

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Synergy Operating, LLC (agent for Bois d' Arc Offshore, Ltd.)

3. Address and Telephone No.

PO Box 5513 (505) 325-5449 OGRID # 163458
Farmington, NM 87499

4. Location of Well (Footage, Sec. T. R., M. or Survey Description)

Unit Letter A, 250' FNL, 920' FEL, Sec 15, T20N-R05W

BH-Location

151' FNL, 736' FEL, Unit A, Section 15, T20N, R05W - McKinley County, New Mexico

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment
☐ Recompletion
☐ Plugging Back
☒ Casing Repair
☒ Altering Casing
☐ Other

☒ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well
Completion or recompletion Report and Log Form)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including, estimated date of starting work.
If well is directionally drilled give subsurface locations and measured and true vertical depths for all markers and zones of pertinent to this work.

CONFIDENTIAL SUBMITTAL

SYNERGY OPERATING, LLC PLANS TO PLACE REMEDIAL CEMENT BEHIND THE 5-1/2" PRODUCTION CASING ON THIS WELL.
FOLLOWING THE REMEDIAL CEMENT WORK, A COMPLETION ATTEMPT WILL BE MADE IN THE DAKOTA AND THE MANCOS.
DETAILS ARE ATTACHED.



14. I hereby certify that the foregoing is true and correct

Signed:

Thomas E. Mullins

Title: Engineering Manager

Date: 01-17-2002

This space for federal or state office use

Approved by:

Title:

Date:

Conditions of approval if any

NM000

SYNERGY OPERATING, LLC
COMPLETION PROCEDURE
BOIS D' ARC ENCINO 15 # 1 (Confidential)
REMEDIAL CEMENT JOB, DAKOTA TEST, AND MANCOS COMPLETION

8-5/8" 24# J-55 Casing @ 240' KB.
5-1/2" 15.5# J-55 Casing @ 5298' KB (4.950" ID)
PBSD: 5245' KB
Stage Tool: 3024' KB

Formation	Depth	Current Coverage	Planned Coverage
Nacimiento	Surface		
Ojo Alamo	135'	Covered behind 8-5/8"	Yes, to be covered.
Kirtland	245'	No	Yes, to be covered.
Fruitland	485'	No	Yes, to be covered.
Pictured Cliffs	590'	No	Yes, to be covered.
Lewis Shale	924'	No	Yes, to be covered
Chacra	969'	No	Yes, to be covered
Cliffhouse (La Ventana)	1271'	No	Yes, to be covered.
Menefee	1977'	No	Yes, to be covered.
Pt. Lookout	2851'	No	Yes, to be covered.
Mancos	3005'	Covered (TOC @ 2970')	"
Gallup	3671'	Covered (BOC @ 3686')	"
Semilla SS, Mancos	3814'-3881'	No	
Juana Lopez SS, Mancos	3889'	No	No, None Planned
Gallup Formation	4028'-4119'	No	No, None Planned
Greenhorn	4794'	Covered (TOC @ 4325')	"
Graneros	4836'	Covered	"
Dakota	4881'	Covered	"
Burro Canyon/Lower DK	5124'	Covered	"
PBSD	5245'	Covered	"
TD	5298'	Covered	"

- 1 Confirm cementing plan with governmental agencies. Ensure Proper NSL approval for completion in the Dakota, Mancos, and Mesaverde.
- 2 Set surface equipment facilities.
- 3 MIRU workover rig.
- 4 NU BOPE, & Test Same. Test Casing & Pipe Rams to 2500 psi.
- 5 MIRU BJ Services Acid Pump. Test Pump & lines to 3500 psi. Pump 750 gallons of 10% Acetic Acid, followed by 10 bbls gel water down the tubing and circulate it up the casing.. Pump acid & displace at 2 to 3 BPM. Total Circulation Volume approximately 120 bbls +/- . Circulate all acid from the well. This step done to pickle the tubulars.
- 6 COOH with 2-7/8" Production Tubing, standing back.
- 7 MIRU Schlumberger Wireline. Perforate 3 squeeze holes (0.38") phased at 120 degrees at 2870'. Correlate with GR-CET run 12/12/2001. DV tool @ 3024'. POOH w/ gun.
- 8 Close the blind rams. Establish rate down the casing and up the 8-5/8" x 5-1/2" annulus with fresh water. May take 40 bbls+/- to gain circulation. If after 100 bbls there is no circulation, then a second set of squeeze holes will be needed to perform a circulation type squeeze. This 2nd set of 3 squeeze holes would be

SLR

- placed at 2500'. Establish rate to see if pressures have changed and or upper holes have broken down. Utilize 2% KCl water during this operation.
- 9 GIH w/ 5-1/2" Cement Retainer w/ mechanical CCL. Set Retainer @ 2830', get on depth with stage tool at 3024'. Test Tubing, Test Casing (if upper holes were not shot). Hold 500 psi on Casing during cement job. Establish Circulation with water.
- 10 Cement squeeze the 1st set of squeeze holes with 125 sxs (178.75 ft³) Cement, Cement type will be BJ Services Type III with 5% NaCl (14.5 ppg, 1.43 ft³/sx, 7.02 gal H₂O. Pump time is 2 hrs 20 mins at 100 deg Fahrenheit. 24 hr compressive is 2000 psi, 48 hr is 2800 psi. Displace cement to within 1 bbl. Slow Rate. Calculate expected coverage approximately 1000' behind the casing. SD. Sting out of retainer. Pull 2 jts. Reverse out any expected Cement. COOH w/ tubing. If the second set of circulation holes were shot, pull above these holes. Reverse out cement inside casing, and hesitate cement into upper squeeze holes. Each squeeze designed to cover approximately 1000' behind the casing.
- 11 WOC on cement overnight, with 500 psi on casing. Run GR-CET log # 2 from current PBDT to surface. A temperature survey may be run in place of the bond log if good circulation has occurred.
- 12 Note top of Cement coverage. Contact BLM and obtain approval prior to perforating the 2nd set of squeeze hole and each additional set of squeeze holes.
- 13 Perforate 2nd set of squeeze perforations at depth to be determined from most recent GR-CET. Establish rate & circulation down the casing and up the 8-5/8" x 5-1/2" annulus. **Repeat steps 7 through 11 as necessary, until cement coverage is brought to surface.** WOC. Anticipate 3 probable days of squeezing cement.
- 14 PU 4-3/4" tri-cone workover bit on 3-3/8" Downhole motor and Six (6) 3-1/8" Drill Collars on 2-7/8" tubing. Drill out cement squeezes with the downhole motor and test individual squeezes to 1000 psi.
- 15 GIH to TD. Circulate the hole clean with a 10 bbl gel plug followed with 4% KCl fluid. COOH, laying down the motor and drill collars.
- 16 RU Schlumberger and run a final GR-CET log from PBDT to surface, verifying cement coverage on all zones. Run log with 500 psi pressure.

DAKOTA COMPLETION PHASE

- 17 GIH with 2-7/8" tubing, SN in string to 2000'.
- 18 RU workover rig, swabbing lubricator & tools. Swab tubing & casing dry to allow for underbalanced perforations.
- 19 COOH with 2-7/8" tubing.
- 20 RU Schlumberger. Run 20' of 4" Dump Bailer. Dump Bail 12 gallons Acetic Acid Across Dakota Perfs. POOH. With Full Lubricator. RIH with 3-1/8" Perf gun (4 SPF) 90 deg phase, with blanked off gun weight below. Perforate Encinal Canyon Zone Under-balanced with Gun # 1.

5146' to 5162' (16') 64 holes

Charges alternated between
(0.37" hole-13" penetration &
0.29" hole 24" penetration)

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- POOH. Check well for flow, or change in fluid level, w/ gun out of the hole.
19. With Lubricator. RIH with 3-1/8" Perf gun (4 SPF) 90 deg phase, with blanked off gun weight below. Perforate Encinal Canyon Zone Underbalanced with Gun # 2. RIH w/ GUN # 2, blanked off section weight below the gun.

5126' to 5134' (8') 32 holes Charges alternated between
(0.37" hole-13" penetration &
0.29" hole 24" penetration)

POOH. Check well for flow, or change in fluid level, w/ gun out of the hole. RD Schlumberger.

20. GIH w/ Baker Packer on 2-7/8" tubing. Set PKR above Lower Dakota Perforations. Swab the well in. Obtain good sample of Dakota produced fluids. If required, breakdown perforations with 1000 gallons (24 bbls) of 10% Acetic Acid and 4% KCl water. Fluid will be swabbed back to the reserve pit.
21. If Dakota zone is productive, contact office personnel to confirm tubing landing depth, and procedure. If non-productive, go to step # 22.

ABANDONMENT OF DAKOTA

22. As per discussions with the government. All zone abandonments will be permanent in nature. Notify BLM (599-8900) & NMOCD (334-6178) so that cement abandonment can be witnessed. COOH w/ 2-7/8" tubing.
23. GIH on 2-7/8" tubing and set a 5-1/2" cement retainer above the Top of the Dakota at 4820'. Test tubing & casing string. RU BJ Services and Cement Squeeze Dakota perforations below the retainer with 50 sxs cement (59 ft3). Sting out, and place ~~8~~ sxs (~~59~~ ft3) cement on top of retainer, filling inside of casing to 4775' +/- . Test entire casing string above the retainer to 1000 psi. Officially T&A zone.

MANCOS COMPLETION PHASE

- 22 Roll hole with KCl water. COOH with 2-7/8" tubing and cement stinger.
- 23 RU Schlumberger wireline. RIH w/ 3-1/8" HSC Select Fire perforating gun. Perforate, btm-up 1 SPF at the following depths. 25 holes total from 4030' to 4150' (120', 1 shot per 5'). Corresponds with Mancos interval of Mud Log Shows.

4030', 4035', 4040', 4045', 4050', 4055', 4060', 4065', 4070', 4075', 4080', 4085', 4090', 4095', 4100', 4105', 4110', 4115', 4120', 4125', 4130', 4135', 4140', 4145', 4150'. POOH w/ gun

- 24 GIH w/ PKR on 2-7/8" tubing. Set packer 250' +/- above the interval.
- 25 RU BJ Services. Breakdown perforations with 2% KCl water. SD. Breakdown and ball-off perforated interval with 1000 gallons (24 bbls) 10% Acetic Acid and 50-1.3 SG RCN ball sealers. Space balls, 2 balls per bbl of acid, then spin the rest out. Hold 500 psi pressure on annulus throughout job. Ball-Out perforations to 3500 psi +/- . Surge pressure. Displace acid into perforations. Release annular Pressure. RIH w/ PKR and knock ball sealers past perforations. Pull up to original setting depth. Pump 5 bbls water down annulus prior to resetting packer to flush acid. Set Packer. Place 500 psi on annulus.

- 26 RU Frac valve assembly & immediate flowback line with adjustable choke manifold. Test Assembly & lines to 5000 psi.
- 27 RU BJ Services N2 & Liquid lines to 5500 psi. Pump 80 Quality Nitrogen & foamed water stimulation without proppant at 15-20 BPM equivalent rate down the tubing. Detailed GLR (SCF per bbl) figures to be determined based upon acid ISIP. SD.
- 28 Immediately flowback well to a 300 bbl or 400 bbl flowback tank. Continue flowback until good recovery. Swab if necessary.
- 29 Kill tubing w/ 2% KCl. Equalize & release PKR. COOH, LD PKR.
- 30 Prepare to run engineered Tubing & Rod Pump Assembly. GIH w/ tapped Bull Plug, 1 jt 2-7/8" as a MA, 6' 2-7/8" perf sub, 2.280" common pump SN, 16 jts 2-7/8", 5-1/2" x 2-7/8" Tubing Anchor, remaining 2-7/8" tubing. Run, set anchor and land tubing in tension at 4400'. Intake at 4370' +/- below perfs, Anchor set above perfs.
- 31 ND BOPE, NU WH.
- 32 Double check pump characteristics. Run 2"x1-1/2"x12' RWAC top hold down pump, 1-1-1/2" sinker bar, 2800' of 3/4" D grade rods (112), 1600' of 3/4" D grade rods with 6 rod guides per rod. (64). Space out pump with ponys. Pump design at 160 BPD at 80% efficiency. This is an initial pump design. Higher fluid rates can moved if necessary.
- 33 Load tubing with water. Hang well on. Test Pump action. Leave well pumping overnight.
- 34 Rig down, & release rig.
- 35 File Completion report & paperwork.

Contact phone numbers

Synergy Operating, LLC	Tom Mullins	505-320-1751
Energy Pump & Supply	Leo Noyer	505-564-2874
BJ Services	Cement	505-327-6222
Schlumberger	Perf & Logging	505-325-5006
Baker Oil Tools	Tools & Motor	505-325-0216
BLM	Jim Lovato	505-599-6367

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