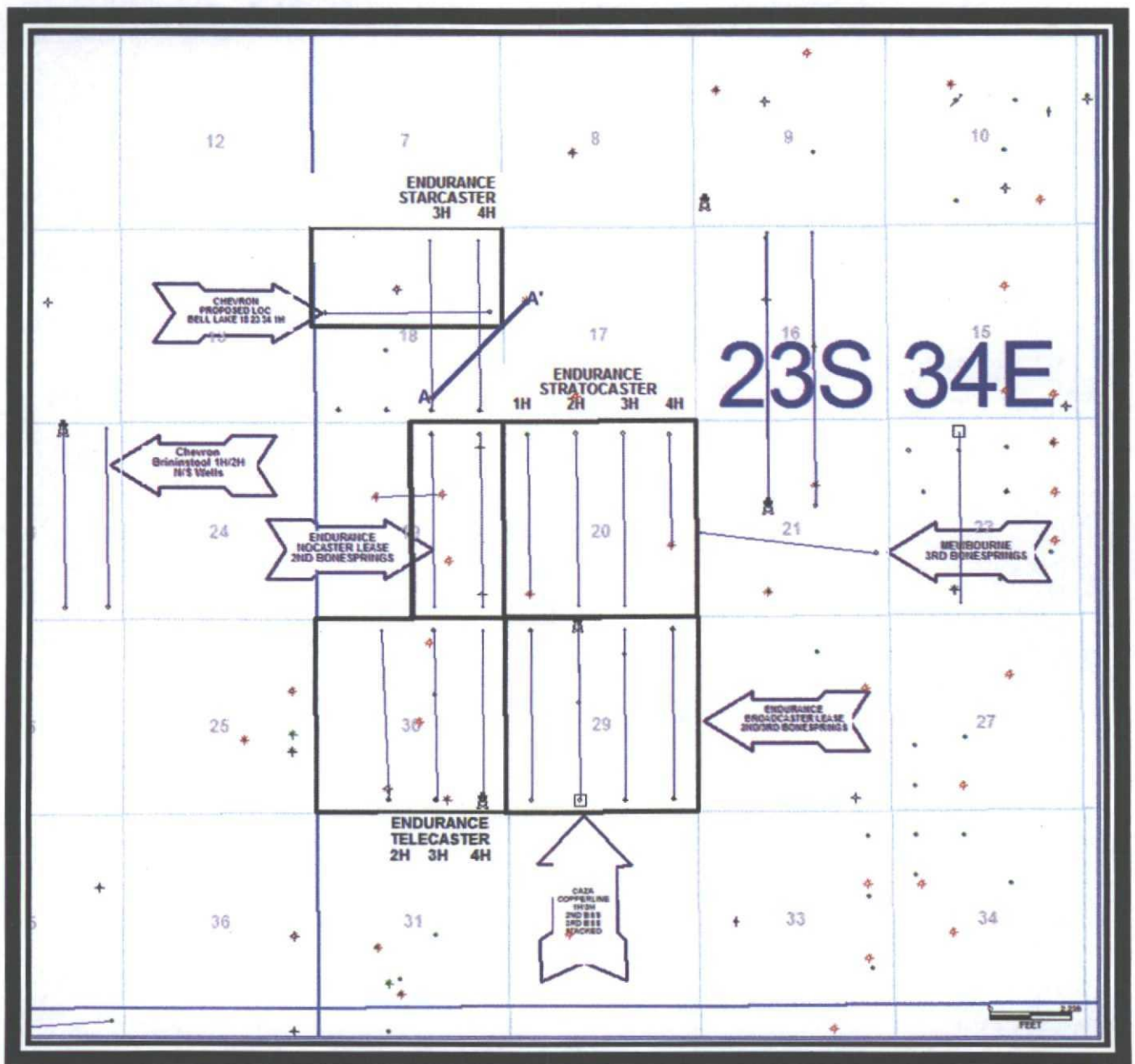


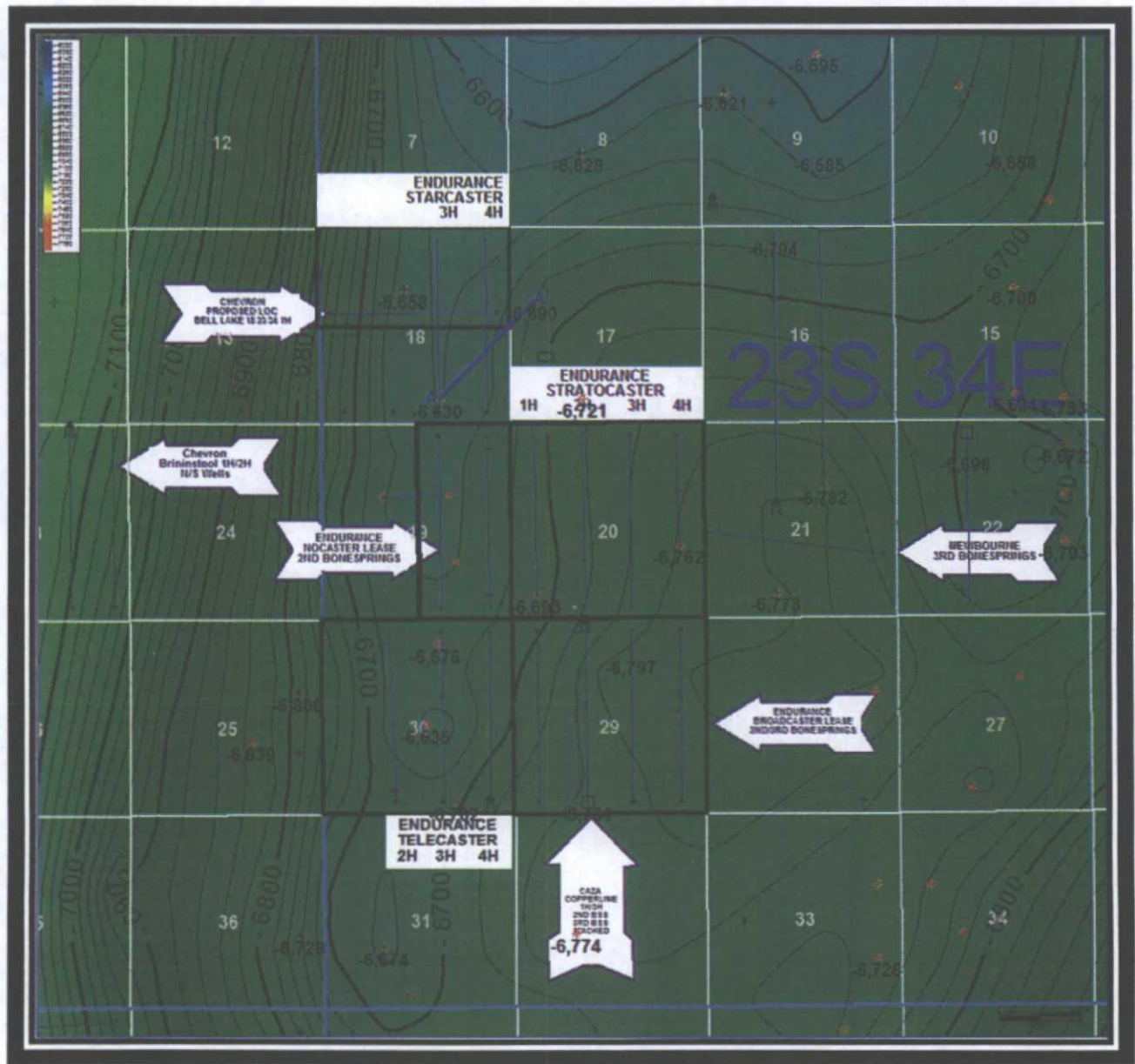
Starcaster AOI Overview



12

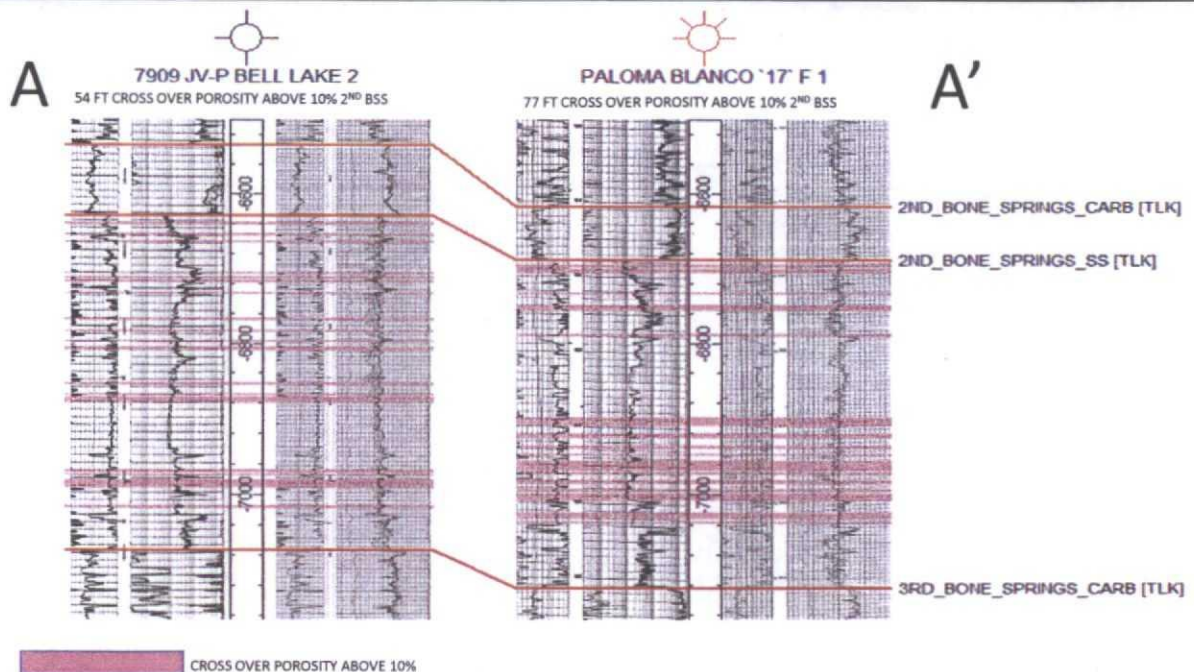
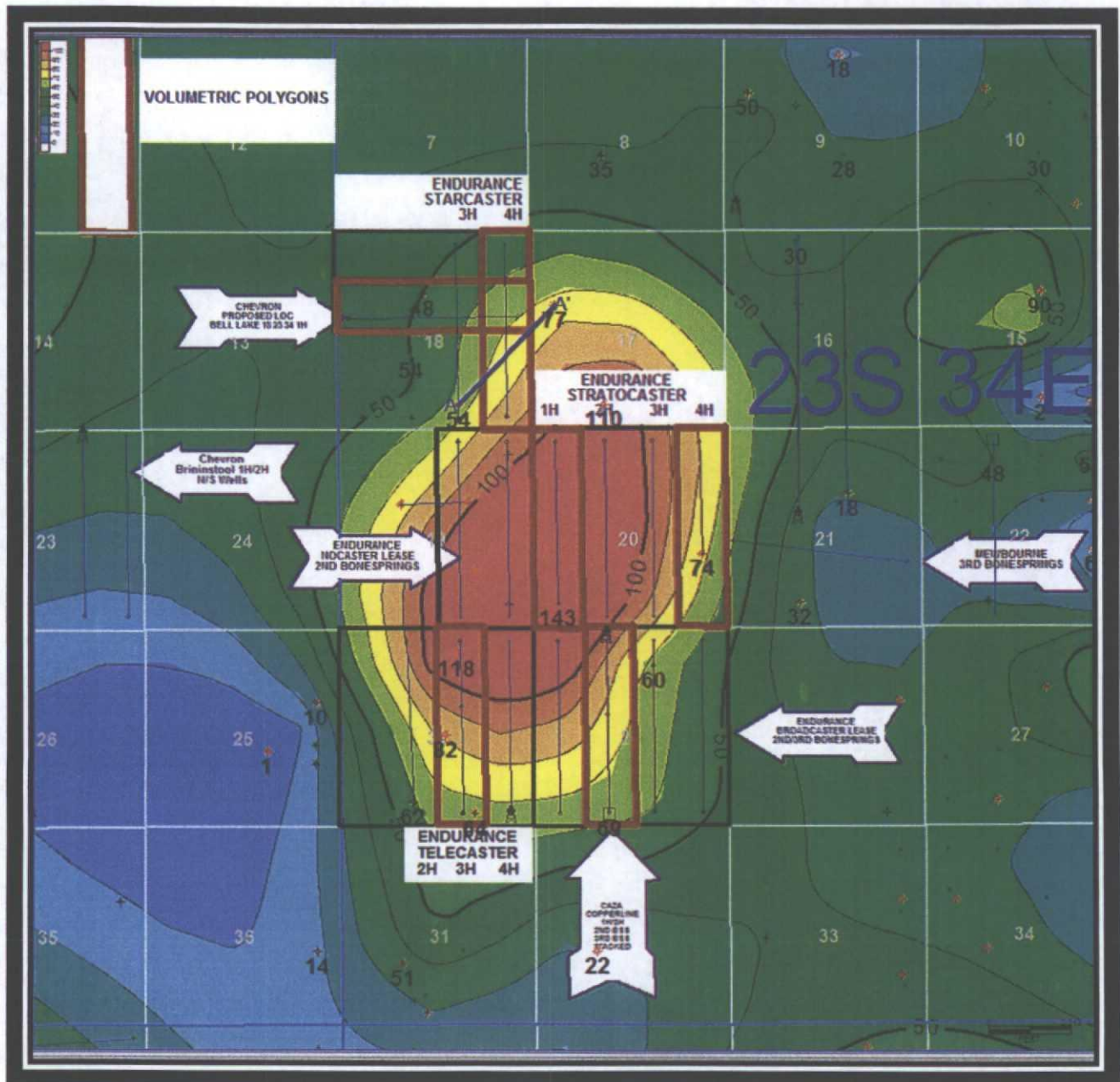
Starcaster AOI 2nd BSS

Structure Map @ 20' Contours



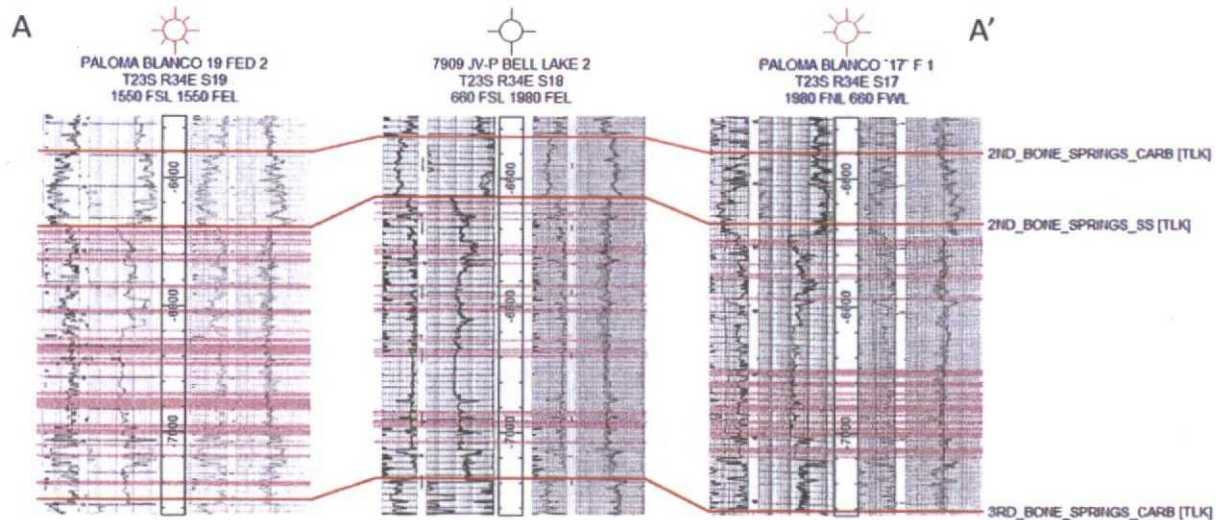
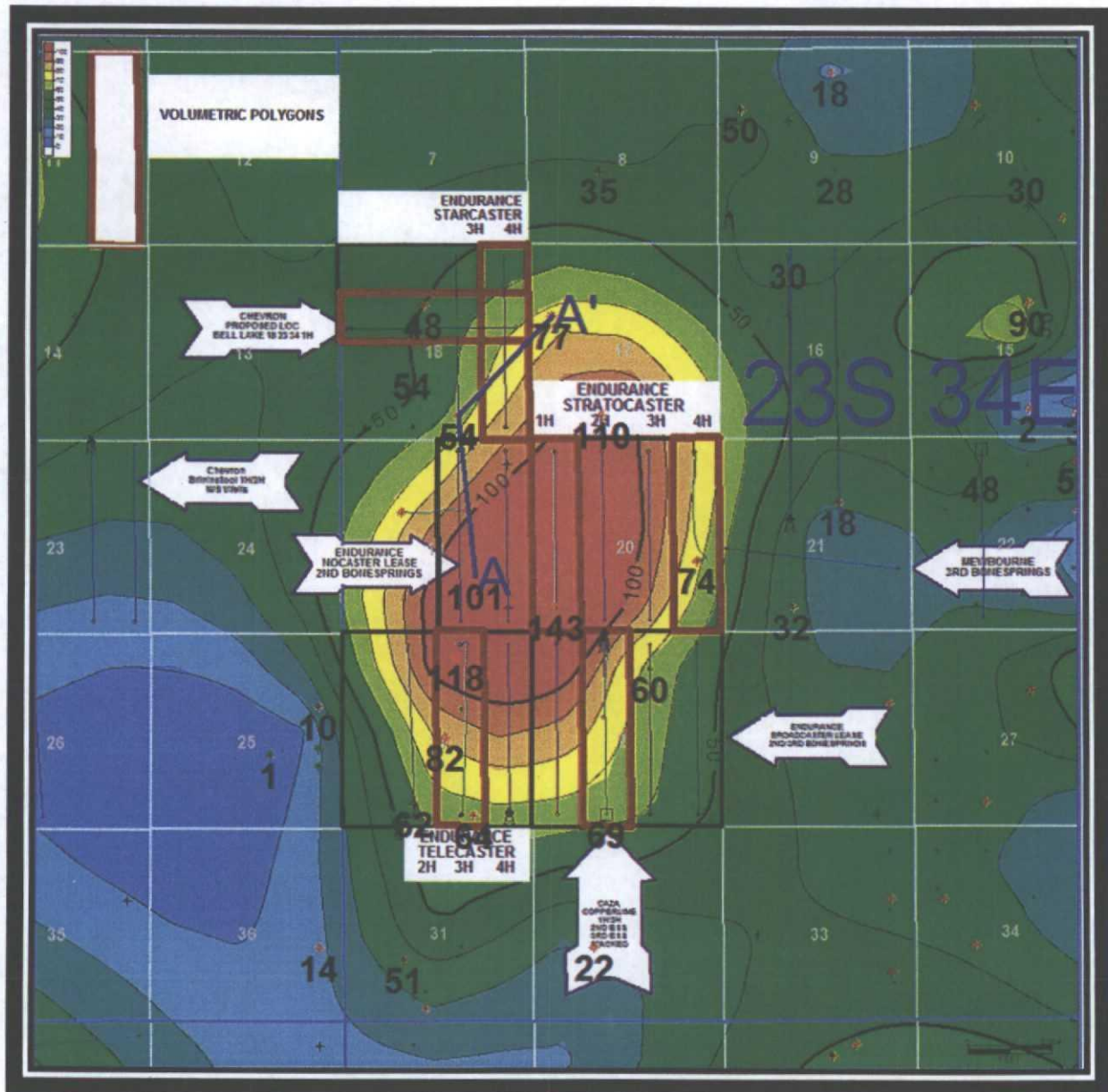
Starcaster AOI 2nd BSS

Porosity Map @ 10' Contours



StarCaster AOI 2nd BSS

Porosity Map @ 10' Contours





StrataGen

Post Fracture Report

Endurance Resources, LLC

**Telecaster 30 Federal 3H
2nd Bone Springs
Lea County, New Mexico**

**Final Report for
Kale Jackson**

Project No.: 30352

Job Date: December 19 – 22, 2013

Report Date: January 8, 2014

By:
StrataGen, Inc.
Energy Center II
575 N. Dairy Ashford, Suite 300

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Houston, Texas 77079

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1. Summary

The following report summarizes the proppant geometry findings from adjusting Fracpro to match the net pressures observed during the frac treatment. During the process of analyzing the data, several issues became evident. These will be discussed with action items for any future treatments on development wells in this area. Although no diagnostic data was available, the data was consistent enough to allow us to conclude key elements which you can use.

1. **Closure Pressures did not increase as the completion process progressed.** This can indicate that the fracture clusters are substantially far apart such that "stress shadowing" did not occur. The clusters were spaced ~95 ft. apart with 3 clusters comprising a stage.
2. **No proppant entry issues were observed.** This may indicate that thinner fluids can be used on future wells but more importantly it indicates that higher proppant loadings can be used which will increase Fcd values. \
3. **Perforation performance was consistently poor:** In almost every stage, the friction pressures 'solved' to a perforation friction pressure equal to $\frac{1}{2}$ of the perforations being open and with smaller than published hole sizes. We strongly suggest that you consider using very high loadings of the perforation charges and/or perforating more holes to increase number of holes open.

2. Introduction

Drilled to a total depth of 14,908 ft. MD (10,575 ft. TVD), the Telecaster 30 Federal 3H contained 4000 feet of lateral wellbore. The completion utilized the plug and perf method with 95 ft. between perforation clusters and three perforation clusters per frac stage. The stimulation would be performed in 14 stages placing a total of 600,000 pounds 30/50 Econoprop and 3,000,000 pounds 20/40 Econoprop proppants

Halliburton provided wireline, composite plugs, and fracturing services and began equipment rig-up the night of December 18. Rig-up was completed and a pressure test conducted by 9 AM December 19, 2013. The final stage was completed by 4 AM December 22.

Following Stage 2 pumping operations, the composite plug could not be set at the correct depth to facilitate perforating for Stage 3. Ultimately, the plug was set 95 feet short, Stage 3 was abandoned, and all perforation clusters were shifted 95 ft. forward. Proppant volumes from Stage 3 would be added to the Stage 10, 11, and 12 pump schedules.

Endurance Resources, LLC Telecaster 30 Federal 3H Lea County, New Mexico							2nd Bone Springs Stages 1,2, 4 - 9, 14		
Stage Type	Rate (bpm)	Propp Conc. (ppg)	Clean Volume (gals)	Clean Volume (bbls)	Slurry Volume (bbls)	Proppant (lbs)	Fluid Type	Proppant Type	Elapsed Time Min.
Breakdown	15	0	500	11.9	11.9		Treated Water		0.8
Acid	15	0	3,000	71.4	71.4		15% HCL		5.0
Spacer	50	0	35,000	833.3	833.3		Water Frac G(17)		16.7
Proppant	50	1	2,500	59.5	62.2	2,500	Water Frac G(17)	30/50 Econoprop	45.0
Pad	60	0	30,000	714.3	714.3		Hybor G(15)		11.9
Proppant	60	1.0	20,000	476.2	497.5	20,000	Hybor G(15)	30/50 Econoprop	8.3
Proppant	60	2.0	10,000	238.1	259.4	20,000	Hybor G(15)	30/50 Econoprop	4.3
Proppant	60	2.0	30,000	714.3	778.3	60,000	Hybor G(15)	20/40 Econoprop	13.0
Proppant	60	2.5	28,000	666.7	741.4	70,000	Hybor G(15)	20/40 Econoprop	12.4
Proppant	60	3.0	28,100	669.0	759.0	84,300	Hybor G(15)	20/40 Econoprop	12.7
Flush	60	0	14,300	340.5	340.5		Slickwater		5.7
Total Fluid			201,400	4,795.2	5,069.3	256,800			135.6

Table 1 Design Schedule for Stage 1, 2, 4, 5, 6, 7, 8, 9, and 14

Table 1 highlights the design pump schedule originally planned for all stages. Due to termination of Stage 3, additional proppant was added to Stages 10, 11, 12, and 13.

Endurance Resources, LLC Telecaster 30 Federal 3H Lea County, New Mexico							2nd Bone Springs Stages 10-12		
Stage Type	Rate (bpm)	Propp Conc. (ppg)	Clean Volume (gals)	Clean Volume (bbls)	Slurry Volume (bbls)	Proppant (lbs)	Fluid Type	Proppant Type	Elapsed Time Min.
Breakdown	15	0	500	11.9	11.9		Treated Water		0.8
Acid	15	0	3,000	71.4	71.4		15% HCL		5.0
Spacer	50	0	35,000	833.3	833.3		Water Frac G(17)		16.7
Proppant	50	1	2,500	59.5	62.2	2,500	Water Frac G(17)	30/50 Econoprop	45.0
Pad	60	0	30,000	714.3	714.3		Hybor G(15)		11.9
Proppant	60	1.0	26,700	635.7	664.2	26,700	Hybor G(15)	30/50 Econoprop	11.1
Proppant	60	2.0	13,350	317.9	346.4	26,700	Hybor G(15)	30/50 Econoprop	5.8
Proppant	60	2.0	40,000	952.4	1037.8	80,000	Hybor G(15)	20/40 Econoprop	17.3
Proppant	60	2.5	37,333	888.9	988.5	93,333	Hybor G(15)	20/40 Econoprop	16.5
Proppant	60	3.0	37,467	892.1	1012.0	112,401	Hybor G(15)	20/40 Econoprop	16.9
Flush	60	0	12,350	294.0	294.0		Slickwater		4.9
Total Fluid			238,200	5,671.4	6,036.0	341,634			151.7

Table 2 Design Schedule for Stage 10,11, and 12

Table 2 highlights the revised design pump schedule for Stages 10, 11, and 12.

Endurance Resources, LLC Telecaster 30 Federal 3H Lea County, New Mexico							2nd Bone Springs Stage 13		
Stage Type	Rate (bpm)	Propp Conc. (ppg)	Clean Volume (gals)	Clean Volume (bbls)	Slurry Volume (bbls)	Proppant (lbs)	Fluid Type	Proppant Type	Elapsed Time Min.
Breakdown	15	0	500	11.9	11.9		Treated Water		0.8
Acid	15	0	3,000	71.4	71.4		15% HCL		5.0
Spacer	50	0	35,000	833.3	833.3		Water Frac G(17)		16.7
Proppant	50	1	2,500	59.5	62.2	2,500	Water Frac G(17)	30/50 Econoprop	45.0
Pad	60	0	30,000	714.3	714.3		Hybor G(15)		11.9
Proppant	60	1.0	20,000	476.2	497.5	20,000	Hybor G(15)	30/50 Econoprop	8.3
Proppant	60	2.0	23,375	556.5	606.4	46,750	Hybor G(15)	30/50 Econoprop	10.1
Proppant	60	2.0	30,000	714.3	778.3	60,000	Hybor G(15)	20/40 Econoprop	13.0
Proppant	60	2.5	28,000	666.7	741.4	70,000	Hybor G(15)	20/40 Econoprop	12.4
Proppant	60	3.0	28,100	669.0	759.0	84,300	Hybor G(15)	20/40 Econoprop	12.7
Flush	60	0	14,300	340.5	340.5		Slickwater		5.7
Total Fluid			214,775	5,113.7	5,416.3	283,550			141.4

Table 3 Design Schedule for Stage 13

Table 3 highlights the revised design pump schedule for Stage 13.

Appendix A contains the revised perforation schedule and Appendix B contains a comparison of design versus actual proppant volumes.

3. Discussion

In performing the post-frac analysis, we used standard reservoir properties. Those being a normal reservoir pressure gradient and fluid properties for oil. Very little post frac pressure bleed-off data was available. However, data from offset wells help to decrease the 'errors' from this type of analysis.

The following detailed discussion uses data from stage 12 which represented the statistical average of the stages.

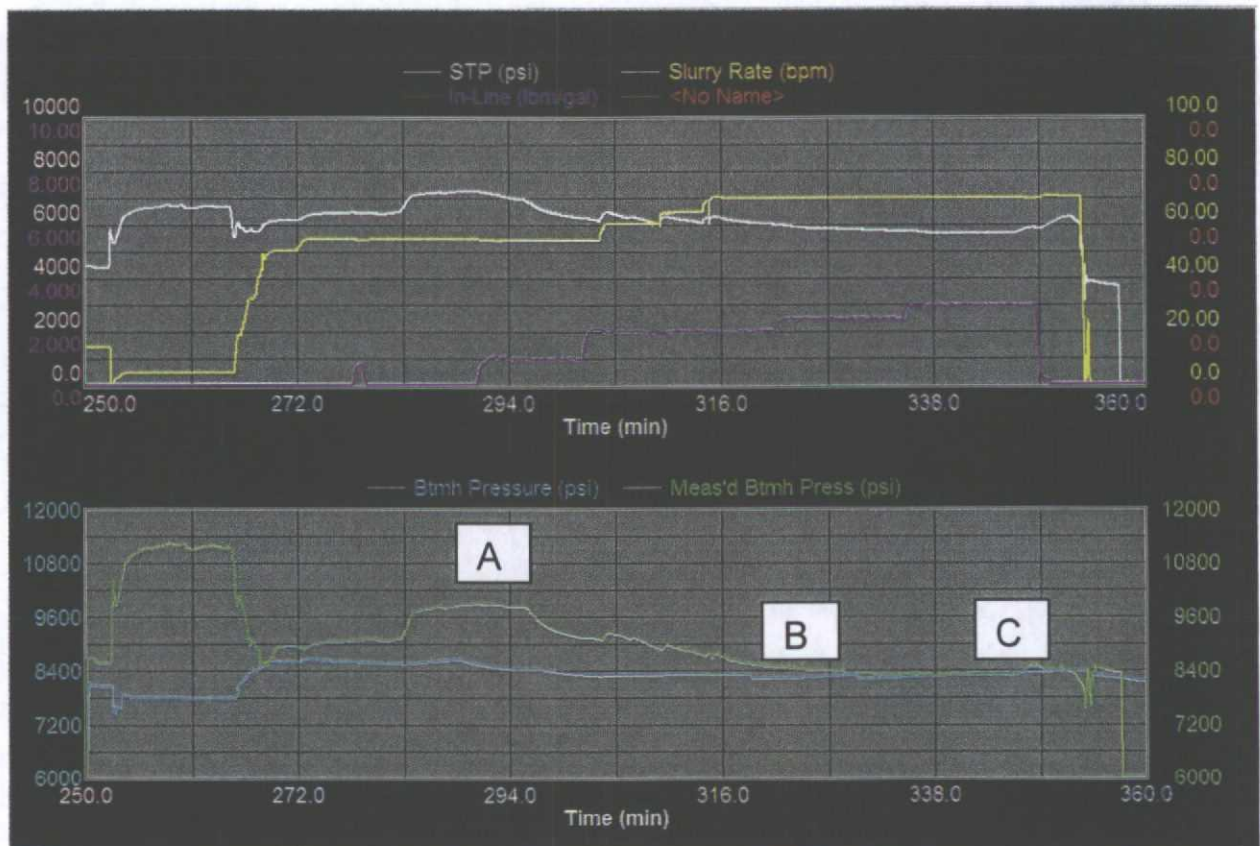


Figure 1. Stage 12 data.

This stage successfully placed 350,183 lb. of proppant. However there were issues which should be addressed in future wells.

- The initial bottom hole treating pressure is indicating perforation issues. There was no step-rate test but the excessive entry pressure best solved to expose smaller and fewer perforations as were reported.
- The issue cleared-up as the 2 ppa proppant stage cleared the cluster area. This signals that the ceramic proppant is eroding the perforations to a larger diameter.
- The slight upward slope in bottom hole treating pressure is an indication for net pressure increasing due to contact with permeability. In other words, the frac

fluid's efficiency is appropriate to generate the geometry which was intended by the design.

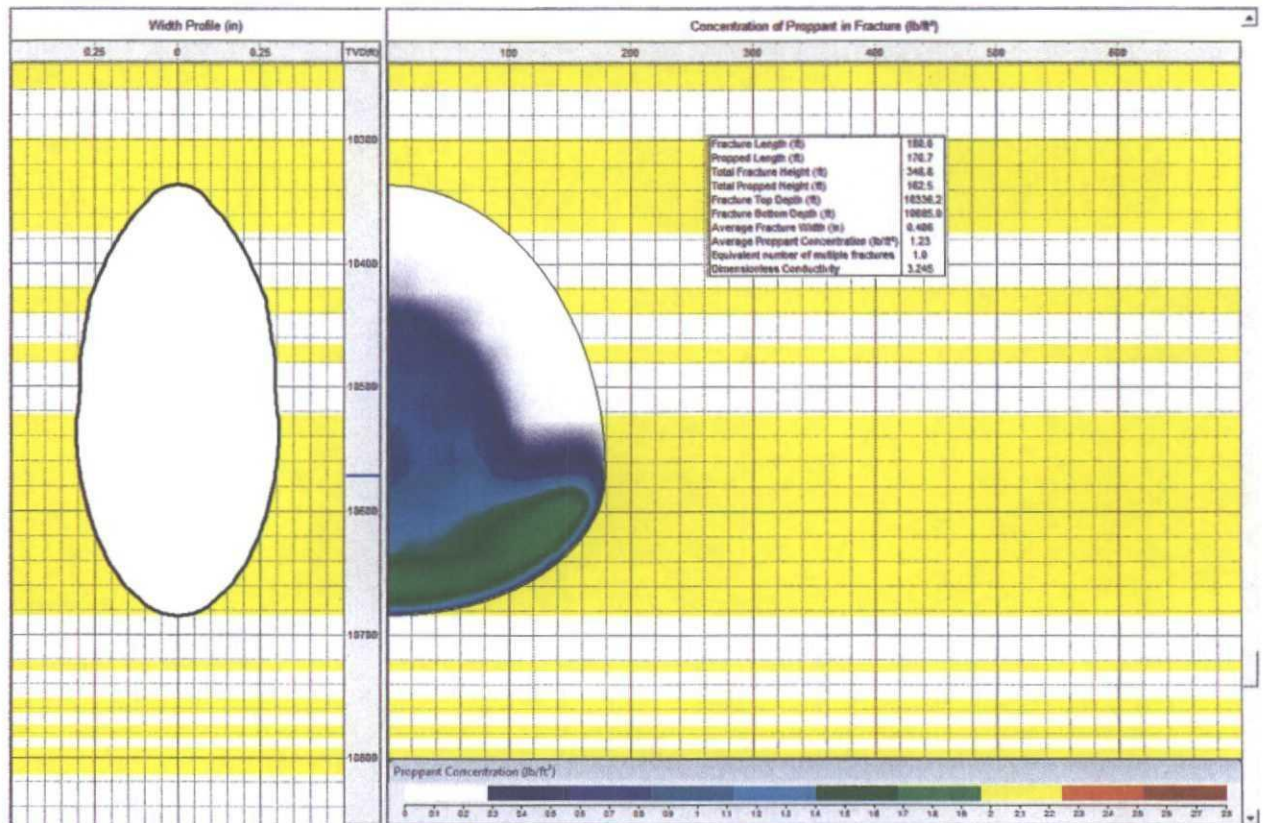


Figure 2. Proppant Map for stage 12

Figure 2 illustrates the location of proppant and fluid at the end of the frac treatment based on the net pressure match in figure 1 as interpreted by Fracpro. The proppant is covering the Bone Springs section where the lateral was landed but is not covering the layers above (10,420 – 40' and 10,465 – 80') the lateral with sufficient proppant concentration to add these layers as contributing production at a sustainable rate or period of time.

In order to place proppant into the upper zones, much higher proppant concentrations must be utilized which will add risk to completion success and net pressures will increase thus enabling a screen out or 'pressure' out environment.

Stage	Frac Length (ft.)	Propped Length (ft.)	Frac Height (ft.)	Propped Height (ft.)	Fcd
6	181.8	168.9	283.1	105.1	4.599
7	202.8	189.3	263.8	131	2.966
8	229.5	208.5	264.9	107	2.802
9	235.4	212	271.3	104.3	3.625
10	224.4	203.1	304.9	114.4	5.078
11	149.9	133.5	305.4	111.5	4.524
12	180	170.7	348.8	162.5	3.245
13	159.2	151.4	285.2	114.2	3.919
14	121.6	108.7	275.1	115.5	5.662
Average	187.18	171.79	289.17	118.39	4.05
	Ratio Propped to Length: 91.77%		Ratio Propped to Induced Height: 40.94%		

Note: The information above reflects fracture geometry per perforation cluster. Each cluster appears to have generated one single planar fracture.

Frac Length is the horizontal distance in feet from the wellbore, one direction, to the fracture tip.

Propped Length is the horizontal distance to the tip of the proppant which is above 0.15 lb./ft² which is considered the threshold value to justify proppant being conductive. By dividing the propped length by the frac length, you can see how much of the created length is propped. Lowering the % of pad will improve this ratio.

Frac Height is similar to the frac length, the total height of the fluid-filled fracture at the wellbore.

Propped Height is similar to the propped length.

Fcd is the dimensionless value first theorized by Agarwal which gives us a measure of fracture conductivity. Fcd values are considered to maximize at 30. However, Agarwal's equation did not account for long term effects of proppant conductivity or viscosity of the reservoir fluid being higher than 1 centipoise. The values of Fcd in the table are suitable but only because the reservoir permeability is low (0.035 MD).



Telecaster 30-3H Post Frac

- 14 stages based on 95' spacing with 3 clusters per stage. Stage #3 abandoned due to csg collar issue.
- Closure Pressures did not increase as the completion process progressed: This can indicate that the fracture clusters are substantially far apart such that "stress shadowing" did not occur.
- Post treatment reports from stages 6,7, & 8 are used as an example

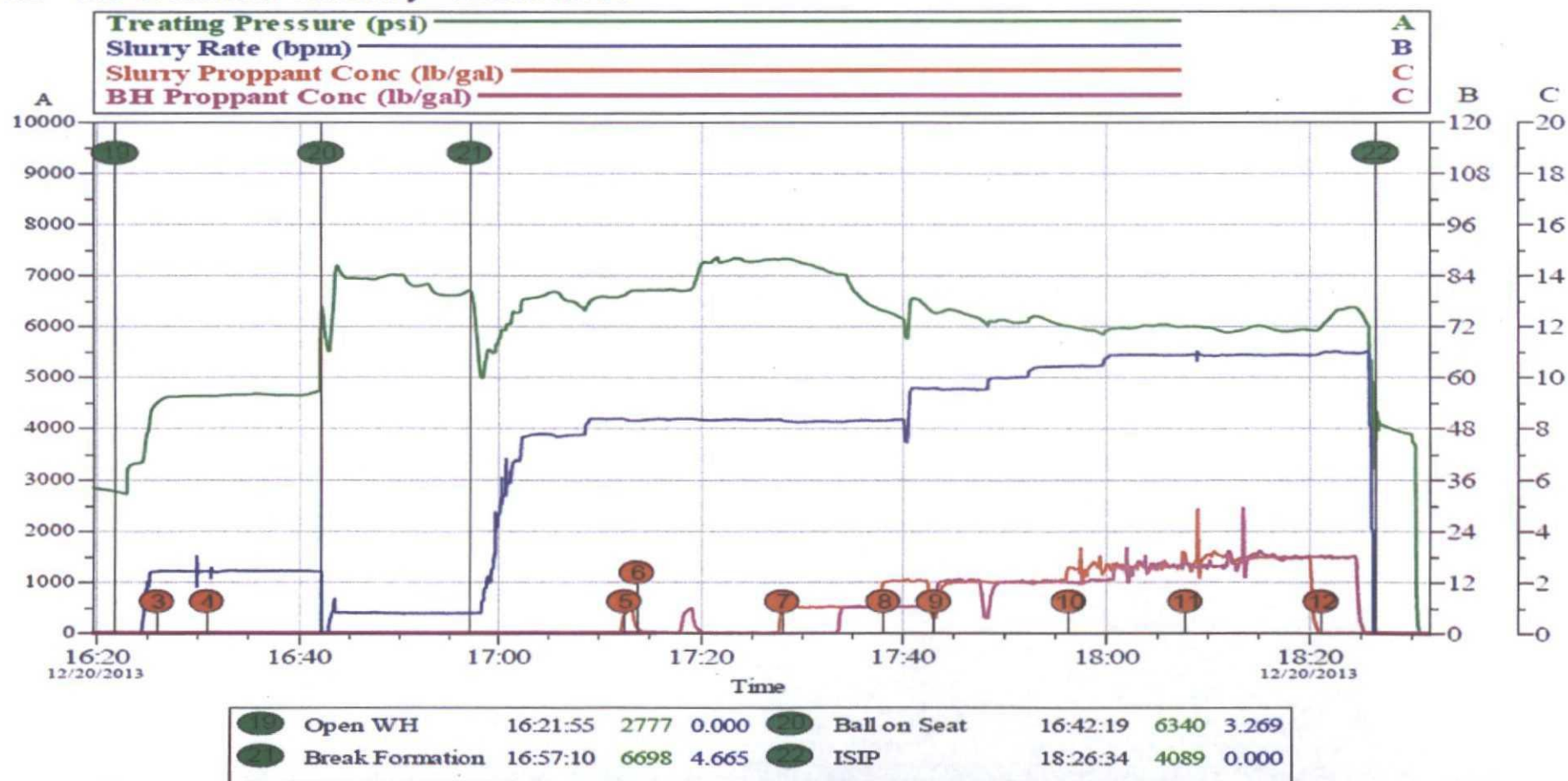
<u>STAGE</u>	<u>ISIP</u>	<u>FG</u>
1	3900	0.8
2	3813	0.79
4	4145	0.83
5	4176	0.83
6	4089	0.82
7	4093	0.82
8	4074	0.82
9	3953	0.81
10	3900	0.8
11	3783	0.79
12	3791	0.8
13	3810	0.79
14	4148	0.83



Telecaster 30-3H Post Frac Stage #6

Endurance Resources LLC
Telecaster 30 Federal #3H

31.2 Job Treatment Summary - Treatment #6

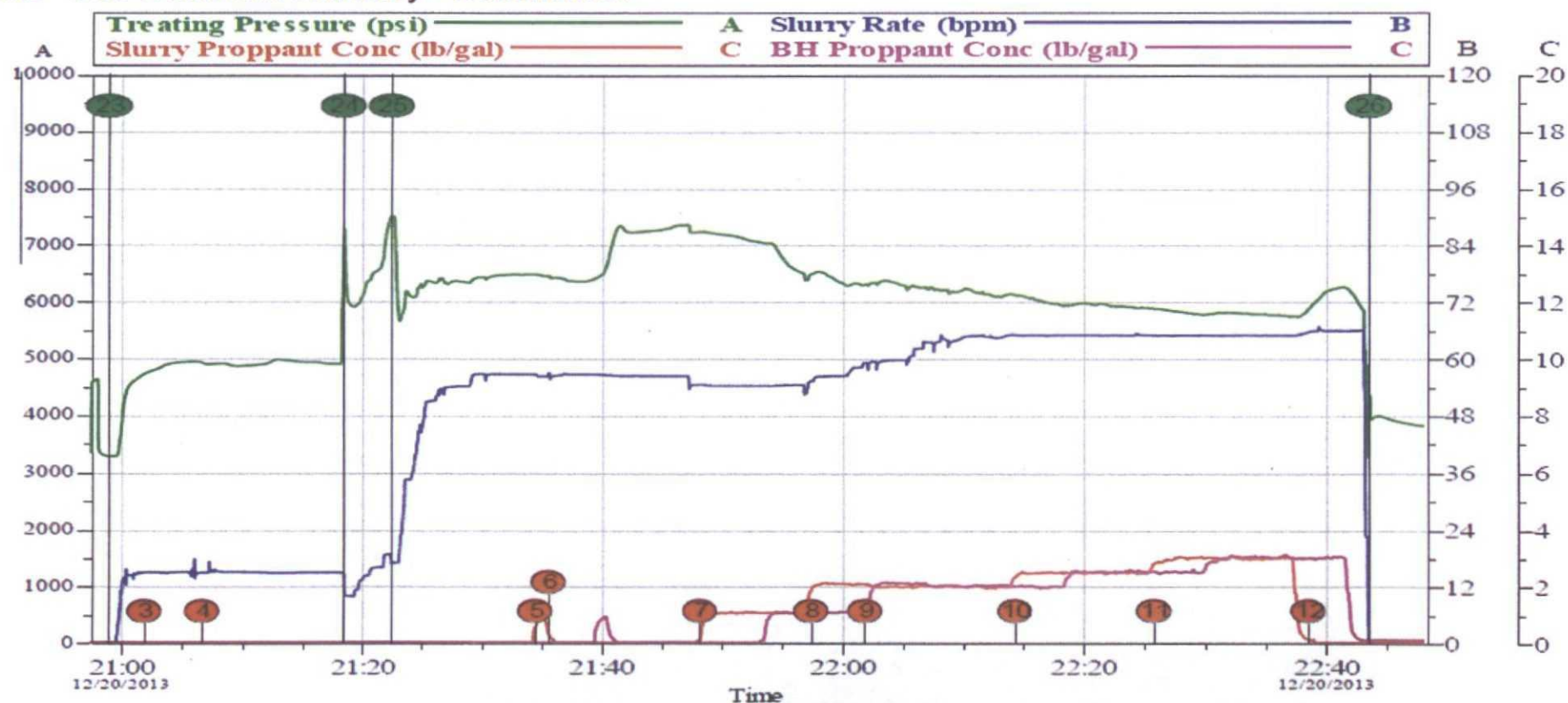




Telecaster 30-3H Post Frac Stage #7

Endurance Resources LLC
Telecaster 30 Federal #3H

36.2 Job Treatment Summary - Treatment #7



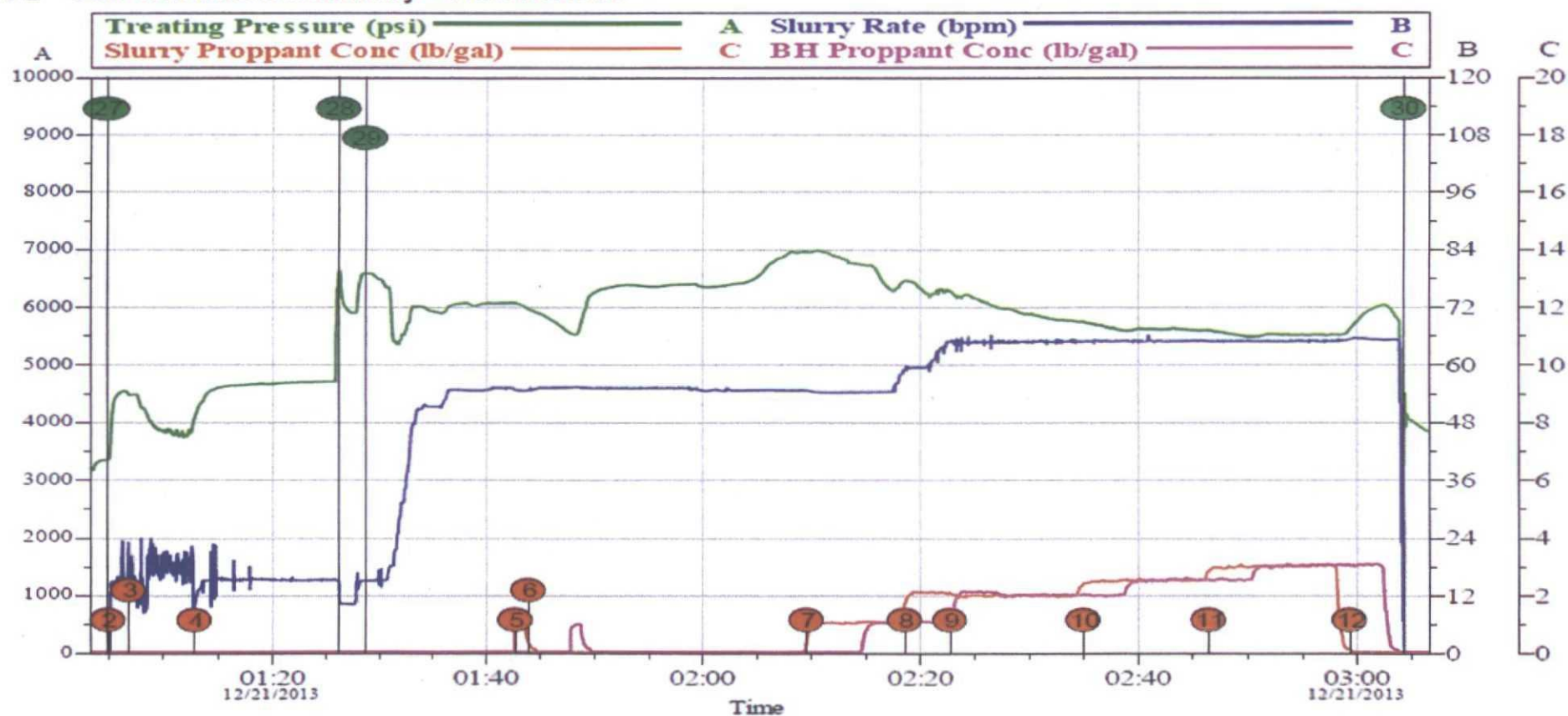
Open WH	20:59:00	3293	0.000	Ball on Seat	21:18:25	7274	14.80
Break Formation	21:22:27	7503	16.67	ISIP	22:43:31	4093	0.000



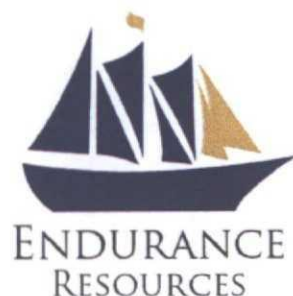
Telecaster 30-3H Post Frac Stage #8

Endurance Resources LLC
Telecaster 30 Federal #31

41.2 Job Treatment Summary - Treatment #8



27	Open WH	01:04:56	3346	0.000	28	Ball on Seat	01:26:16	6622	15.00
29	Break Formation	01:28:47	6575	14.95	30	ISIP	03:04:25	4074	0.000



Endurance: Telecaster 30-3H Frac Design

STAGES 1-14 PRELIMINARY

Stage	Volume		Fluid	Rate (bpm)	Conc	Proppant	Sand	Totals	PPG %
Breakdown/Balldrop	500	gal	Treated Water	15			-		
Acid Spearhead	3000	gal	15% HCL	15			-		
Treated Water	10000	gal	SandWedge @ 10gpt	15			-		
Spacer/Seat Ball	10000	gal	Water Frac G-R(15)	50					
Sweep	8000	gal	Water Frac G-R(15)	50	0.5	30/50 EconoProp "Etch"	4,000	4,000	1.5%
Spacer	10000	gal	Water Frac G-R(15)	50				4,000	
Sweep	6000	gal	Water Frac G-R(15)	50	1.00	30/50 EconoProp "Etch"	6,000	10,000	2.3% 30/50 EconoProp "Etch" 4%
Pad	20000	gal	Hybor G-R(15)	50				10,000	
25# System	20000	gal	Hybor G-R(15)	60	1.00	30/50 Econo Prop	20,000	30,000	7.6%
25# System	10000	gal	Hybor G-R(15)	60	2.00	30/50 Econo Prop	20,000	50,000	7.6% 30/50 Econo Prop 19%
25# System	30000	gal	Hybor G-R(15)	60	2.00	20/40 EconoProp	60,000	110,000	22.7%
25# System	28000	gal	Hybor G-R(15)	60	2.50	20/40 EconoProp	70,000	180,000	26.5%
25# System	28100	gal	Hybor G-R(15)	60	3.00	20/40 EconoProp	84,300	264,300	31.9% 20/40 EconoProp 81%
Flush	13556	gal	Slickwater	60					
Shut-In									
Pump-In	8400	gal	Slickwater	12					

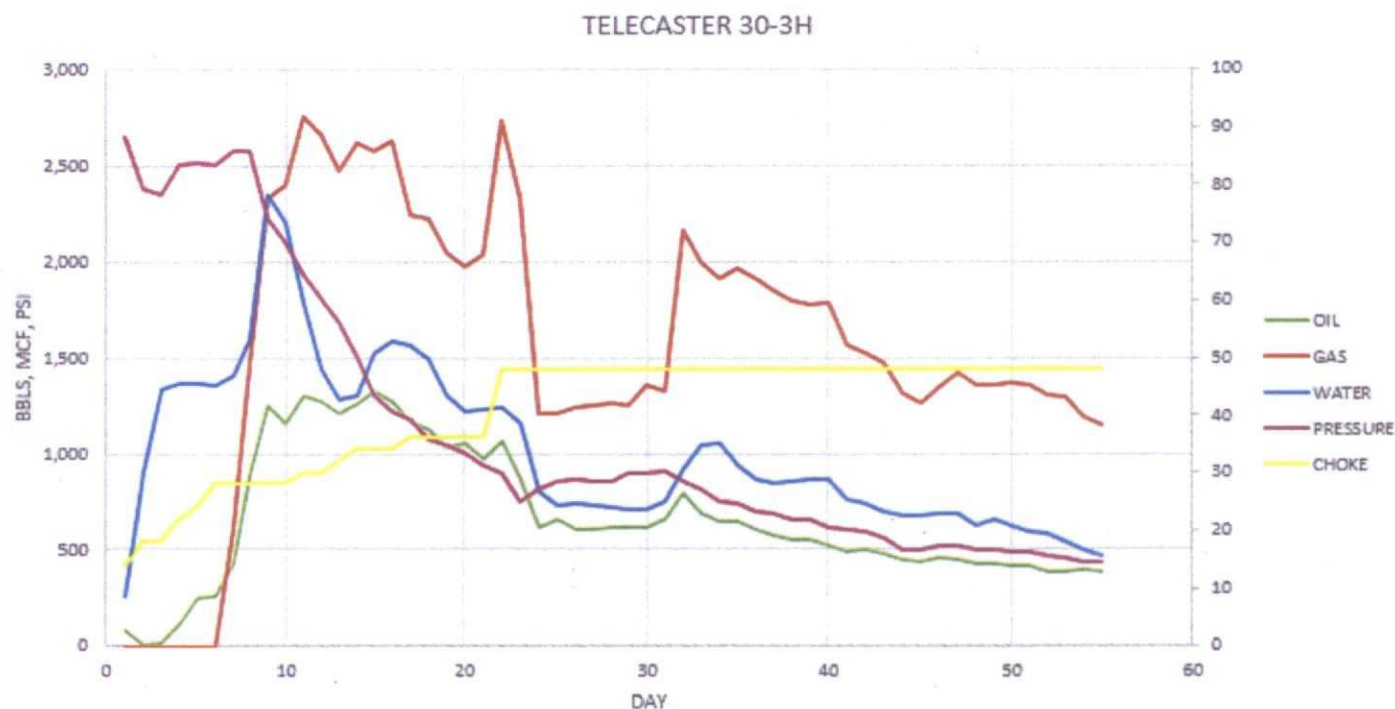
205,556 4,894 68,519 27%
TOTAL BBLS STAGE BBLS-14 Stages %PAD

700,000	30/50 EconoProp Requested
3,000,200	20/40 EconoProp Requested
3,700,200	Total Sand Requested (14 Stages)

68,519	Total Water Required
--------	----------------------



Endurance: Telecaster 30-3H Production History



55 day CUM: 36,441 BO; 85,607 MCF; 55,918 BW