Benson Deep BDX Federal Com No. 1
660' FSL & 2,180' FEL
Sec. 33-T18S-R30E
Eddy County, New Mexico
Recompletion Procedure

Executive Summary:
Propose to abandon the Strawn and move up to the Bone Springs Sand. A secondary cementing job will be necessary to cover the proposed intervals; after the cement job we will perforate a large section of the sand from 8,316' to 8,370' and fracture it with 185,000# of 20/40 sand. Then move up and test another Bone Springs sand from 7,410' to 7,450' and frac it with 82,500# of 20/40 sand.

Tubulars:

Surface Casing:	13.375"@	448' w\	630 sx (circ)	
Intermediate Casing:	9.625"@	3,494' w\	4,098 sx (Circ.)	
Production Casing:	5.50" @	12,065' w\	900 sx	(TOC = 8,500' by CBL)

TD: 12,065'
PBTD: 10,598' CIBP w\ 35' of cement.

Tubing: 2.875" J-55

(oil)

1. MIRU WSU. Rig up safety equipment as necessary and ND wellhead, NU BOP.

Leo Bone Springs

2. RU WL and lubricator, correlate to Schlumberger open hole logs, pull a CBL log and verify the TOC. Perforate 4 - 0.42" diameter squeeze perforations 50' above the observed TOC. TIH with packer and set it 250' above the squeeze perforations. Open all the valves on the bradenhead and attempt to break circulation behind the 5-1/2' casing. POOH. Set a retainer 50' above the squeeze perforations. TIH and sting into the retainer. Calculate the required cement volumes and pump a squeeze job to bring the new TOC up to +/- 2,600'. WOC and drill out the cement and retainer.

3. RU WL and lubricator, correlate to Schlumberger open hole logs and perforate the Second Bone Springs with casing guns, using 1 SPF using the deepest penetrating charges available in the following interval:

8,316' – 8,370' (55).
55 Total Shots
54' Net Pay

4. TIH with packer and set the packer at 8,066'. Acidize with 1,500 gallons of 7.5% HCL. Flush and over displace the acid with 2% KCL water.

5. Swab test and evaluate. If testing warrants consider fracturing with the following schedule.

6. POOH with tubing and tools. TIH with 3.5" P-110 frac string and set the packer at 8,066'. RU WSC and tree saver to fracture via the 3.5" tubing using the following schedule.

Treating Schedule

Stage Number	gal	Prop Conc lb/gal	lbs Proppant Stage	Cumulative	Proppant Type
1	30000.	0.00	0.	0.	----
2	10000.	0.50	5000.	5000.	20/40 Ottawa
2	20000.	1.00	20000.	25000.	20/40 Ottawa
3	30000.	2.00	60000.	85000.	20/40 Ottawa
4	20000.	3.00	60000.	145000.	20/40 Curable RCS
5	10000.	4.00	40000.	185000.	20/40 Curable RCS
6	+/-3038.	0.00	0.	0.	----

Estimated Surface Treating Pressure @ 40 BPM = 5,892 psig.

Fluid Specifications: A 20# Borate Crosslinked Guar gel, with a sand surfactant package, 1 gpt migrating clay control additive. Design breakers for 50% retained viscosity for 2 hours with a complete break in 4 hours. Use encapsulated enzyme breaker and liquid enzyme breaker to achieve a 4-hour break. **Use 6 GPT super set on resin coated sand.** The liquid breaker must be pumped into the downhole side of the blender so that when the tub is bypassed breaker will still be going into the system. When the sand starts to fall off go to bypass and flush. Under flush the well 2-3 bbl short of the top perf.

YPC to furnish: 5 clean frac tanks with 480 BBL of 3% KCL water in each tank.

Service company to provide: computer van with job reports, weight tickets, on location and QC lab van.

7. Shut the well in for 4 hours to allow the gel to break and the resin to cure. Flow the well back if it will flow. Swab test and evaluate if the well looks productive put it on pump to test.

8. POOH with all tools. MI RU WL and lubricator set a composite BP at 8,261'. Then perforate the BS interval with casing guns, using 1 SPF using the deepest penetrating charges available in the following interval:

7,410' – 7,450' (41)
41 Total Shots
40' Net Pay

9. TIH with packer and set the packer at 7,160'. Acidize with 1,500 gallons of 7.5% HCL. Flush and over displace the acid with 2% KCL water.

10. POOH with tubing and tools. TIH with 3.5" P-110 frac string and set the packer at 7,160'. RU WSC and tree saver to fracture via the 3.5" tubing using the following schedule.

Treating Schedule

Stage Number	gal	Prop Conc lb/gal	lbs Proppant Stage	Cumulative	Proppant Type
1	30000.	0.00	0.	0.	----
2	5000.	0.50	2500.	2500.	20/40 Ottawa
2	15000.	1.00	15000.	17500.	20/40 Ottawa
3	15000.	2.00	30000.	47500.	20/40 Ottawa
4	5000.	3.00	15000.	62500.	20/40 Curable RCS or Expedite
5	5000.	4.00	20000.	82500.	20/40 Curable RCS or Expedite
6	+/-2616.	0.00	0.	0.	----

Estimated Surface Treating Pressure @ 35 BPM = 5,286 psig.

Fluid Specifications: A 25# Delayed Borate Crosslinked Guar gel, with a sand surfactant package, 1 gpt migrating clay control additive. Design breakers for 50% retained viscosity for 2 hours with a complete break in 4 hours. Use encapsulated enzyme breaker and liquid enzyme breaker to achieve a 4-hour break. **Use 6 GPT super set on resin coated sand.** The liquid breaker must be pumped into the downhole side of the bleuder so that when the tub is bypassed breaker will still be going into the system. When the sand starts to fall off go to bypass and flush. Under flush the well 2-3 bbl short of the top perf.

YPC to furnish: 4 clean frac tanks with 480 BBL of 3% KCL water in each tank.

Service company to provide: computer van with **job reports**, weight tickets, on location and QC lab van.

11. Shut the well in for 4 hours to allow the gel to break and the resin to cure. Flow the well back if it will flow. POOH with tubing and packer.

12. TIH with bit to drill out the composite BP's and wash sand down to 8,600'.

13. TIH with production equipment as per the Production Departments recommendation.

14. Turn well over to the production department to pump.

Area Engineering Mike Hill **Date** 8-22-11 JWP 8/31/11

Mike Hill
August 22, 2011
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