2019	Scribe mud motor and surface test motor and clean rig floor and prepare to trip in hole. TIH f/ 89' to 5563'. Pull trip nipple and install rotating head rubber. Slip and cut drilling line. Test mwd from under casing. TIH f/ 5563' to 9100'. Fill pipe and break circulation and orient tool face /175. TIH F/ 9100' T/9387'. Break circulation and trouble shoot mwd. Rotate and Slide drill F/9387' T/9710' (19'@19FPH) WOB/25, SPP/3000, GPM/400, MRPM/116, RPM/20, DIFF/200, TQ/10. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures.	$159,601
2/20/2019	Rotate & Slide 9,710' – 10,020' WOB 30 GPM 400 DIFF 300 SPP 2,500 TF Building Curve. Circulate nut plug sweep, record pump pressures. Rotate & Slide 10,020' - 10,100' WOB-33 GPM-450 DIFF-300 RPM-20 SPP-2810 TQ-11K. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$163,154
2/21/2019	Rotate & Slide 10,100' - 10,538' WOB 38 GPM 500 DIFF 200 RPM 20 SPP 3,200 Tq 11k. Circulate and condition hole. Flow Check, pump slug. POOH 10,538' - 6,000'. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures.	$60,831
2/22/2019	POOH 6,000' - 1,400'. Remove rotating head, install trip nipple. POOH 1,400' - 120'. Break bit off, lay down directional tools. P/U and make up directional tools. Surface test. TIH 135' - 6,800'. Remove trip nipple install rotating head. TIH 6,800' - 9,700'. Directional work re-configure WITS. Open hole logged from 9700' to 9740' resistivity. Wash and ream F/9740' T/9835'. Open Hole log 9,835' - 10538'. Gpm-350. Rotate 10,538' - 10,650' WOB-23 GPM-500 RPM-75 DIFF-520 SPP-3310 TQ-13K	$115,380
2/23/2019	Rotate & Slide 10,650' – 11,825' WOB 25 GPM 500 DIFF 400 RPM 75 SPP 3,250 Tq 14k.	$54,567
2/24/2019	Rotate & Slide 11,650' – 12,565' WOB 25 GPM 500 DIFF 400 RPM 75 SPP 3,250 Tq 14k	$92,307
2/25/2019	Flow Check to trip tank no flow. POOH 12,565' - 140'. Clean & organize floor after pulling wet string. Down link resistivity tool & stand back. Break bit & laydown motor. Bit box of motor was sticking out 6" from housing. Pick up bit and bit sub and reamer. TIH F/ surface T/6600'. Fill pipe every 30 stds. Remove Trip nipple install rotating head. TIH F/6600' T/9333'. Fill pipe. Wash and ream F/9333' T/9650' GPM-500 RPM-60 WOB-10 Tq-4k-12k	$90,210
2/26/2019	Wash & Ream 9,650' - 10,084'. Circulate bottoms up. Flow check. POOH & laydown reaming assembly. Pick up sidetrack assembly scribe & test, make up bit. TIH 90' - 4600'. Remove trip nipple, install rotating head. TIH 4,660'-10,080'. Circulate 2 bottoms up @ 400 gpm. TIH 2 stands and a single, pick up 1 joint. Building trough F/10,306'-T/10,337'. Time Drill F/10,337' T/10,340'.	$69,129
2/27/2019	Slide and rotate 10,340' - 10,663' Wob 30, GPM 325, Diff 150, SPP 1,500, TF-120 to sidetrack well	$43,974
2/28/2019	Circulate bottoms up. Flow check and fill up trip tanks. Back ream out of hole 10,663' - 10,300'. POOH 10,300' - 5,500'. Slip and cut drill line. POOH 5,500' – BHA. Lay down BHA #9 & pick up and Make up BHA # 10, Test LWD and MWD. TIH 140' - 2,000'. Remove trip nipple and install rotating head. TIH 2,000' - 10,297'. Sync up with MWD & LWD tools and relog hole 10,297' -10,493' (Tight spot @ (10,407'). Diesel= 8496, mud 7062. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$88,132
3/1/2019	Re-log hole 10,493' - 10,633'. Slide and Rotate 11,371' - 10,680' Wob 10, Gpm 350, Diff 100, SPP 2,000, TF-HS. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$72,121
3/2/2019	Rotate & Slide 11,371' – 12,282' WOB 31 GPM 500 DIFF 500 RPM 60 SPP 3,400 Tq 12k. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$80,971
3/3/2019	Rotate & Slide 12,282' – 13,317' WOB 31 GPM 500 DIFF 500 RPM 60 SPP 3,400 Tq 12k. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$57,588
3/4/2019	Rotate & Slide 13,317' – 14,360' WOB 31 GPM 500 DIFF 500 RPM 60 SPP 3,400 Tq 12k. Held PJSM with both crews about H2S alarms, muster points, safety and procedures. Also discussed well control procedures	$83,146
3/5/2019	Slide & Rotate 14,360' - 14,735' WOB 40 GPM 550 DIFF 250 SPP 3,800 TF 90R. Circulate Bottoms Up. Flow Check. POOH 14,735' – BHA. Drain non-mag, up load data link, (hour) Lay down BHA # 10, pick up and make up BHA #11, Install Drill-N-Reamer. and MWD tool, Dial down motor from 2.12 to 1.50 deg.	$89,361
3/6/2019	Finish making up and testing BHA #12 (Reamer). TIH 5,000'. Take out trip Nipple and install rotating head. TIH 5,000' - 10,300'. Sync up and orient motor and wash ream side track to 10,843'. Rig blacked out, Rig service and trouble shoot VFD. Trouble shoot VFD house, Rig power down, can't power up, pumps, TDS, call out Can Rig tech. Wash and Ream 10,843' - 11,475'. TIH 14,475' 14,735'. Circulate two sweeps and five bottoms up, Fill trip tanks and make slug, Flow check @ 06:00	$71,240
3/7/2019	Flow check and pump slug. POOH 14,735' - 5,500'. Remove rotating head and install trip nipple. POOH 5,500' – BHA. Lay down BHA # 12. Clean up rig floor of OBM. Pick up and rig up casing tools. Make up float and shoe and run #23 5.5 T-95 casing to 5,279'. Pick up and install CRT tool. Run 5.5" casing 5,279' - 8,700	$76,485
3/8/2019	Run 5.5" casing 8,700' to 14,735'. Rig down casing crew and clean rig floor. Circulate and condition hole. Held PJSM with Schlumberger cementers, Peak Toe Sleeve tech and rig crew. Rig down CRT and rig up Schlumberger cementers. Perform production cement job. Pump 2 bbls line spacer and PT/4000 psi. Pump 30 bbls of 10.4ppg spacer. Pump 241 bbls (461sks) 10.8pgg 2.94 yield Lead cement. Pump 636 bbls (2318sks) of 13.2ppg 1.54 yield tail cement. Drop plug and displace with 301 bbls fresh water, Bump plug with 550 psi over, held for 5 minutes and bleed back 2.5 bbls, floats held. No cement back to surface. (Lost 80 BBLS of OBM). Rig Down cement head and steel lines. Break bolts on B.O.P. Remove flowline, pick up B.O.P and set slips (200k). Cut casing and lay down, Install Well Cap. Pre-pare to walk to rig to Lennox 32-10H. Take off hoses, flowline manifold, mud lines, stairs and misc. ** Rig Release @ 01:30 AM 03/09/19	$201,737
4/4/2019	Installed all fittings and valves and tie ins for gas sales to Targa. Moved in Eagle completion unit and standby to get on location to start toe prep.	$3,886
4/5/2019	Wait on rig to move to start toe prep	$0

Date	Comments	Daily Cost
4/6/2019	AOL, Spot base beam, MIRU Eagle WOU # 223, ND 10k blanking flange, NU 10k spool, NU 3k manual BOP, MIRU Renegade WLU, TIH W/CCL/GR/CBL, WLTD @ 10,054', RU Stone KT & pressure up 5-1/2" 23# T-95 prod CSG to 1000 psi, pull log to surface, RDMO Renegade WLU, unload & tally 190 Jts of 2-3/8" PH6 5.95# P110 WS & 310 jts of 2-7/8" PH6 7.9# P110 WS, RU 4-1/2" throated MT bit, 2-3/8" reg x 2-3/8" PH6 BS & TIH w/190 jts of 2-3/8" PH6, change over handling tools to 2-7/8", start TIH W/2-7/8" PH6 WS	$50,855
4/7/2019	Continue TIH & tag up @ 12,540' & fell through, continue TIH & tag up @ 14,719', RU 3.5 power swivel , break circulation, drill 1' & fell through, continue TIH washing down to PBTD @ 14,788' LD 1 jt, RU acid pump & spot 5000 gal of 15% HCL @ 14,761', flush w/30 bbls FW, RD & release acid equip., start TOH laying down 2-7/8" PH6 WS, change over handling tools to 2-3/8", start TOH laying down 2-3/8" PH6 WS, RD 4-1/2" bit & bit sub., at report time prep to RD WO unit	$39,097
4/8/2019	Rd wou, nd bop & nu Total Frac stack w/Rig lock system, ru Pro & test lines & frac stack to 9000 load csg w/44 bbls of fw, pressure up to 5882 psi & shift RSI sleeve, increase rate to 17.9 bpm pump a total 297 bbls of fw, avg psi = 2,290, ISIP = 2,217 psi, 5 min = 1,532 psi, 10 min = 1,497 psi, 15 min = 1,474 psi, 30 min = 1,437 psi, 1 hr = 1,403 psi, rig Pro Fac off stack, start ru Pro Frac for frac job	$75,996
4/9/2019	Spot in Hydrosteam frac tanks & Stone gas buster tank, ru Ampro flowback, spot in & ru Bay crane unit, spot in & ru Baker wl/Rig lock grease unit/lubricator, Ru Pro Frac	$10,468
4/10/2019	RU Pro Frac, Connections on zipper manifold is not matching up w/connections w/Pro Frac nd Total Frac's zipper manifold & replace w/Cameron zipper manifold, test manifold high/low pressure test	$23,652
4/11/2019	Check ELS nanosurfactant, Smart Chem biocide, scale inhibitor, and clay stabilizer, and Hiflow 25 all hooked up and bucket tested properly. Perform safety walk through and line test to 9000psi. Spot inH2S sensors around location. Hold pre-job safety meeting with all service companies on location. Open wellhead @ 10:04pm CST. Opening well pressure 1080psi. Pumped stage #1 through RSI sleeves @ 14,646', & 14,623' as follows: Pumped 8,476 bbls of total slurry consisting of 8,019 bbls slickwater, 13 bbls Nano surfactant, 304 gal HVFR 25, and 0 gals 15% HCL. Pumped 296,555 lbs 40/70 white and 95,086 lbs CRC-E 40/70. Max proppant concentration 2.72 ppg. AP-3499 psi AR-81 bpm MP-3726 psi ISIP-1691 psi FG-0.61. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 2nd stage. Set Baker torpedo plug @ 14,613'. Shoot 2nd set of perfs 14,595', 14,562', 14,529', and 14,496'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 2nd stage as follows: Pumped 8,717 bbls of total slurry consisting of 8,177 bbls slickwater, 13 bbls Nano surfactant, 315 gal HVFR 25, and 1470 gals 15% HCL. Pumped 302,365 lbs 40/70 white and 70,712 lbs CRC-E 40/70. Max proppant concentration 3.33 ppg. AP-5049 psi AR-80 bpm MP-6202 psi ISIP-1865 psi FG-0.62. Shut well in and turn over to wireline	$661,807
4/12/2019	RIH w/ Baker wireline guns and plug and perf 3rd stage. Set Baker torpedo plug @ 14,479'. Shoot 3rd set of perfs 14,455', 14,422', 14,389', and 14,356'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 3rd stage as follows: Pumped 8,100 bbls of total slurry consisting of 7,700 bbls slickwater, 8 bbls Nano surfactant, 545 gal HVFR 25, and 1470 gals 15% HCL. Pumped 304,200 lbs 40/70 white and 79,321 lbs CRC-E 40/70. Max proppant concentration 2.44 ppg. AP-5665 psi AR-81 bpm MP-6568 psi ISIP-2178 psi FG-0.54. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 4th stage. Set Baker torpedo plug @ 14,345'. Shoot 4th set of perfs 14,318', 14,285', 14,252', and 14,219'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 4th stage as follows: Pumped 8,243 bbls of total slurry consisting of 7,627 bbls slickwater, 10 bbls Nano surfactant, 301 gal HVFR 25, and 1512 gals 15% HCL. Pumped 355,919 lbs 40/70 white and 89,220 lbs CRC-E 40/70. Max proppant concentration 3.05 ppg. AP-4,827 psi AR-82 bpm MP-5515 psi ISIP-1738 psi FG-0.61. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 5th stage. Set Baker torpedo plug @ 14,200'. Shoot 5th set of perfs 14,183', 14,150', 14,117', and 14,084'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 5th stage as follows: Pumped 7937 bbls of total slurry consisting of 7,454 bbls slickwater, 11 bbls Nano surfactant, 284 gal HVFR 25, and 1512 gals 15% HCL. Pumped 287,417 lbs 40/70 white and 93,544 lbs CRC-E 40/70. Max proppant concentration 2.23 ppg. AP-5,368 psi AR-81 bpm MP-6759 psi ISIP-2759 psi FG-0.71. Shut well in and turn over to wireline.	$661,235
4/13/2019	RIH w/ Baker wireline guns and plug and perf 6th stage. Set Baker torpedo plug @ 14,055'. Shoot 6th set of perfs 14,031', 13,998', 13,965', and 13,932'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 6th stage as follows: Pumped 7953 bbls of total slurry consisting of 7,570 bbls slickwater, 11 bbls Nano surfactant, 290 gal HVFR 25, and 1470 gals 15% HCL. Pumped 292,642 lbs 40/70 white and 89,450 lbs CRC-E 40/70. Max proppant concentration 2.40 ppg. AP-4,749 psi AR-81 bpm MP-6106 psi ISIP-2738 psi FG-0.75. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 7th stage. Set Baker torpedo plug @ 13,910'. Shoot 7th set of perfs 13,893', 13,860', 13,827', and 13,794'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 7th stage as follows: Pumped 7701 bbls of total slurry consisting of 7,254 bbls slickwater, 11 bbls Nano surfactant, 268 gal HVFR 25, and 1596 gals 15% HCL. Pumped 300,500 lbs 40/70 white and 94,580 lbs CRC-E 40/70. Max proppant concentration 2.82 ppg. AP-5,604 psi AR-81 bpm MP-6788 psi ISIP-2921 psi FG-0.73. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 8th stage. Set Baker torpedo plug @ 13,777'. Shoot 8th set of perfs 13,767', 13,734', 13,701', and 13,668'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 8th stage as follows: Pumped 7709 bbls of total slurry consisting of 7,234 bbls slickwater, 11 bbls Nano surfactant, 312 gal HVFR 25, and 1470 gals 15% HCL. Pumped 290,760 lbs 40/70 white and 94,667 lbs CRC-E 40/70. Max proppant concentration 2.71 ppg. AP-5,072 psi AR-81 bpm MP-6153 psi ISIP-2660 psi FG-0.70. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 9th stage. Set Baker torpedo plug @ 13,652'. Shoot 9th set of perfs 13,641', 13,608', 13,575', and 13,542'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac.	$242,270
4/14/2019	Pump 9th stage as follows: Pumped 7506 bbls of total slurry consisting of 7,069 bbls slickwater, 12 bbls Nano surfactant, 279 gal HVFR 25, and 1470 gals 15% HCL. Pumped 310,907 lbs 40/70 white and 98,740 lbs CRC-E 40/70. Max proppant concentration 2.78 ppg. AP-5,106 psi AR-81 bpm MP-8136 psi ISIP-2716 psi FG-0.74. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 10th stage. Set Baker torpedo plug @ 13,530'. Shoot 10th set of perfs 13,515', 13,482', 13,449', and 13,416'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 10th stage as follows: Pumped 7816 bbls of total slurry consisting of 7,426 bbls slickwater, 24 bbls Nano surfactant, 268 gal HVFR 25, and 1470 gals 15% HCL. Pumped 301,000 lbs 40/70 white and 104,840 lbs CRC-E 40/70. Max proppant concentration 2.49 ppg. AP-4947 psi AR-80 bpm MP-8472 psi ISIP-2614 psi FG-0.68. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 11th stage. Set Baker torpedo plug @ 13,406'. Attempt to Shoot 11th set of perfs but guns shorted, pooh with wireline, re-head wireline, RIH & shoot 11th set of perfs @ 13,394', 13,361', 13,328' & 13,295', 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac	$252,620

Date	Comments	Daily Cost
4/15/2019	Pump 11th stage as follows: Pumped 10,271 bbls of total slurry consisting of 9,739 bbls slickwater, 12 bbls Nano surfactant, 339 gal HVFR 25, and 1470 gals 15% HCL. Pumped 298,132 lbs 40/70 white and 91,422 lbs CRC-E 40/70. Max proppant concentration 2.75 ppg. AP-5,022 psi AR-80.7 bpm MP-8898 psi ISIP-2685 psi FG-0.71. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 12th stage. Set Baker torpedo plug @ 13,276'. Shoot 12th set of perfs 13,262', 13,229', 13,196', and 13,163'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 12th stage as follows: Pumped 7746 bbls of total slurry consisting of 7,295 bbls slickwater, 12 bbls Nano surfactant, 178 gal HVFR 25, and 1470 gals 15% HCL. Pumped 305,400 lbs 40/70 white and 92,088 lbs CRC-E 40/70. Max proppant concentration 2.84 ppg. AP-5374 psi AR-80 bpm MP-7708 psi ISIP-2697 psi FG-0.70. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 13th stage. Set Baker torpedo plug @ 13,142'. Shoot 13th set of perfs 13,123', 13,090', 13,057', and 13,024'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 13th stage as follows: Pumped 3,738 bbls of total slurry consisting of 3,599 bbls slickwater, 12 bbls Nano surfactant, 185 gal HVFR 25, and 1470 gals 15% HCL. Pumped 69,710 lbs 40/70 white and 0 lbs CRC-E 40/70. Max proppant concentration 1.79 ppg. AP-8174 psi AR-76 bpm MP-8635 psi ISIP-2520 psi FG-0.69. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 14th stage. Set Baker torpedo plug @ 13,008'. Shoot 14th set of perfs 12,995', 12,962', 12,929', and 12,896'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 14th stage as follows: Pumped 16,612 bbls of total slurry consisting of 15,522 bbls slickwater, 12 bbls Nano surfactant, 663 gal HVFR 25, and 2470 gals 15% HCL. Pumped 304,085 lbs 40/70 white and 86,216 lbs CRC-E 40/70. Max proppant concentration 2.74 ppg. AP-5496 psi AR-80.8 bpm MP-8304 psi ISIP-2628 psi FG-0.67. Shut well in and turn over to wireline.	$234,352
4/16/2019	RIH w/ Baker wireline guns and plug and perf 15th stage. Set Baker torpedo plug @ 12,878'. Shoot 15th set of perfs @ 12,862', 12,829', 12,796' & 12,763' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and standby super stage frac to be completed on Lennox 32 State #10H, RU frac.	$37,226
4/17/2019	Pump 15th stage as follows: Pumped 6,561 bbls of total slurry consisting of 6,163 bbls slickwater, 12 bbls Nano surfactant, 383 gal HVFR 25, and 1,512 gals 15% HCL. Pumped 307,648 lbs 40/70 white and 107,360 lbs CRC-E 40/70. Max proppant concentration 2.78 ppg. AP-5,654 psi AR-85 bpm MP-8,139 psi ISIP-2,706 psi FG-0.72. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 16th stage. Set Baker torpedo plug @ 12,746'. Shoot 16th set of perfs 12,733', 12,700', 12,667', and 12,634'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 16th stage as follows: Pumped 6,210 bbls of total slurry consisting of 5,713 bbls slickwater, 12 bbls Nano surfactant, 198 gal HVFR 25, and 1470 gals 15% HCL. Pumped 290,251 lbs 40/70 white and 87,491 lbs CRC-E 40/70. Max proppant concentration 3.1 ppg. AP-6,252 psi, AR-85 bpm, MP-7,887 psi, ISIP-2,721 psi FG-0.71. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 17th stage. Set Baker torpedo plug @ 112,615'. Shoot 17th set of perfs 12,601', 12,568', 12,535', and 12,502'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 17th stage as follows: Pumped 6,654 bbls of total slurry consisting of 5,790 bbls slickwater, 12 bbls Nano surfactant, 290 gal HVFR 25, and 1470 gals 15% HCL. Pumped 308,726 lbs 40/70 white and 80,000 lbs CRC-E 40/70. Max proppant concentration 3.17 ppg. AP-6,266 psi AR-86 bpm MP-7,615 psi ISIP-2,416 psi FG-0.68. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 18th stage. Set Baker torpedo plug @ 12,481'. Shoot 18th set of perfs 12,466', 12,433', 12,400', and 12,367'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac. Pump 18th stage as follows: Pumped 6,598 bbls of total slurry consisting of 6,112 bbls slickwater, 12 bbls Nano surfactant, 261 gal HVFR 25, and 1470 gals 15% HCL. Pumped 295,159 lbs 40/70 white and 107,642 lbs CRC-E 40/70. Max proppant concentration 3.14 ppg. AP-6,358 psi AR-86 bpm MP-7,654 psi ISIP-3,087 psi FG-0.75. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 19th stage. Set Baker torpedo plug @ 12,350'. Shoot 19th set of perfs 12,335', 12,302', 12,269', and 12,236'. 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline and RU frac.	$263,395
4/18/2019	Pump 19th stage as follows: Pumped 6,459 bbls of total slurry consisting of 6118 bbls slickwater, 12 bbls Nano surfactant, 280 gal HVFR 25, and 1470 gals 15% HCL. Pumped 296,877 lbs 40/70 white and 94,062 lbs CRC-E 40/70. Max proppant concentration 2.64 ppg. AP-6039 psi AR-85 bpm MP-8392 psi ISIP-2692 psi FG-0.70. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 20th stage. Set Baker torpedo plug @ 12,220'. Shoot 20th set of perfs @ 12,196', 12,163', 12,130' & 12,097' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 20th stage as follows: Pumped 6,121 bbls of total slurry consisting of 5,660 bbls slickwater, 12 bbls Nano surfactant, 253 gal HVFR 25, and 1470 gals 15% HCL. Pumped 301,031 lbs 40/70 white and 91,025 lbs CRC-E 40/70. Max proppant concentration 2.66 ppg. AP-6026 psi AR-85 bpm MP-8312 psi ISIP-2727 psi FG-0.66. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 21st stage. Set Baker torpedo plug @ 12,080'. Shoot 21st set of perfs @ 12,047', 12,014', 11,981' & 11,948' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 21st stage as follows: Pumped 5,756 bbls of total slurry consisting of 5,303 bbls slickwater, 12 bbls Nano surfactant, 146 gal HVFR 25, and 1470 gals 15% HCL. Pumped 293,090 lbs 40/70 white and 87,510 lbs CRC-E 40/70. Max proppant concentration 3.00 ppg. AP-5717 psi AR-85 bpm MP-6891 psi ISIP-2822 psi FG-0.73. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 22nd stage. Set Baker torpedo plug @ 11,935'. Shoot 22nd set of perfs @ 11,913', 11,880', 11,847' & 11,814' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 22nd stage as follows: Pumped 5,453 bbls of total slurry consisting of 5,062 bbls slickwater, 12 bbls Nano surfactant, 167 gal HVFR 25, and 1428 gals 15% HCL. Pumped 310,500 lbs 40/70 white and 93,120 lbs CRC-E 40/70. Max proppant concentration 3.39 ppg. AP-5878 psi AR-85 bpm MP-8294 psi ISIP-2641 psi FG-0.70. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 23rd stage. Set Baker torpedo plug @ 11,790'. Shoot 23rd set of perfs @ 11,773', 11,740', 11,707' & 11,674' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 23rd stage as follows: Pumped 5,378 bbls of total slurry consisting of 4,984 bbls slickwater, 12 bbls Nano surfactant, 139 gal HVFR 25, and 1554 gals 15% HCL. Pumped 296,000 lbs 40/70 white and 92,000 lbs CRC-E 40/70. Max proppant concentration 3.98 ppg. AP-5971 psi AR-85 bpm MP-8202 psi ISIP-2769 psi FG-0.71. Shut well in and turn over to wireline	$440,752

Date	Comments	Daily Cost
4/19/2019	PRIH w/ Baker wireline guns and plug and perf 24th stage. Set Baker torpedo plug @ 11,663'. Shoot 24th set of perfs @ 11,651', 11,618', 11,585' & 11,552' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 24th stage as follows: Pumped 6,339 bbls of total slurry consisting of 5,837 bbls slickwater, 12 bbls Nano surfactant, 207 gal HVFR 25, and 1441 gals 15% HCL. Pumped 289,320 lbs 40/70 white and 93,020 lbs CRC-E 40/70. Max proppant concentration 3.80 ppg. AP-5878 psi AR-85 bpm MP-8645 psi ISIP-2850 psi FG-0.71. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 25th stage. Set Baker torpedo plug @ 11,533'. Shoot 25th set of perfs @ 11,519', 11,486', 11,453' & 11,420' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 25th stage as follows: Pumped 5,902 bbls of total slurry consisting of 5,937 bbls slickwater, 12 bbls Nano surfactant, 227 gal HVFR 25, and 1441 gals 15% HCL. Pumped 308,600 lbs 40/70 white and 97,440 lbs CRC-E 40/70. Max proppant concentration 3.89 ppg. AP-5686 psi AR-85 bpm MP-8213 psi ISIP-2863 psi FG-0.72. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 26th stage. Set Baker torpedo plug @ 11,410'. Shoot 26th set of perfs @ 11,393', 11,360', 11,327' & 11,294' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 26th stage as follows: Pumped 5,589 bbls of total slurry consisting of 5,163 bbls slickwater, 12 bbls Nano surfactant, 208 gal HVFR 25, and 1533 gals 15% HCL. Pumped 301,500 lbs 40/70 white and 102,200 lbs CRC-E 40/70. Max proppant concentration 3.25 ppg. AP-5748 psi AR-87 bpm MP-8066 psi ISIP-2723 psi FG-0.71. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 27th stage. Set Baker torpedo plug @ 11,284'. Shoot 27th set of perfs @ 11,274', 11,241', 11,208' & 11,175' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 27th stage as follows: Pumped 4,920 bbls of total slurry consisting of 4,584 bbls slickwater, 12 bbls Nano surfactant, 140 gal HVFR 25, and 1470 gals 15% HCL. Pumped 271,210 lbs 40/70 white and 100,579 lbs CRC-E 40/70. Max proppant concentration 3.19 ppg. AP-6020 psi AR-86 bpm MP-8154 psi ISIP-3512 psi FG-0.70. Shut well in and turn over to wireline	$302,282
4/20/2019	RIH w/ Baker wireline guns and plug and perf 28th stage. Set Baker torpedo plug @ 11,160'. Shoot 28th set of perfs @ 11,139', 11,106', 11,073' & 11,040' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 28th stage as follows: Pumped 6,025 bbls of total slurry consisting of 5,431 bbls slickwater, 20 bbls Nano surfactant, 274 gal HVFR 25, and 1511 gals 15% HCL. Pumped 279,779 lbs 40/70 white and 91,658 lbs CRC-E 40/70. Max proppant concentration 3.53 ppg. AP-5520 psi AR-85.6 bpm MP-7633 psi ISIP-2444 psi FG-0.68. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 29th stage. Set Baker torpedo plug @ 11,028'. Shoot 29th set of perfs @ 11,007', 10,974', 10,941' & 10,908' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 29th stage as follows: Pumped 5,774 bbls of total slurry consisting of 5,340 bbls slickwater, 20 bbls Nano surfactant, 180 gal HVFR 25, and 1452 gals 15% HCL. Pumped 297,507 lbs 40/70 white and 94,636 lbs CRC-E 40/70. Max proppant concentration 4.11 ppg. AP-5468 psi AR-85.2 bpm MP-7240 psi ISIP-2496 psi FG-0.69. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 30th stage. Set Baker torpedo plug @ 10,890'. Shoot 30th set of perfs @ 10,875', 10,842', 10,809' & 10,776' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 30th stage as follows: Pumped 8,543 bbls of total slurry consisting of 8,080 bbls slickwater, 21.5 bbls Nano surfactant, 577 gal HVFR 25, and 2122 gals 15% HCL. Pumped 294,000 lbs 40/70 white and 95,000 lbs CRC-E 40/70. Max proppant concentration 3.37 ppg. AP-5334 psi AR-70.7 bpm MP-8503 psi ISIP-2757 psi FG-0.71. Shut well in and turn over to wireline. RIH w/ Baker wireline guns and plug and perf 31st stage. Set Baker torpedo plug @ 10,764'. Shoot 31st set of perfs @ 10,748', 10,715', 10,682' & 10,649' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 31st stage as follows: Pumped 6,293 bbls of total slurry consisting of 5,735 bbls slickwater, 22.5 bbls Nano surfactant, 246 gal HVFR 25, and 1701 gals 15% HCL. Pumped 295,000 lbs 40/70 white and 88,000 lbs CRC-E 40/70. Max proppant concentration 3.27 ppg. AP-4676 psi AR-85.2 bpm MP-8308 psi ISIP-2705 psi FG-0.71. Shut well in and turn over to wireline RIH w/ Baker wireline guns and plug and perf 32nd stage. Set Baker torpedo plug @ 10,632'. Shoot 32nd set of perfs @ 10,618', 10,585', 10,552' & 10,519' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline.	$350,627
4/21/2019	Pump 32nd stage as follows: Pumped 6,510 bbls of total slurry consisting of 6,100 bbls slickwater, 20 bbls Nano surfactant, 342 gal HVFR 25, and 1104 gals 15% HCL. Pumped 308,540 lbs 40/70 white and 87,125 lbs CRC-E 40/70. Max proppant concentration 3.20 ppg. AP-7127 psi AR-76.7 bpm MP-8363 psi ISIP-2525 psi FG-0.69. Shut well in and turn over to wireline RIH w/ Baker wireline guns and plug and perf 33rd stage. Set Baker torpedo plug @ 10,505'. Shoot 33rd set of perfs @ 10,495', 10,462', 10,429' & 10,396' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 33rd stage as follows: Pumped 6,752 bbls of total slurry consisting of 6,260 bbls slickwater, 20 bbls Nano surfactant, 335 gal HVFR 25, and 1407 gals 15% HCL. Pumped 297,510 lbs 40/70 white and 99,526 lbs CRC-E 40/70. Max proppant concentration 3.26 ppg. AP-5610 psi AR-81.3 bpm MP-5949 psi ISIP-2691 psi FG-0.71. Shut well in and turn over to wireline RIH w/ Baker wireline guns and plug and perf 34th stage. Set Baker torpedo plug @ 10,383'. Shoot 34th set of perfs @ 10,373', 10,340', 10,307' & 10,274' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 34th stage as follows: Pumped 5,283 bbls of total slurry consisting of 4,751 bbls slickwater, 16.5 bbls Nano surfactant, 347 gal HVFR 25, and 1932 gals 15% HCL. Pumped 291,368 lbs 40/70 white and 88,000 lbs CRC-E 40/70. Max proppant concentration 3.31 ppg. AP-4916 psi AR-86.5 bpm MP-7922 psi ISIP-2869 psi FG-0.73. Shut well in and turn over to wireline RIH w/ Baker wireline guns and plug and perf 35th stage. Set Baker torpedo plug @ 10,263'. Shoot 35th set of perfs @ 10,248', 10,219', 10,189' & 10,160' 4 clusters 8 shots per cluster 0.42 EH. 32 holes total. RD wireline. Pump 35th stage as follows: Pumped 5,766 bbls of total slurry consisting of 5,121 bbls slickwater, 21 bbls Nano surfactant, 227 gal HVFR 25, and 2100 gals 15% HCL. Pumped 394,243 lbs 40/70 white and 93,723 lbs CRC-E 40/70. Max proppant concentration 3.31 ppg. AP-5277 psi AR-86.9 bpm MP-8041 psi ISIP-2925 psi FG-0.73. Shut well in and turn over to wireline. RIH w/ Baker wireline & set # 1Torpedo composite kill plug @ 9,100', POOH, pressure test CBP to 3500 psi (good), bleed off & perform negative test (good), RIH w/Baker wireline & set # 2 Torpedo composite kill plug @ 9,060', POOH & RD & release WL, Pro frac currently RD frac equip.	$305,432
4/22/2019	RD Pro Frac, Ampro flowback, Baker Wireline, Total Frac frac stack, Rig Lock grease/lubricator Berry Crane, ASI water transfer & Cameron zipper manifold, Nu Wildcat 5K triple ram bop	$35,281

Last Updated: 4/24/2019 01:11 PM

Caza Petroleum

Field Name	Lease Name	Well No.	County	State	API No.
Lennox	Lennox 32 State	9H	Lea	New Mexico	30025453070000

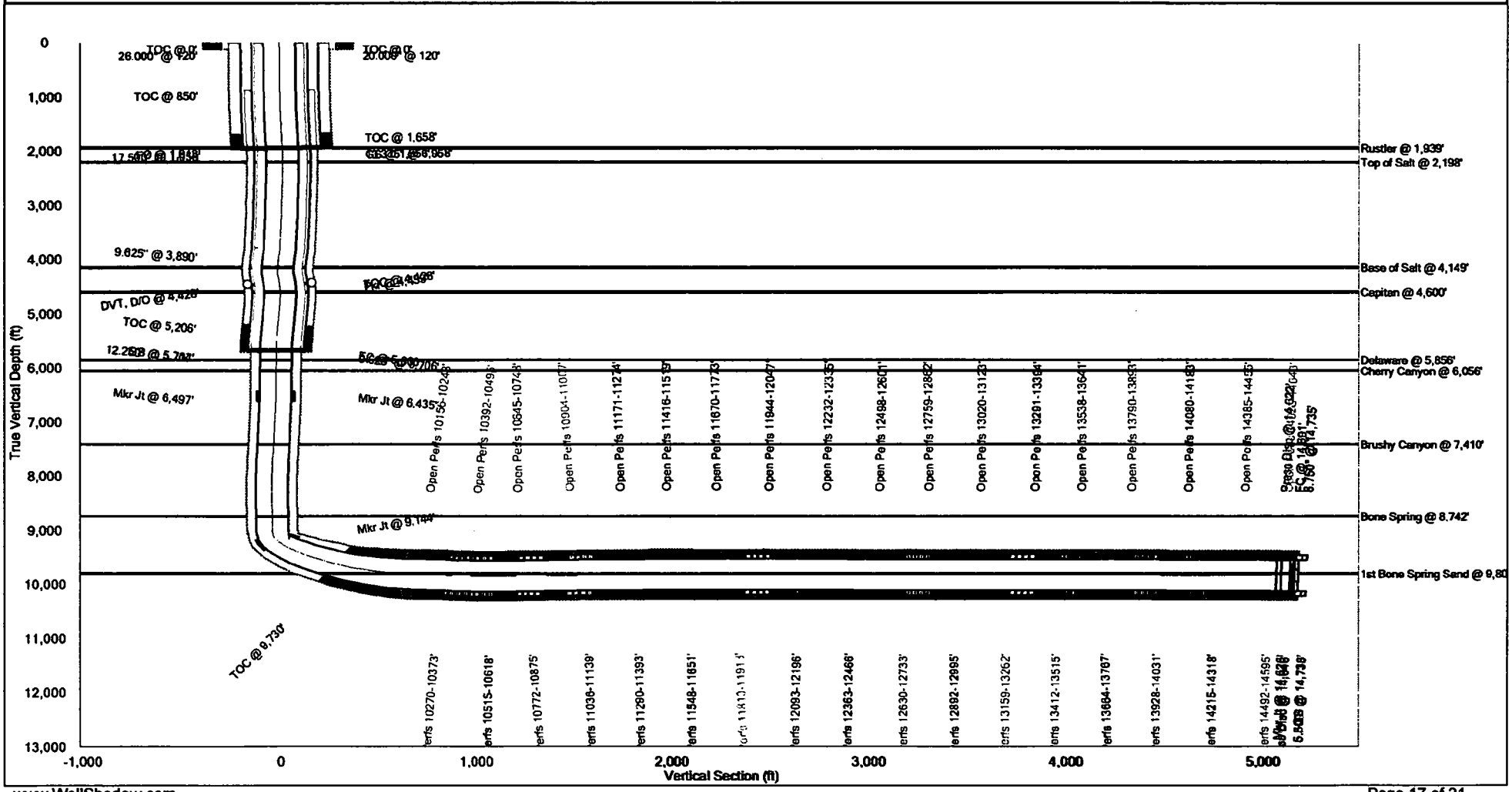
Version	Version Tag	Spud Date	Comp. Date	G.L. (ft)	K.B. (ft)
1	Completed	1/18/2019		3,539.0	3,561.0

Sec.	Township/Block	Range/Survey	Dist. N/S (ft)	N/S Line	Dist. E/W (ft)	E/W Line	Footage From	Latitude	Longitude
32	22S	35E	100	FNL	1170	FEL		32.355203	-103.384912

Well Status	PropNum	Operator	Last Updated	Prepared By	Updated By
Completed	39019	Caza Operating	4/24/2019 1:11:50 PM	Steve Morris	Steve Morris

Additional Information

DIRECTIONS TO LOCATION: FROM EUNICE CITY LIMITS GO SOUTH ON ST. HWY. 207 APPROX. 2.0 MILES TO CO. RD. 21(DELAWARE BASIN). TURN RIGHT AND GO WEST APPROX. 16.9 MILES TO CALICHE LSE. ROAD, TURN RIGHT AND GO NORTH-NORTHWEST APPROX. 1.1 MILE, TURN LEFT AND GO SOUTHWEST APPROX. 0.4 MILES VEER RIGHT AND CONTINUE NORTHWEST APPROX. 0.3 MILES TO LENNOX 32 STATE #2H FOLLOW ROAD SURVEY NORTHWEST 69 FEET TO THIS PAD.



Field Name	Lease Name	Well No.	API No.	Version	Version Tag
Lennox	Lennox 32 State	9H	30025453070000	1	Completed

Section	Township/Block	Range/Survey	County	State	GL (ft)	KB (ft)
32	22S	35E	Lea	New Mexico	3,539.0	3,561.0

Target N (-S) (ft)	Target E (-W) (ft)	Latitude	Longitude	Operator	Well Status
0	0	32.355203	-103.384912	Caza Operating	Completed

Additional Information

DIRECTIONS TO LOCATION: FROM EUNICE CITY LIMITS GO SOUTH ON ST. HWY. 207 APPROX. 2.0 MILES TO CO. RD. 21(DELAWARE BASIN). TURN RIGHT AND GO WEST APPROX. 16.9 MILES TO CALICHE LSE. ROAD, TURN RIGHT AND GO NORTH-NORTHWEST APPROX. 1.1 MILE, TURN LEFT AND GO SOUTHWEST APPROX. 0.4 MILES VEER RIGHT AND CONTINUE NORTHWEST APPROX. 0.3 MILES TO LENNOX 32 STATE #2H FOLLOW ROAD SURVEY NORTHWEST 69 FEET TO THIS PAD.

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	Coordinate N (-S) (ft)	Coordinate E (-W) (ft)	DLS (deg/100 ft)
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
159.0	0.2	219.6	159.0	0.2	-0.2	-0.2	0.11
220.0	0.2	235.7	220.0	0.3	-0.3	-0.3	0.10
308.0	0.1	276.4	308.0	0.4	-0.4	-0.5	0.15
426.0	0.3	224.7	426.0	0.7	-0.6	-0.9	0.19
486.0	0.3	240.7	486.0	0.9	-0.8	-1.1	0.13
609.0	0.4	240.4	609.0	1.3	-1.1	-1.7	0.08
668.0	0.4	221.5	668.0	1.5	-1.4	-2.0	0.21
851.0	0.3	221.0	851.0	2.4	-2.2	-2.7	0.05
942.0	0.3	204.1	942.0	2.8	-2.6	-3.0	0.10
1,034.0	0.3	209.0	1,034.0	3.3	-3.0	-3.2	0.05
1,221.0	0.6	191.5	1,221.0	4.7	-4.3	-3.6	0.18
1,315.0	0.7	196.1	1,315.0	5.7	-5.4	-3.9	0.15
1,408.0	0.7	209.7	1,408.0	6.8	-6.5	-4.3	0.19
1,503.0	0.6	200.5	1,503.0	7.9	-7.5	-4.8	0.15
1,597.0	0.9	188.6	1,597.0	9.2	-8.7	-5.1	0.34
1,630.0	1.0	199.4	1,630.0	9.7	-9.3	-5.2	0.56
1,692.0	0.9	196.0	1,691.9	10.7	-10.2	-5.6	0.12
1,787.0	1.0	203.4	1,786.9	12.2	-11.7	-6.1	0.13
1,870.0	1.0	204.3	1,869.9	13.5	-13.0	-6.6	0.03
2,072.0	0.7	208.2	2,071.9	16.2	-15.6	-7.9	0.16
2,167.0	0.2	195.4	2,166.9	16.9	-16.2	-8.2	0.50
2,261.0	0.4	353.3	2,260.9	16.8	-16.1	-8.3	0.61
2,355.0	0.4	349.6	2,354.9	16.2	-15.5	-8.4	0.03
2,450.0	0.4	348.4	2,449.9	15.6	-14.9	-8.5	0.03
2,544.0	0.4	333.9	2,543.9	15.0	-14.2	-8.7	0.14
2,638.0	0.4	354.0	2,637.9	14.4	-13.6	-8.9	0.17
2,732.0	0.5	358.8	2,731.9	13.7	-12.9	-9.0	0.17
2,826.0	0.5	343.8	2,825.9	12.9	-12.1	-9.1	0.14
2,920.0	0.3	346.8	2,919.9	12.3	-11.5	-9.3	0.15
3,015.0	0.5	352.1	3,014.9	11.6	-10.8	-9.4	0.15
3,109.0	0.5	356.1	3,108.9	10.8	-10.0	-9.5	0.06
3,203.0	0.6	7.9	3,202.9	9.9	-9.1	-9.4	0.14
3,297.0	0.6	20.3	3,296.9	9.0	-8.2	-9.2	0.14
3,392.0	0.7	32.1	3,391.9	8.0	-7.2	-8.7	0.18
3,487.0	0.7	39.7	3,486.9	7.0	-6.3	-8.0	0.10
3,581.0	1.3	56.7	3,580.8	5.8	-5.2	-6.8	0.66
3,676.0	1.4	50.1	3,675.8	4.3	-3.9	-5.0	0.19
3,770.0	1.7	308.7	3,769.8	2.8	-2.3	-5.2	2.55
3,865.0	4.0	304.2	3,864.7	0.4	0.5	-9.1	2.42
3,960.0	4.5	306.8	3,959.4	-3.2	4.5	-14.8	0.53
4,054.0	3.9	303.9	4,053.2	-6.6	8.5	-20.4	0.65
4,148.0	4.0	286.5	4,146.9	-8.8	11.2	-26.1	1.27
4,243.0	7.6	258.3	4,241.5	-7.6	10.9	-35.4	4.73
4,337.0	9.0	255.2	4,334.5	-3.3	7.7	-48.6	1.61
4,432.0	8.0	259.0	4,428.4	1.1	4.6	-62.3	1.23
4,526.0	6.7	266.0	4,521.7	3.8	2.9	-74.2	1.69
4,622.0	6.1	267.4	4,617.1	5.4	2.3	-84.8	0.67
4,791.0	6.6	286.1	4,785.1	4.8	4.6	-103.0	1.25
4,903.0	6.8	286.9	4,896.3	2.3	8.3	-115.5	0.26
4,997.0	6.3	292.0	4,989.7	-0.4	11.8	-125.6	0.87
5,091.0	5.8	290.2	5,083.2	-3.1	15.4	-134.8	0.57

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	Coordinate N (-S) (ft)	Coordinate E (-W) (ft)	DLS (deg/100 ft)
5,185.0	6.2	288.3	5,176.6	-5.4	18.6	-144.1	0.56
5,278.0	6.0	288.0	5,269.1	-7.6	21.7	-153.5	0.27
5,372.0	5.4	291.8	5,362.7	-10.0	24.9	-162.3	0.73
5,465.0	4.5	295.2	5,455.3	-12.5	28.1	-169.7	1.03
5,559.0	4.9	288.2	5,549.0	-14.7	30.9	-176.8	0.74
5,631.0	6.2	277.3	5,620.6	-15.5	32.3	-183.6	2.31
5,753.0	6.1	276.3	5,741.9	-15.9	33.9	-196.6	0.11
5,847.0	6.1	277.3	5,835.4	-16.1	35.1	-206.5	0.13
5,941.0	5.6	277.9	5,928.9	-16.5	36.3	-216.0	0.55
6,035.0	5.9	276.9	6,022.5	-16.9	37.5	-225.3	0.41
6,128.0	5.9	279.4	6,115.0	-17.4	38.9	-234.8	0.27
6,222.0	5.7	276.6	6,208.5	-17.8	40.2	-244.2	0.37
6,316.0	5.4	273.7	6,302.0	-17.8	41.0	-253.2	0.46
6,411.0	5.5	273.9	6,396.6	-17.6	41.6	-262.1	0.14
6,503.0	5.8	281.5	6,488.2	-18.0	42.9	-271.1	0.89
6,599.0	5.5	279.0	6,583.7	-18.8	44.5	-280.4	0.42
6,693.0	6.7	281.2	6,677.2	-19.7	46.3	-290.2	1.29
6,788.0	7.0	283.3	6,771.5	-21.1	48.7	-301.2	0.38
6,882.0	6.5	282.1	6,864.8	-22.5	51.1	-312.0	0.46
6,977.0	6.2	281.8	6,959.3	-23.8	53.3	-322.3	0.33
7,072.0	5.7	280.7	7,053.7	-24.8	55.3	-332.0	0.59
7,166.0	5.6	280.7	7,147.3	-25.7	57.0	-341.0	0.14
7,260.0	5.1	283.0	7,240.9	-26.7	58.8	-349.6	0.49
7,354.0	5.5	282.4	7,334.5	-27.8	60.7	-358.1	0.36
7,449.0	5.9	286.3	7,429.0	-29.3	63.0	-367.2	0.57
7,543.0	5.9	283.3	7,522.5	-30.9	65.4	-376.4	0.32
7,639.0	5.5	286.6	7,618.1	-32.5	67.9	-385.6	0.50
7,732.0	4.7	285.5	7,710.7	-34.1	70.2	-393.6	0.88
7,827.0	5.5	280.9	7,805.3	-35.2	72.1	-401.8	0.97
7,920.0	6.8	281.2	7,897.8	-36.2	74.0	-411.5	1.34
8,014.0	6.0	273.3	7,991.2	-36.6	75.3	-421.8	1.26
8,106.0	6.0	274.9	8,082.7	-36.4	76.0	-431.3	0.18
8,201.0	5.5	276.9	8,177.2	-36.5	77.0	-440.8	0.49
8,295.0	5.5	277.6	8,270.8	-36.9	78.1	-449.8	0.08
8,389.0	6.6	276.0	8,364.3	-37.1	79.3	-459.6	1.21
8,484.0	7.6	274.1	8,458.5	-37.1	80.3	-471.4	1.03
8,578.0	6.8	272.3	8,551.8	-36.7	81.0	-483.1	0.84
8,673.0	6.0	273.4	8,646.2	-36.2	81.5	-493.7	0.94
8,768.0	5.5	276.1	8,740.7	-36.1	82.3	-503.1	0.55
8,863.0	3.9	272.2	8,835.4	-36.0	82.9	-510.9	1.73
8,957.0	3.2	265.5	8,929.2	-35.4	82.8	-516.7	0.82
9,021.0	3.1	261.2	8,993.1	-34.7	82.4	-520.2	0.43
9,095.0	2.9	221.8	9,067.0	-32.7	80.6	-523.5	2.76
9,126.0	6.9	192.3	9,097.9	-30.2	78.2	-524.4	14.69
9,158.0	11.3	183.9	9,129.5	-25.2	73.2	-525.0	14.45
9,205.0	17.9	181.0	9,175.0	-13.3	61.4	-525.5	14.12
9,253.0	21.0	181.6	9,220.2	2.6	45.4	-525.8	6.45
9,300.0	24.1	184.1	9,263.6	20.6	27.4	-526.8	6.83
9,348.0	27.2	187.7	9,306.9	41.4	6.8	-528.9	7.24
9,396.0	30.7	186.4	9,348.9	64.6	-16.2	-531.8	7.43
9,443.0	33.1	181.8	9,388.8	89.3	-41.0	-533.5	7.22
9,491.0	35.6	181.2	9,428.4	116.4	-68.0	-534.2	5.41
9,539.0	38.5	179.2	9,466.8	145.2	-97.0	-534.3	6.40
9,584.0	42.0	178.2	9,501.1	174.0	-126.0	-533.6	8.05
9,633.0	43.7	177.7	9,537.0	207.1	-159.3	-532.4	3.47
9,680.0	44.8	177.4	9,570.7	239.6	-192.1	-531.0	2.39
9,727.0	45.7	176.6	9,603.8	272.6	-225.4	-529.2	2.30
9,772.0	49.2	176.3	9,634.2	305.4	-258.5	-527.2	7.85
9,821.0	53.4	177.0	9,664.8	343.2	-296.7	-525.0	8.58
9,868.0	56.7	176.5	9,691.7	381.3	-335.1	-522.8	7.04
9,915.0	60.7	176.4	9,716.2	421.0	-375.2	-520.3	8.53
9,962.0	62.6	177.3	9,738.5	461.9	-416.5	-518.0	4.49
10,009.0	68.0	178.0	9,758.1	504.2	-459.1	-516.3	11.37
10,057.0	71.8	178.4	9,774.6	548.9	-504.2	-514.9	8.01
10,104.0	75.2	178.5	9,788.0	593.7	-549.2	-513.7	7.22
10,152.0	79.9	178.5	9,798.4	640.2	-596.1	-512.5	9.94

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	Coordinate N (-S) (ft)	Coordinate E (-W) (ft)	DLS (deg/100 ft)
10,198.0	82.6	177.6	9,805.4	685.3	-641.5	-510.9	6.08
10,246.0	83.3	177.7	9,811.3	732.5	-689.1	-509.0	1.47
10,293.0	85.1	178.5	9,816.0	778.9	-735.8	-507.4	4.27
10,321.0	85.3	178.7	9,818.4	806.6	-763.7	-506.7	0.88
10,353.0	81.8	179.9	9,822.0	838.3	-795.5	-506.4	11.57
10,384.0	79.1	183.0	9,827.1	868.8	-826.1	-507.1	13.00
10,415.0	80.9	184.4	9,832.5	899.3	-856.5	-509.1	7.25
10,447.0	84.2	184.6	9,836.6	931.0	-888.1	-511.6	10.27
10,478.0	86.5	184.6	9,839.2	961.9	-918.9	-514.1	7.65
10,509.0	88.5	183.3	9,840.5	992.9	-949.8	-516.2	7.63
10,560.0	89.1	181.7	9,841.5	1,043.8	-1,000.8	-518.4	3.34
10,603.0	88.7	181.3	9,842.4	1,086.7	-1,043.8	-519.5	1.31
10,690.0	90.1	182.2	9,843.3	1,173.5	-1,130.7	-522.2	1.93
10,787.0	94.4	181.2	9,839.5	1,270.2	-1,227.6	-525.1	4.52
10,880.0	94.5	180.7	9,832.3	1,362.7	-1,320.3	-526.5	0.57
10,912.0	94.4	180.1	9,829.9	1,394.5	-1,352.2	-526.7	1.91
10,943.0	93.8	180.0	9,827.7	1,425.3	-1,383.1	-526.8	1.97
10,974.0	92.9	179.9	9,825.9	1,456.1	-1,414.0	-526.8	2.73
11,005.0	93.1	180.0	9,824.2	1,486.9	-1,445.0	-526.7	0.55
11,037.0	93.0	179.8	9,822.5	1,518.7	-1,477.0	-526.7	0.52
11,068.0	92.0	180.0	9,821.2	1,549.6	-1,507.9	-526.6	3.31
11,099.0	91.1	180.0	9,820.3	1,580.4	-1,538.9	-526.6	3.06
11,130.0	91.1	179.9	9,819.7	1,611.3	-1,569.9	-526.6	0.25
11,161.0	91.4	180.2	9,819.1	1,642.2	-1,600.9	-526.6	1.03
11,192.0	91.6	180.3	9,818.3	1,673.0	-1,631.9	-526.7	1.03
11,223.0	91.7	180.4	9,817.4	1,703.9	-1,662.9	-526.9	0.28
11,254.0	91.7	180.5	9,816.4	1,734.8	-1,693.9	-527.1	0.38
11,286.0	91.5	180.0	9,815.5	1,766.7	-1,725.9	-527.3	1.52
11,317.0	91.5	179.6	9,814.7	1,797.5	-1,756.8	-527.2	1.43
11,348.0	91.3	179.6	9,814.0	1,828.4	-1,787.8	-527.0	0.56
11,380.0	90.5	178.4	9,813.5	1,860.2	-1,819.8	-526.4	4.28
11,411.0	90.3	178.2	9,813.3	1,890.9	-1,850.8	-525.5	0.96
11,442.0	90.3	178.2	9,813.1	1,921.7	-1,881.8	-524.5	0.22
11,473.0	90.1	178.3	9,813.0	1,952.5	-1,912.8	-523.6	0.61
11,505.0	90.1	178.5	9,812.9	1,984.3	-1,944.8	-522.7	0.52
11,536.0	90.2	178.5	9,812.9	2,015.0	-1,975.8	-521.9	0.53
11,581.0	90.1	178.5	9,812.7	2,059.7	-2,020.7	-520.7	0.24
11,629.0	90.5	178.2	9,812.5	2,107.4	-2,068.7	-519.3	0.90
11,676.0	91.0	177.8	9,811.9	2,154.0	-2,115.7	-517.7	1.53
11,724.0	90.8	177.8	9,811.1	2,201.6	-2,163.6	-515.8	0.35
11,772.0	91.5	177.5	9,810.2	2,249.2	-2,211.6	-513.8	1.47
11,819.0	92.2	177.5	9,808.7	2,295.7	-2,258.5	-511.8	1.54
11,867.0	92.2	177.9	9,806.8	2,343.3	-2,306.4	-509.8	0.70
11,913.0	91.1	177.3	9,805.5	2,388.8	-2,352.4	-507.9	2.84
11,960.0	90.5	177.2	9,804.8	2,435.4	-2,399.3	-505.6	1.22
12,008.0	89.1	177.5	9,805.0	2,482.9	-2,447.3	-503.4	3.08
12,103.0	89.1	178.5	9,806.6	2,577.2	-2,542.2	-500.1	0.99
12,197.0	88.9	180.0	9,808.3	2,670.6	-2,636.2	-498.8	1.63
12,292.0	88.9	181.1	9,810.2	2,765.3	-2,731.1	-499.6	1.18
12,386.0	89.2	181.1	9,811.8	2,859.0	-2,825.1	-501.4	0.30
12,479.0	88.3	181.0	9,813.9	2,951.7	-2,918.1	-503.1	0.97
12,574.0	88.8	180.8	9,816.3	3,046.4	-3,013.0	-504.6	0.57
12,668.0	90.0	181.1	9,817.3	3,140.2	-3,107.0	-506.2	1.35
12,761.0	90.7	181.2	9,816.7	3,233.0	-3,200.0	-508.1	0.79
12,856.0	90.7	181.3	9,815.6	3,327.7	-3,295.0	-510.3	0.11
12,951.0	90.5	181.3	9,814.6	3,422.5	-3,389.9	-512.4	0.23
13,045.0	89.8	180.1	9,814.4	3,516.2	-3,483.9	-513.6	1.41
13,138.0	88.8	179.6	9,815.6	3,608.8	-3,576.9	-513.4	1.26
13,232.0	89.5	179.4	9,817.0	3,702.3	-3,670.9	-512.6	0.81
13,326.0	89.0	179.2	9,818.2	3,795.8	-3,764.9	-511.4	0.61
13,420.0	88.5	178.9	9,820.3	3,889.2	-3,858.8	-509.8	0.62
13,514.0	89.7	178.0	9,821.8	3,982.5	-3,952.8	-507.2	1.56
13,607.0	90.2	177.9	9,821.9	4,074.8	-4,045.7	-503.8	0.62
13,701.0	91.5	178.4	9,820.5	4,168.1	-4,139.7	-500.7	1.47
13,795.0	90.5	177.7	9,818.8	4,261.3	-4,233.6	-497.4	1.29
13,889.0	88.9	176.4	9,819.3	4,354.3	-4,327.5	-492.6	2.15

Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	Coordinate N (-S) (ft)	Coordinate E (-W) (ft)	DLS (deg/100 ft)
13,982.0	89.2	176.5	9,820.8	4,446.2	-4,420.3	-486.9	0.34
14,076.0	88.9	176.7	9,822.4	4,539.2	-4,514.1	-481.3	0.41
14,170.0	89.5	178.1	9,823.7	4,632.3	-4,608.0	-477.0	1.58
14,264.0	89.4	178.6	9,824.6	4,725.6	-4,701.9	-474.3	0.59
14,358.0	88.5	178.9	9,826.2	4,819.0	-4,795.9	-472.3	1.00
14,453.0	88.7	179.5	9,828.5	4,913.4	-4,890.9	-470.9	0.70
14,548.0	88.7	180.0	9,830.7	5,008.0	-4,985.8	-470.5	0.47
14,642.0	87.7	180.9	9,833.7	5,101.6	-5,079.8	-471.3	1.46
14,650.0	87.7	180.7	9,834.0	5,109.6	-5,087.8	-471.4	3.18
14,735.0	87.7	180.7	9,837.4	5,194.2	-5,172.7	-472.3	-999.25

PathFinder – a Schlumberger company
Survey Report

Tie-In Date: 01/18/2019
Date Completed: 03/05/2019

CAZA PETROLEUM, LLC
LENNOX 32 STATE #9H ST01
LEA COUNTY, NM
API#: 30-025-45307-01 Rig: NABORS M24
PathFinder Office Supervisor: ERIC STAMPLEY
PathFinder Field Engineers: MAGID IBRAHIM

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.21.18.7324 N LON:103.23.5.6819 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coor: X: 834203.6000 Y: 494252.1000
North Aligned To:GRID NORTH
Total Magnetic Correction: 6.20° EAST TO GRID
Vertical Section Plane: 185.22
Survey Vert. Reference: 22.00' Rotary Table To Ground
Altitude:3539.00' Ground To MSL

Survey Calculations by RX4 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	(ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
ORIGIN OF WELL AT SURFACE.										
0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLLOWING ARE SCHLUMBERGER MWD SURVEYS.										
159.00	0.17	219.64	159.00	159.00	0.19	0.18 S	0.15 W	0.24@	219.64	0.11
220.00	0.20	235.66	220.00	61.00	0.34	0.31 S	0.30 W	0.43@	223.56	0.10
308.00	0.13	276.43	308.00	88.00	0.43	0.39 S	0.52 W	0.65@	233.47	0.15
426.00	0.28	224.69	426.00	118.00	0.65	0.58 S	0.86 W	1.03@	236.09	0.19
486.00	0.28	240.68	486.00	60.00	0.85	0.75 S	1.09 W	1.32@	235.34	0.13
609.00	0.38	240.41	609.00	123.00	1.25	1.10 S	1.71 W	2.03@	237.15	0.08
668.00	0.39	221.46	667.99	59.00	1.53	1.35 S	2.01 W	2.42@	236.12	0.21
851.00	0.29	221.04	850.99	183.00	2.40	2.16 S	2.73 W	3.48@	231.54	0.05
942.00	0.32	204.14	941.99	91.00	2.83	2.57 S	2.98 W	3.94@	229.23	0.10
1034.00	0.28	208.95	1033.99	92.00	3.28	3.00 S	3.19 W	4.38@	226.78	0.05
1221.00	0.59	191.53	1220.98	187.00	4.65	4.34 S	3.61 W	5.65@	219.71	0.18
1315.00	0.72	196.08	1314.98	94.00	5.72	5.39 S	3.87 W	6.63@	215.68	0.15
1408.00	0.73	209.68	1407.97	93.00	6.83	6.46 S	4.32 W	7.78@	213.78	0.19
1503.00	0.64	200.47	1502.96	95.00	7.89	7.49 S	4.81 W	8.90@	212.72	0.15
1597.00	0.92	188.63	1596.95	94.00	9.15	8.72 S	5.11 W	10.11@	210.34	0.34
1630.00	0.97	199.39	1629.95	33.00	9.69	9.25 S	5.24 W	10.63@	209.52	0.56
1692.00	0.92	196.01	1691.94	62.00	10.68	10.22 S	5.55 W	11.63@	208.50	0.12
1787.00	0.96	203.38	1786.93	95.00	12.19	11.69 S	6.08 W	13.17@	207.47	0.13
1870.00	0.98	204.32	1869.92	83.00	13.52	12.97 S	6.64 W	14.57@	207.12	0.03
2072.00	0.67	208.17	2071.90	202.00	16.24	15.59 S	7.91 W	17.48@	206.92	0.16

PathFinder – a Schlumberger company
Survey Report

CAZA PETROLEUM, LLC
LENNOX 32 STATE #9H ST01
LEA COUNTY, NM
API#: 30-025-45307-01 Rig: NABORS M51

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	(ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
2167.00	0.20	195.43	2166.89	95.00	16.92	16.24 S	8.22 W	18.20@	206.85	0.50
2261.00	0.38	353.28	2260.89	94.00	16.77	16.08 S	8.30 W	18.10@	207.29	0.61
2355.00	0.39	349.58	2354.89	94.00	16.16	15.46 S	8.39 W	17.59@	208.50	0.03
2450.00	0.36	348.36	2449.89	95.00	15.56	14.85 S	8.51 W	17.12@	209.82	0.03
2544.00	0.44	333.94	2543.89	94.00	14.97	14.24 S	8.73 W	16.70@	211.52	0.14
2638.00	0.35	354.03	2637.88	94.00	14.38	13.63 S	8.92 W	16.29@	213.21	0.17
2732.00	0.51	358.81	2731.88	94.00	13.68	12.92 S	8.96 W	15.72@	214.73	0.17
2826.00	0.48	343.77	2825.88	94.00	12.90	12.13 S	9.08 W	15.15@	216.81	0.14
2920.00	0.34	346.84	2919.87	94.00	12.27	11.48 S	9.25 W	14.74@	218.87	0.15
3015.00	0.48	352.05	3014.87	95.00	11.62	10.81 S	9.37 W	14.30@	220.92	0.15
3109.00	0.52	356.10	3108.87	94.00	10.81	9.99 S	9.45 W	13.75@	223.41	0.06
3203.00	0.59	7.87	3202.86	94.00	9.91	9.09 S	9.41 W	13.09@	226.01	0.14
3297.00	0.59	20.29	3296.86	94.00	8.96	8.15 S	9.18 W	12.28@	228.39	0.14
3392.00	0.70	32.14	3391.85	95.00	7.97	7.20 S	8.70 W	11.30@	230.38	0.18
3487.00	0.73	39.68	3486.85	95.00	6.95	6.25 S	8.01 W	10.16@	232.04	0.10
3581.00	1.28	56.72	3580.83	94.00	5.80	5.21 S	6.75 W	8.52@	232.33	0.66
3676.00	1.37	50.10	3675.81	95.00	4.34	3.90 S	4.99 W	6.33@	231.99	0.19
3770.00	1.71	308.69	3769.78	94.00	2.77	2.30 S	5.22 W	5.71@	246.22	2.55
3865.00	4.00	304.21	3864.66	95.00	0.38	0.45 N	9.07 W	9.08@	272.83	2.42
3960.00	4.47	306.79	3959.40	95.00	-3.17	4.53 N	14.77 W	15.45@	287.04	0.53
4054.00	3.90	303.93	4053.15	94.00	-6.62	8.51 N	20.36 W	22.07@	292.67	0.65
4148.00	3.96	286.47	4146.93	94.00	-8.79	11.21 N	26.12 W	28.43@	293.23	1.27
4243.00	7.58	258.26	4241.45	95.00	-7.60	10.87 N	35.41 W	37.04@	287.06	4.73
4337.00	9.03	255.22	4334.47	94.00	-3.27	7.72 N	48.61 W	49.22@	279.03	1.61
4432.00	8.00	259.01	4428.42	95.00	1.13	4.56 N	62.31 W	62.48@	274.19	1.23

PathFinder – a Schlumberger company
Survey Report

CAZA PETROLEUM, LLC
LENNOX 32 STATE #9H ST01
LEA COUNTY, NM
API#: 30-025-45307-01 Rig: NABORS M51

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	(ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
4526.00	6.68	266.01	4521.65	94.00	3.83	2.93 N	74.19 W	74.25@	272.26	1.69
4622.00	6.05	267.35	4617.06	96.00	5.42	2.31 N	84.81 W	84.84@	271.56	0.67
4791.00	6.56	286.09	4785.05	169.00	4.81	4.57 N	102.99 W	103.09@	272.54	1.25
4903.00	6.84	286.88	4896.29	112.00	2.26	8.28 N	115.51 W	115.81@	274.10	0.26
4997.00	6.26	291.98	4989.67	94.00	-0.35	11.83 N	125.62 W	126.18@	275.38	0.87
5091.00	5.76	290.21	5083.15	94.00	-3.05	15.37 N	134.80 W	135.68@	276.51	0.57
5185.00	6.24	288.26	5176.64	94.00	-5.42	18.61 N	144.08 W	145.28@	277.36	0.56
5278.00	5.99	288.04	5269.11	93.00	-7.64	21.69 N	153.49 W	155.02@	278.04	0.27
5372.00	5.42	291.83	5362.65	94.00	-9.99	24.86 N	162.28 W	164.17@	278.71	0.73
5465.00	4.51	295.24	5455.30	93.00	-12.50	28.05 N	169.66 W	171.97@	279.39	1.03
5559.00	4.90	288.19	5548.98	94.00	-14.67	30.88 N	176.82 W	179.50@	279.91	0.74
5631.00	6.20	277.33	5620.64	72.00	-15.50	32.34 N	183.60 W	186.43@	279.99	2.31
5753.00	6.13	276.28	5741.94	122.00	-15.86	33.89 N	196.61 W	199.51@	279.78	0.11
5847.00	6.07	277.29	5835.40	94.00	-16.14	35.07 N	206.53 W	209.48@	279.64	0.13
5941.00	5.56	277.85	5928.92	94.00	-16.52	36.32 N	215.97 W	219.00@	279.55	0.55
6035.00	5.93	276.91	6022.45	94.00	-16.88	37.53 N	225.30 W	228.40@	279.46	0.41
6128.00	5.89	279.35	6114.95	93.00	-17.36	38.88 N	234.78 W	237.97@	279.40	0.27
6222.00	5.68	276.61	6208.48	94.00	-17.82	40.20 N	244.16 W	247.44@	279.35	0.37
6316.00	5.35	273.73	6302.04	94.00	-17.82	41.02 N	253.15 W	256.45@	279.20	0.46
6411.00	5.48	273.90	6396.62	95.00	-17.60	41.62 N	262.10 W	265.38@	279.02	0.14
6503.00	5.83	281.45	6488.17	92.00	-18.01	42.85 N	271.06 W	274.42@	278.98	0.89
6599.00	5.50	279.03	6583.70	96.00	-18.84	44.54 N	280.38 W	283.90@	279.03	0.42
6693.00	6.69	281.17	6677.17	94.00	-19.71	46.30 N	290.20 W	293.87@	279.07	1.29
6788.00	6.95	283.33	6771.50	95.00	-21.09	48.70 N	301.22 W	305.13@	279.18	0.38
6882.00	6.54	282.08	6864.84	94.00	-22.54	51.13 N	311.99 W	316.15@	279.31	0.46

PathFinder – a Schlumberger company
Survey Report

CAZA PETROLEUM, LLC
LENNOX 32 STATE #9H ST01
LEA COUNTY, NM
API#: 30-025-45307-01 Rig: NABORS M51

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	(ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
6977.00	6.23	281.83	6959.26	95.00	-23.78	53.32 N	322.33 W	326.71@	279.39	0.33
7072.00	5.68	280.68	7053.74	95.00	-24.82	55.25 N	331.99 W	336.56@	279.45	0.59
7166.00	5.55	280.71	7147.29	94.00	-25.69	56.96 N	341.03 W	345.75@	279.48	0.14
7260.00	5.14	282.99	7240.88	94.00	-26.70	58.75 N	349.60 W	354.50@	279.54	0.49
7354.00	5.47	282.41	7334.48	94.00	-27.83	60.66 N	358.08 W	363.18@	279.61	0.36
7449.00	5.86	286.26	7429.02	95.00	-29.32	62.99 N	367.16 W	372.52@	279.73	0.57
7543.00	5.86	283.29	7522.53	94.00	-30.92	65.43 N	376.43 W	382.08@	279.86	0.32
7639.00	5.50	286.55	7618.05	96.00	-32.51	67.87 N	385.61 W	391.54@	279.98	0.50
7732.00	4.69	285.51	7710.69	93.00	-34.06	70.16 N	393.55 W	399.75@	280.11	0.88
7827.00	5.51	280.88	7805.31	95.00	-35.21	72.06 N	401.77 W	408.18@	280.17	0.97
7920.00	6.76	281.15	7897.77	93.00	-36.21	73.96 N	411.52 W	418.12@	280.19	1.34
8014.00	5.95	273.31	7991.20	94.00	-36.62	75.31 N	421.82 W	428.49@	280.12	1.26
8106.00	5.95	274.92	8082.70	92.00	-36.44	75.99 N	431.33 W	437.97@	279.99	0.18
8201.00	5.53	276.88	8177.23	95.00	-36.54	76.97 N	440.78 W	447.45@	279.90	0.49
8295.00	5.52	277.62	8270.79	94.00	-36.86	78.11 N	449.76 W	456.49@	279.85	0.08
8389.00	6.64	275.96	8364.26	94.00	-37.12	79.27 N	459.64 W	466.43@	279.79	1.21
8484.00	7.59	274.05	8458.53	95.00	-37.07	80.28 N	471.36 W	478.15@	279.67	1.03
8578.00	6.83	272.33	8551.78	94.00	-36.66	80.95 N	483.14 W	489.88@	279.51	0.84
8673.00	5.95	273.43	8646.19	95.00	-36.22	81.47 N	493.70 W	500.38@	279.37	0.94
8768.00	5.50	276.06	8740.72	95.00	-36.13	82.25 N	503.14 W	509.82@	279.28	0.55
8863.00	3.89	272.18	8835.40	95.00	-36.03	82.85 N	510.89 W	517.57@	279.21	1.73
8957.00	3.24	265.48	8929.21	94.00	-35.41	82.76 N	516.73 W	523.31@	279.10	0.82
9021.00	3.11	261.16	8993.12	64.00	-34.68	82.36 N	520.24 W	526.72@	279.00	0.43
9095.00	2.93	221.80	9067.02	74.00	-32.68	80.64 N	523.49 W	529.66@	278.76	2.76
9126.00	6.87	192.31	9097.91	31.00	-30.20	78.23 N	524.41 W	530.22@	278.48	14.69

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Survey Report

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LENNOX 32 STATE #9H ST01
LEA COUNTY, NM
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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft)	(ft)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
9158.00	11.31	183.86	9129.50	32.00	-25.16	73.23 N	525.03 W	530.11@	277.94	14.45
9205.00	17.91	180.99	9174.95	47.00	-13.33	61.39 N	525.47 W	529.04@	276.66	14.12
9253.00	21.00	181.61	9220.21	48.00	2.62	45.41 N	525.84 W	527.79@	274.94	6.45
9300.00	24.07	184.07	9263.61	47.00	20.61	27.43 N	526.75 W	527.47@	272.98	6.83
9348.00	27.17	187.72	9306.89	48.00	41.35	6.80 N	528.92 W	528.96@	270.74	7.24
9396.00	30.68	186.41	9348.90	48.00	64.55	16.24 S	531.76 W	532.01@	268.25	7.43
9443.00	33.06	181.83	9388.82	47.00	89.34	40.97 S	533.51 W	535.08@	265.61	7.22
9491.00	35.63	181.15	9428.44	48.00	116.36	68.04 S	534.21 W	538.52@	262.74	5.41
9539.00	38.46	179.17	9466.75	48.00	145.16	96.95 S	534.27 W	543.00@	259.71	6.40
9584.00	42.03	178.23	9501.10	45.00	174.04	126.01 S	533.61 W	548.28@	256.71	8.05
9633.00	43.69	177.68	9537.01	49.00	207.10	159.32 S	532.41 W	555.74@	253.34	3.47
9680.00	44.79	177.37	9570.68	47.00	239.59	192.08 S	531.00 W	564.67@	250.11	2.39
9727.00	45.70	176.55	9603.78	47.00	272.62	225.41 S	529.22 W	575.23@	246.93	2.30
9772.00	49.23	176.34	9634.19	45.00	305.39	258.50 S	527.17 W	587.13@	243.88	7.85
9821.00	53.40	177.01	9664.81	49.00	343.20	296.67 S	524.96 W	602.99@	240.53	8.58
9868.00	56.68	176.47	9691.74	47.00	381.30	335.12 S	522.76 W	620.96@	237.34	7.04
9915.00	60.69	176.42	9716.16	47.00	420.97	375.19 S	520.27 W	641.45@	234.20	8.53
9962.00	62.64	177.34	9738.47	47.00	461.90	416.50 S	518.02 W	664.69@	231.20	4.49
10009.00	67.95	177.98	9758.11	47.00	504.21	459.14 S	516.29 W	690.92@	228.35	11.37
10057.00	71.77	178.42	9774.63	48.00	548.93	504.18 S	514.87 W	720.62@	225.60	8.01
10104.00	75.16	178.53	9788.01	47.00	593.67	549.21 S	513.67 W	751.99@	223.09	7.22
10152.00	79.93	178.49	9798.36	48.00	640.20	596.05 S	512.46 W	786.06@	220.69	9.94
10198.00	82.58	177.59	9805.35	46.00	685.31	641.49 S	510.90 W	820.08@	218.53	6.08
10246.00	83.27	177.73	9811.26	48.00	732.53	689.08 S	508.95 W	856.66@	216.45	1.47
10293.00	85.12	178.51	9816.01	47.00	778.93	735.81 S	507.42 W	893.81@	214.59	4.27

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10321.00	85.29	178.69	9818.35	28.00	806.64	763.71 S	506.74 W	916.53@	213.57	0.88
10353.00	81.79	179.91	9821.95	32.00	838.27	795.50 S	506.35 W	942.98@	212.48	11.57
10384.00	79.13	182.98	9827.09	31.00	868.76	826.05 S	507.12 W	969.29@	211.55	13.00
10415.00	80.88	184.41	9832.47	31.00	899.28	856.51 S	509.09 W	996.39@	210.73	7.25
10447.00	84.16	184.61	9836.64	32.00	931.00	888.14 S	511.58 W	1024.94@	209.94	10.27
10478.00	86.53	184.55	9839.15	31.00	961.89	918.94 S	514.05 W	1052.94@	209.22	7.65
10509.00	88.54	183.30	9840.49	31.00	992.85	949.83 S	516.17 W	1081.02@	208.52	7.63
10560.00	89.10	181.69	9841.54	51.00	1043.79	1000.77 S	518.39 W	1127.06@	207.38	3.34
10603.00	88.66	181.34	9842.38	43.00	1086.69	1043.75 S	519.52 W	1165.90@	206.46	1.31
10690.00	90.11	182.19	9843.31	87.00	1173.52	1130.70 S	522.20 W	1245.46@	204.79	1.93
10787.00	94.38	181.18	9839.51	97.00	1270.24	1227.56 S	525.05 W	1335.13@	203.16	4.52
10880.00	94.49	180.66	9832.32	93.00	1362.70	1320.27 S	526.54 W	1421.39@	201.74	0.57
10912.00	94.37	180.06	9829.85	32.00	1394.49	1352.17 S	526.74 W	1451.15@	201.28	1.91
10943.00	93.76	180.02	9827.65	31.00	1425.28	1383.09 S	526.76 W	1480.01@	200.85	1.97
10974.00	92.92	179.92	9825.85	31.00	1456.10	1414.04 S	526.75 W	1508.97@	200.43	2.73
11005.00	93.08	179.98	9824.22	31.00	1486.93	1445.00 S	526.72 W	1538.00@	200.03	0.55
11037.00	93.03	179.82	9822.52	32.00	1518.74	1476.95 S	526.67 W	1568.05@	199.63	0.52
11068.00	92.02	180.00	9821.15	31.00	1549.58	1507.92 S	526.62 W	1597.23@	199.25	3.31
11099.00	91.07	179.99	9820.32	31.00	1580.44	1538.91 S	526.61 W	1626.52@	198.89	3.06
11130.00	91.12	179.93	9819.72	31.00	1611.30	1569.91 S	526.59 W	1655.87@	198.54	0.25
11161.00	91.35	180.15	9819.06	31.00	1642.17	1600.90 S	526.61 W	1685.29@	198.21	1.03
11192.00	91.63	180.30	9818.25	31.00	1673.04	1631.89 S	526.74 W	1714.79@	197.89	1.03
11223.00	91.68	180.37	9817.36	31.00	1703.92	1662.87 S	526.92 W	1744.36@	197.58	0.28
11254.00	91.74	180.47	9816.43	31.00	1734.79	1693.86 S	527.14 W	1773.99@	197.29	0.38
11286.00	91.51	180.04	9815.52	32.00	1766.66	1725.85 S	527.29 W	1804.60@	196.99	1.52

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11317.00	91.46	179.60	9814.72	31.00	1797.51	1756.84 S	527.19 W	1834.23@	196.70	1.43
11348.00	91.29	179.56	9813.98	31.00	1828.35	1787.83 S	526.96 W	1863.87@	196.42	0.56
11380.00	90.50	178.44	9813.48	32.00	1860.16	1819.82 S	526.40 W	1894.42@	196.13	4.28
11411.00	90.34	178.19	9813.25	31.00	1890.94	1850.80 S	525.49 W	1923.96@	195.85	0.96
11442.00	90.28	178.22	9813.08	31.00	1921.70	1881.79 S	524.52 W	1953.52@	195.58	0.22
11473.00	90.11	178.30	9812.97	31.00	1952.47	1912.77 S	523.58 W	1983.14@	195.31	0.61
11505.00	90.06	178.46	9812.93	32.00	1984.25	1944.76 S	522.68 W	2013.77@	195.04	0.52
11536.00	90.22	178.50	9812.85	31.00	2015.03	1975.75 S	521.85 W	2043.50@	194.80	0.53
11581.00	90.11	178.50	9812.72	45.00	2059.72	2020.73 S	520.67 W	2086.73@	194.45	0.24
11629.00	90.45	178.23	9812.49	48.00	2107.38	2068.71 S	519.31 W	2132.90@	194.09	0.90
11676.00	91.01	177.78	9811.89	47.00	2154.00	2115.68 S	517.67 W	2178.09@	193.75	1.53
11724.00	90.84	177.79	9811.11	48.00	2201.59	2163.64 S	515.81 W	2224.27@	193.41	0.35
11772.00	91.46	177.45	9810.15	48.00	2249.16	2211.59 S	513.82 W	2270.49@	193.08	1.47
11819.00	92.18	177.52	9808.66	47.00	2295.71	2258.52 S	511.76 W	2315.77@	192.77	1.54
11867.00	92.24	177.85	9806.81	48.00	2343.26	2306.44 S	509.82 W	2362.12@	192.46	0.70
11913.00	91.07	177.27	9805.48	46.00	2388.83	2352.38 S	507.87 W	2406.58@	192.18	2.84
11960.00	90.50	177.23	9804.83	47.00	2435.37	2399.32 S	505.61 W	2452.02@	191.90	1.22
12008.00	89.05	177.51	9805.02	48.00	2482.92	2447.27 S	503.41 W	2498.51@	191.62	3.08
12103.00	89.05	178.45	9806.60	95.00	2577.15	2542.20 S	500.06 W	2590.91@	191.13	0.99
12197.00	88.88	179.97	9808.30	94.00	2670.61	2636.17 S	498.76 W	2682.94@	190.71	1.63
12292.00	88.88	181.09	9810.15	95.00	2765.28	2731.14 S	499.64 W	2776.47@	190.37	1.18
12386.00	89.16	181.06	9811.76	94.00	2859.02	2825.11 S	501.41 W	2869.26@	190.06	0.30
12479.00	88.26	181.00	9813.85	93.00	2951.74	2918.07 S	503.08 W	2961.12@	189.78	0.97
12574.00	88.77	180.83	9816.32	95.00	3046.44	3013.03 S	504.59 W	3054.99@	189.51	0.57
12668.00	90.00	181.14	9817.32	94.00	3140.18	3107.01 S	506.21 W	3147.98@	189.25	1.35

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12761.00	90.73	181.23	9816.73	93.00	3232.95	3199.99 S	508.13 W	3240.08@	189.02	0.79
12856.00	90.67	181.32	9815.57	95.00	3327.71	3294.96 S	510.25 W	3334.23@	188.80	0.11
12951.00	90.45	181.29	9814.64	95.00	3422.49	3389.93 S	512.41 W	3428.44@	188.60	0.23
13045.00	89.83	180.12	9814.41	94.00	3516.19	3483.92 S	513.57 W	3521.57@	188.39	1.41
13138.00	88.77	179.62	9815.55	93.00	3608.78	3576.91 S	513.36 W	3613.56@	188.17	1.26
13232.00	89.50	179.42	9816.97	94.00	3702.30	3670.89 S	512.57 W	3706.51@	187.95	0.81
13326.00	88.99	179.16	9818.21	94.00	3795.79	3764.88 S	511.40 W	3799.45@	187.74	0.61
13420.00	88.49	178.86	9820.28	94.00	3889.22	3858.84 S	509.78 W	3892.37@	187.53	0.62
13514.00	89.66	177.98	9821.79	94.00	3982.54	3952.79 S	507.19 W	3985.20@	187.31	1.56
13607.00	90.22	177.85	9821.89	93.00	4074.79	4045.73 S	503.80 W	4076.98@	187.10	0.62
13701.00	91.51	178.35	9820.47	94.00	4168.05	4139.66 S	500.69 W	4169.83@	186.90	1.47
13795.00	90.50	177.68	9818.82	94.00	4261.29	4233.59 S	497.43 W	4262.71@	186.70	1.29
13889.00	88.93	176.41	9819.29	94.00	4354.33	4327.46 S	492.59 W	4355.41@	186.49	2.15
13982.00	89.22	176.53	9820.79	93.00	4446.23	4420.27 S	486.86 W	4447.00@	186.29	0.34
14076.00	88.88	176.71	9822.35	94.00	4539.16	4514.10 S	481.32 W	4539.68@	186.09	0.41
14170.00	89.50	178.06	9823.68	94.00	4632.28	4607.99 S	477.03 W	4632.61@	185.91	1.58
14264.00	89.44	178.61	9824.55	94.00	4725.59	4701.94 S	474.30 W	4725.80@	185.76	0.59
14358.00	88.54	178.89	9826.20	94.00	4818.98	4795.90 S	472.25 W	4819.10@	185.62	1.00
14453.00	88.71	179.53	9828.48	95.00	4913.43	4890.87 S	470.94 W	4913.49@	185.50	0.70
14548.00	88.65	179.97	9830.67	95.00	5007.97	4985.84 S	470.53 W	5007.99@	185.39	0.47
14642.00	87.65	180.91	9833.71	94.00	5101.59	5079.79 S	471.25 W	5101.60@	185.30	1.46
14650.00	87.70	180.66	9834.03	8.00	5109.56	5087.78 S	471.36 W	5109.57@	185.29	3.18
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 14735'MD.										
14735.00	87.70	180.66	9837.44	85.00	5194.23	5172.70 S	472.34 W	5194.23@	185.22	0.00

This survey is correct to the best of my knowledge and is supported by actual field data.
Steve Morris