submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
BLM
99 JAN -7 PM 1:56
070 FARMINGTON NM

Sundry Notices and Reports on Wells

1. **Type of Well**
GAS

5. **Lease Number**
SF-078389 A

6. **If Indian, All. or Tribe Name**

7. **Unit Agreement Name**
San Juan 32-9 Unit

RECEIVED
JAN 15 1999
OIL CON. DIV.
DIST. 3

2. **Name of Operator**
BURLINGTON RESOURCES OIL & GAS COMPANY

8. **Well Name & Number**
San Juan 32-9 U#44A

3. **Address & Phone No. of Operator**
PO Box 4289, Farmington, NM 87499 (505) 326-9700

9. **API Well No.**
30-045-28940

4. **Location of Well, Footage, Sec., T, R, M**
790'FSL 1750'FEL, Sec.11, T-31-N, R-10-W, NMPM

10. **Field and Pool**
Blanco Mesaverde

11. **County and State**
San Juan Co, NM

12. **CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA**

Type of Submission	**Type of Action**	
_X_ Notice of Intent	___ Abandonment	___ Change of Plans
	___ Recompletion	___ New Construction
___ Subsequent Report	___ Plugging Back	___ Non-Routine Fracturing
	___ Casing Repair	___ Water Shut off
___ Final Abandonment	___ Altering Casing	___ Conversion to Injection
	_X_ Other -	

13. **Describe Proposed or Completed Operations**

It is intended to add Lewis pay to the Mesaverde formation of the subject well according to the attached procedure.

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

Signed [signature] Title Regulatory Administrator Date 1/6/99

TLW

(This space for Federal or State Office use)

APPROVED BY _____ Title _____ Date 1/12/99

CONDITION OF APPROVAL, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NMOCD

San Juan 32-9 #44A
Lewis Shale Payadd Procedure
O 11 31N 10W
San Juan County, NM
Latitude: 36 Deg., 54.45 Min
Longitude: 107 Deg., 50.89 Min.

Summary:
The subject well is a 1999 Lewis Shale payadd in 7" and 4-1/2" casing. This well was drilled in 1993 and was completed in the Point Lookout, Menefee and Cliffhouse intervals. The Lower Pt. Lookout interval was stimulated w/ approximately 42,500 lbs. total sand and 71,988 gal. total slickwater. The Pt. Lookout interval was stimulated w/ approximately 112,000 lbs. total sand and 178,122 gal. water. The Cliffhouse/ Menefee interval was stimulated w/ approximately 112,000 lbs. total sand and 176,358 gal. total slickwater and placed on production. The subject well will capture the bypassed Lewis Shale interval and will be perforated and fracture stimulated in two (2) stages with 267 total tons of liquid CO_2 and 95,000 lbs. total 40/70 mesh sand. The new stimulation technique will test the viability of a liquid CO_2 and sand stimulation within the Lewis Shale interval. The well will then be cleaned-up, tubing landed in the Mesaverde and placed on production.

- Comply to all NMOCD, BLM and BR regulations. Conduct daily safety meetings for all personnel on location. Notify BR regulatory (Peggy Bradfield 326-9727) and the appropriate Regulatory Agency prior to pumping any cement job and after CBL is run. If an unplanned cement job is required, approval is required before the job can be pumped. If verbal approval is obtained, document the approval in Dims. Allow adequate notice prior to the pump time for the Agency to witness the cementing operation.
- Inspect location and wellhead and install rig anchors prior to rig move.
- Construct blow pit.
- **DURING CO_2 STIMULATION, ONLY AUTHORIZED PERSONNEL ARE ALLOWED ON LOCATION. ONLY CO_2 EXPERIENCED AND APPROVED STIMULATION PERSONNEL AND PUMP EQUIPMENT ARE ALLOWED ON LOCATION.**

1. MOL, hold safety meeting and RU completion rig. Insure all safety equipment is strategically located and functioning properly. NU relief lines to blow pit. Set one (1) 400 BBL frac tank and fill w/ 2% KCL. Blow well down and kill well w/ 2% KCL water as necessary. ND wellhead and NU 7-1/16" 3M BOP, stripping head and blooie line. Operationally test BOP.

2. TOOH w/ approximately 182 jts. 2-3/8" Mesaverde tubing set at +/- **5687'** and stand back. Inspect tubing and replace bad tubing as necessary**.

   ****NOTE:** If existing tbg. is scaled-up, contact production engineer and a scale analysis will be run. This will determine if we will pump acid down the 2-3/8" 4.7# J-55 workstring and acid wash perforations across the Point Lookout, Menefee and Cliffhouse interval.

3. RU wireline. RIH w/ 4-1/2" gauge ring and check wellbore for obstructions to PBTD @ **5710'**. POOH.**

   ****NOTE:** If obstructions are encountered, PU 3-7/8" bit and 4-1/2" 10.5# csg. scraper on 2-3/8" 4.7# J-55 workstring and CO to PBTD @ **5710'**. TOOH

4. TIH w/ 4-1/2" CIBP, on/off tool, 4-1/2" fullbore pkr and approximately 146 jts. 2-3/8" 4.7# J-55 workstring and tubing set CIBP @ +/- **4530'**. Load hole down tubing w/ 2% KCL 21 bbls for logging and perforating. Set pkr @ +/- **3210'**. RU stimulation company. Pressure test surface lines to **5300** psi and pressure test CIBP to **4300** psi (90% of burst of 4-1/2" 10.5# csg). RD stimulation company. Release pkr and TOOH w/ workstring and pkr. RU wireline w/ packoff and pump in tee. RIH w/ GR\CCL\CBL and log from **4530'** to **3530'****. TOOH w/ GR\CCL\CBL logging tool. RD wireline company.

   ** Correlate to GR\CNL\LD log.

San Juan 32-9 #44A
Lewis Shale Payadd Procedure
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1st Stage – Lower Lewis Shale

5. RIH w/ CCL on top of perforating guns**. Perforate the Lower Lewis Shale interval with **3-1/2" HPG gun system w/ 37J UJ HMX charges**. These are 34 gram charges with a 0.46" hole and 34.0" penetration. Shoot 120 holes bottom up in two (2) gun runs @ **2 SPF 60° Phase** in 2% KCL at the following depths: **1st gun run** – 10' gun @ **4440'-4430'**, 20' gun @ **4340'-4320'**, **2nd gun run** – 10' gun @ **4290'-4280'**, 20' gun @ **4210'-4190'**. RD wireline company.

** NOTE: Tie into GR\CNL\LD log.

6. TIH w/ 4-1/2" fullbore pkr and 132 jts. 2-3/8" 4.7# J-55 workstring and set @ +/- **4100'**. RU stimulation company. Pressure test surface lines to **5300** psi. Breakdown perforations @ 5-6 BPM w/ tbg. volume of 2% KCL (approximately 16 BBL). Displace w/ 300 gal. of 10% Acetic Acid + 5% NH_4CL** dropping one-hundred fifty six (156) 7/8" 1.1 SG RCN balls evenly displaced through acid. Displace acid w/ approximately 20 BBL of 2% KCL to bottom perforation. Balloff to maximum pressure of **4300** psi (90% of burst in 4-1/2" 10.5# csg). Record breakdown pressure, ball action and ISIP. Release pkr and knock ball off of perforations.

** All Acid to contain the following additives/ 1000 gal:

1000 gal	10%	Acetic Acid
2 gal	MSA II	corrosion inhibitor
5%	NH_4CL	clay control

7. TOOH w/ 4-1/2" fullbore pkr and approximately 132 jts. 2-3/8" 4.7# J-55 workstring. Stand back workstring and laydown pkr.

8. Pick-up 4-1/2" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr, 2 jts. 2-7/8" 6.4# N-80 **BUTTRESS**, 2-7/8" N-80 **BUTTRESS** X 3-1/2" 8rd changeover swage and 101 jts. 3-1/2" 9.3# N-80 fracstring. Set pkr @ +/- **3210'**. (Refer to tubing movement calculation enclosed. This will determine how much shrinkage will occur in tubulars.)

9. RU stimulation company to frac down fracstring and 4" frac valve. Hold pre-job safety meeting with all personnel on location. Pressure test surface lines to **9000** psi prior to stimulation.**

****NOTE: HAVE PRE-JOB SAFETY MEETING WITH ALL PERSONNEL ON LOCATION. USE CO_2 APPROVED PUMPING EQUIPMENT ONLY. REVIEW CONTINGENCY PLANS FOR POSSIBLE JOB MALFUNCTIONS WITH ALL PERSONNEL.**

10. Fracture stimulate in 0.6 to 3.0 ppg stages @ 35 BPM constant downhole rate with 134 tons of Liquid CO_2 and 47,500 lbs. 40/70 mesh sand. When enclosed blender is empty, call flush. Flush to top perf @ +/- **4190'** with Liquid CO_2. Refer to frac schedule enclosed. Maximum bottomhole treating pressure is **4300** psi (90% of burst in 4-1/2" 10.5# csg). Estimated friction pressure is approximately **5491** psi @ **35** BPM. Maximum surface treating pressure is **8000** psi. **Leave csg. valve open and monitor annulus pressure in treating van.**

11. Record ISIP, 5, 10 and 15 shut-in pressure. Shut-in frac valve. RD stimulation company. Install flowback line above frac valve. Lay flowback line to dual-choke manifold and pit. Begin flowback after stimulation company has rigged down from frac valve. Open well to pit on accordance to flowback schedule listed in the table below. Do not shut well in during flowback. When schedule dictates a larger choke size, open ball valve upstream of adjustable choke and open adjustable

choke on manifold to pre-determined size listed in table and begin flowing through adjustable choke. Close ball valve upstream of positive flow bean and change out flow bean to next larger size in table. Open ball valve upstream of positive flow bean and begin flowing. Close ball valve upstream of adjustable choke and close adjustable choke.

16/64" Choke	**From Shut-in to 900 psi**
20/64" Choke	**From 900 psi to 750 psi**
24/64" Choke	**From 750 psi to 600 psi**
32/64" Choke	**From 600 psi to 400 psi**
48/64" Choke	**From 400 psi to 100 psi**

12. After well cleans up and pressures allow, release pkr and TOOH standing back 101 jts. 3-1/2" 9.3# N-80, 3-1/2" 8rd X 2-7/8" N-80 **BUTTRESS** changeover swage and 2 jts. 2-7/8" 6.4# N-80 **BUTTRESS** frac string.

2nd Stage – Upper Lewis Shale

13. TIH w/ 4-1/2" CIBP, on/off tool, 4-1/2" fullbore pkr and approximately 133 jts. 2-3/8" 4.7# J-55 workstring and tubing set CIBP @ +/- **4150'**. Load hole down tubing w/ 2% KCL 15 bbls for perforating. Set pkr @ +/- **3210'**. RU stimulation company. Pressure test surface lines to **5300** psi and pressure test CIBP to **4300** psi (90% of burst of 4-1/2" 10.5# csg). RD stimulation company. Release pkr and TOOH w/ workstring and pkr.

14. RIH w/ CCL on top of perforating guns**. Perforate the Upper Lewis Shale interval with **3-1/2" HPG gun system w/ 37J UJ HMX charges**. These are 34 gram charges with a 0.46" hole and 34.0" penetration. Shoot 90 holes bottom up in two (2) gun runs @ **2 SPF 60° Phase** in 2% KCL at the following depths: **1st gun run** - 10' gun @ **4054'-4044**, 10' gun @ **4012'-4002'**, 10' gun @ **3978'-3968'**. **2nd gun run** – 10' gun @ **3826'-3816'**, 5' gun @ **3809'-3804'**. RD wireline company.

** NOTE: Tie into GR\CNL\LD log.

15. TIH w/ 4-1/2" fullbore pkr and 132 jts. 2-3/8" 4.7# J-55 workstring and set @ +/- **3700'**. RU stimulation company. Pressure test surface lines to **5300** psi. Breakdown perforations @ 5-6 BPM w/ tbg. volume of 2% KCL (approximately 14 BBL). Displace w/ 300 gal. of 10% Acetic Acid + 5% NH_4CL** dropping one-hundred seventeen (117) 7/8" 1.1 SG RCN balls evenly displaced through acid. Displace acid w/ approximately 20 BBL of 2% KCL to bottom perforation. Balloff to maximum pressure of **4300** psi (90% of burst in 4-1/2" 10.5# csg). Record breakdown pressure, ball action and ISIP. Release pkr and knock ball off of perforations.

** All Acid to contain the following additives/ 1000 gal:

1000 gal	10%	Acetic Acid
2 gal	MSA II	corrosion inhibitor
5%	NH_4CL	clay control

16. TOOH w/ 4-1/2" fullbore pkr and approximately 119 jts. 2-3/8" 4.7# J-55 workstring. Stand back workstring and laydown pkr.

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17. Pick-up 4-1/2" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr, 2 jts. 2-7/8" 6.4# N-80 **BUTTRESS**, 2-7/8" N-80 **BUTTRESS** X 3-1/2" 8rd changeover swage and 101 jts. 3-1/2" 9.3# N-80 fracstring. Set pkr @ +/- **3210'**. (Refer to tubing movement calculation enclosed. This will determine how much shrinkage will occur in tubulars.)

18. RU stimulation company to frac down fracstring and 4" frac valve. Hold pre-job safety meeting with all personnel on location. Pressure test surface lines to **9000** psi prior to stimulation.**

****NOTE: HAVE PRE-JOB SAFETY MEETING WITH ALL PERSONNEL ON LOCATION. USE CO_2 APPROVED PUMPING EQUIPMENT ONLY. REVIEW CONTINGENCY PLANS FOR POSSIBLE JOB MALFUNCTIONS WITH ALL PERSONNEL.**

19. Fracture stimulate in 0.6 to 3.0 ppg stages @ 35 BPM constant downhole rate with 133 tons of Liquid CO_2 and 47,500 lbs. 40/70 mesh sand. When enclosed blender is empty, call flush. Flush to top perf @ +/- **3804'** with Liquid CO_2. Refer to frac schedule enclosed. Maximum bottomhole treating pressure is **4300** psi (90% of burst in 4-1/2" 10.5# csg). Estimated friction pressure is approximately **5344** psi @ **35** BPM. Maximum surface treating pressure is **8000** psi. **Leave csg. valve open and monitor annulus pressure in treating van.**

20. Record ISIP, 5, 10 and 15 shut-in pressure. Shut-in frac valve. RD stimulation company. Install flowback line above frac valve. Lay flowback line to dual-choke manifold and pit. Begin flowback after stimulation company has rigged down from frac valve. Open well to pit on accordance to flowback schedule listed in the table below. Do not shut well in during flowback. When schedule dictates a larger choke size, open ball valve upstream of adjustable choke and open adjustable choke on manifold to pre-determined size listed in table and begin flowing through adjustable choke. Close ball valve upstream of positive flow bean and change out flow bean to next larger size in table. Open ball valve upstream of positive flow bean and begin flowing. Close ball valve upstream of adjustable choke and close adjustable choke.

16/64" Choke	**From Shut-in to 900 psi**
20/64" Choke	**From 900 psi to 750 psi**
24/64" Choke	**From 750 psi to 600 psi**
32/64" Choke	**From 600 psi to 400 psi**
48/64" Choke	**From 400 psi to 100 psi**

21. After well cleans up and pressures allow, release pkr and TOOH laying down 101 jts. 3-1/2" 9.3# N-80, 3-1/2" 8rd X 2-7/8" N-80 **BUTTRESS** changeover swage and 2 jts. 2-7/8" 6.4# N-80 **BUTTRESS** frac string.

22. TIH w/ 3-7/8" flat mill on 2-3/8" 4.7# J-55 workstring and clean-up to CIBP @ +/- **4150'** with air/mist. When well is sufficiently clean, gauge the Upper Lewis interval for one (1) hour. Obtain an accurate pitot gauge for the Upper Lewis interval.

23. Drill out CIBP @ +/- **4150'** w/ 3-7/8" flat mill on 2-3/8" workstring. Use minimum mist rate of 10-12 BPH.

24. Clean up to CIBP @ +/- **4530'** w/ air/mist. When well is sufficiently clean, gauge the entire Lewis interval for one (1) hour.

25. Drill out CIBP @ +/- **4530'** w/ 3-7/8" flat mill on 2-3/8" workstring w/ air/mist and CO to PBTD @ **5710'****. TOOH w/ 2-3/8" 4.7# J-55 workstring and stand back. Lay down 3-7/8" flat mill.

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O 11 31N 10W
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****NOTE:** If tbg. was scaled-up, as indicated in step #2 of procedure, acid wash the existing Cliffhouse and Point Lookout perforations w/ treatment specified by service company.

26. Broach in tubing on sandline. TIH with one joint of 2-3/8", 4.7#, J-55 tubing w/ expendable check, seating nipple, then the remaining 2-3/8" production tubing. Land tubing @ **5687'**.

27. ND BOP's, NU single tubing hanger wellhead. Pump off expendable check. Obtain final pitot up tubing. If well will not flow on it's own, make swab run to seating nipple. If swab run is not necessary, RD and MOL. Place well on production.

Approve: _____ 12/1/98
Team Leader

Approve: _____ 12/1/98
Drilling Superintendent

Recommend: Steve Campbell 12/1/98
Production Engineer

VENDORS:

Wireline:	Schlumberger	325-5006
Stimulation:	Halliburton	324-3500
Enclosed Blender:	Universal Resources	1-800-935-2837
Liquid CO_2:	BOC Gases	1-800-448-5988
Packer:	Arrow Completion Systems	326-5141
Bridge Plug:	Arrow Completion Systems	326-5141
Flat Mill:	Arrow Completion Systems	326-5141

Steve Campbell	Home 325-8218	Office 326-9546	Pager 564-1902
Glen Christiansen	Home 327-5089	Office 326-9733	Pager 324-7562
Hans Dube	Home 564-9401	Office 326-9555	