State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division

Sundry Notices and Reports on Wells

1. **Type of Well**
GAS

API # (assigned by OCD)
30-045-24412

5. **Lease Number**
Fee

6. **State Oil&Gas Lease #**

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

7. **Lease Name/Unit Name**
Allison Unit

8. **Well No.**
57

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

9. **Pool Name or Wildcat**
Blanco Mesaverde

4. **Location of Well, Footage, Sec., T, R, M**
1780'FSL 1780'FWL, Sec.13, T-32-N, R-7-W, NMPM, San Juan County

10. **Elevation:**

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 and wellbore diagram.

SIGNATURE [signature] Regulatory Administrator February 2, 1999

TLW

(This space for State Use)

ORIGINAL SIGNED BY ERNIE BUSCH

Approved by _____ **Title** DEPUTY OIL & GAS INSPECTOR, DIST #3 **Date** FEB 11 1999

Allison Unit #57
Lewis Shale Payadd Procedure
K 13 32N 07W
San Juan County, NM
Latitude: 36 Deg., 58.67 Min
Longitude: 107 Deg., 31.22 Min.

Summary:
The subject well is a 1999 Lewis Shale payadd in 9-5/8", 7" and 4-1/2" casing. This well was drilled in 1980 and was completed in the Dakota, Point Lookout, Menefee, and Cliffhouse intervals. The Dakota interval was stimulated w/ approximately 74,500 lbs. total 20/40 sand and 40,000 lbs. total 10/20 sand and 55,000 gal. 50# Mini-max III. The Pt. Lookout interval was stimulated w/ approximately 55,000 lbs. total sand and 110,000 gal. total slickwater. The Cliffhouse/ Menefee interval was stimulated w/ approximately 39,500 lbs. total sand and 79,000 gal. total slickwater and placed on production. The Lewis will be perforated and fracture stimulated in two (2) stages with 276 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 Dakota 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. RD pumping unit. 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 256 jts. 2-3/8" Mesaverde tubing set at +/- **8095'** 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 Dakota, Point Lookout, Menefee and Cliffhouse interval.

3. RU wireline. RIH w/ 4-1/2" gauge ring and check wellbore for obstructions to PBTD @ **8138'**. POOH.**

   ****NOTE:** If obstructions are encountered, PU 3-7/8" bit and 4-1/2" 11.6# csg. scraper on 2-3/8" 4.7# J-55 workstring and CO to PBTD @ **8138'**. TOOH

4. TIH w/ 7" RBP and approximately 162 jts. 2-3/8" 4.7# J-55 workstring and tubing set RBP @ +/- **5050'**. Load hole down tubing w/ 14 bbls 10% Acetic + 5% NH_4CL*** for perforating. Load hole down tubing w/ 39 bbls 2% KCL for pressure testing. TOOH w/ workstring. RU wireline w/ packoff and pump in tee. RIH w/ dump bailer and dump 10' of sand on top of RBP. POOH w/ dump bailer. RIH w/ GR\CCL\CBL and log from **5050'** to **3370'****. TOOH w/ GR\CCL\CBL logging tool. RIH w/ TDT logging tool and log from **5050'** to **3370'****. TOOH w/ TDT logging tool. TIH/ 7" fullbore pkr and approximately 118 jts. 2-3/8" 4.7# J-55 workstring and set pkr @ +/- **3680'**. RU stimulation company. Pressure test surface lines to **6000** psi and pressure test RBP to **5000** psi (80% of burst of 7" 23.0# N-80 csg). RD stimulation company. Release pkr and TOOH w/ workstring and pkr

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** Correlate to GR-Ind log.

*** 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

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 110 holes bottom up in two (2) gun runs @ **2 SPF 60° Phase** in 2% KCL at the following depths: **1st gun run** – 5' gun @ **4907'-4902'***, 10' gun @ **4894'-4884'***, 5' gun @ **4869'-4864'***, 10' gun @ **4842'-4832'***, **2nd gun run** – 5' gun **@ 4806'-4801'***, 10' gun @ **4762'-4752'***, 10' gun @ **4746'-4736'***. RD wireline company.

** NOTE: Tie into new TDT log.

***NOTE: Perforation intervals may change after review of the TDT log. Contact Steve Campbell, Hans Dube, or Glen Christiansen for final perforation intervals.**

6. TIH w/ 7" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr and 115 jts. 3-1/2" 9.3# N-80 8rd fracstring and set @ +/- **4630**'. RU stimulation company. Pressure test surface lines to **6000** psi. Breakdown perforations @ 10-15 BPM w/ tbg. volume of 2% KCL (approximately 40 BBL). Displace w/ 300 gal. of 10% Acetic Acid + 5% NH_4CL** dropping one-hundred forty-three (143) 7/8" 1.1 SG RCN balls evenly displaced through acid. Displace acid w/ approximately 28 BBL of 2% KCL to bottom perforation. Balloff to maximum pressure of **5000** psi (80% of burst in 7" 23.0# N-80 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. Reset 7" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr @ +/- **3680**'. (Refer to tubing movement calculation enclosed. This will determine how much shrinkage will occur in tubulars.)

8. 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.

9. Fracture stimulate in 0.6 to 3.0 ppg stages @ 35 BPM constant downhole rate with 139 tons of Liquid CO_2 and 47,500 lbs. 40/70 mesh sand. When enclosed blender is empty, call flush. Flush to top perf @ +/- **4736'** with Liquid CO_2. Refer to frac schedule enclosed. Maximum bottomhole treating pressure is **5000** psi (80% of burst in 7" 23.0# N-80 csg). Estimated friction pressure is approximately **5732** psi @ **35** BPM. Maximum surface treating pressure is **8000** psi. Monitor annulus pressure in treating van.

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10. 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**

11. After well cleans up and pressures allow, release pkr and TOOH standing back 92 jts. 3-1/2" 9.3# N-80 8rd fracstring and 7" pkr.

2nd Stage – Upper Lewis Shale

12. TIH w/ 7" RBP and approximately 151 jts. 2-3/8" 4.7# J-55 workstring and tubing set RBP @ +/- **4700**'. Load hole down tubing w/ 18 bbls 10% Acetic + 5% NH_4CL** for perforating. Load hole down tubing w/ 21 bbls 2% KCL for pressure testing. TOOH w/ workstring. RU wireline w/ packoff and pump in tee. RIH w/ dump bailer and dump 10' of sand on top of RBP. POOH w/ dump bailer. TIH/ 7" fullbore pkr and approximately 118 jts. 2-3/8" 4.7# J-55 workstring and set pkr @ +/- **3680**'. RU stimulation company. Pressure test surface lines to **6000** psi and pressure test RBP to **5000** psi (80% of burst of 7" 23.0# N-80 csg). RD stimulation company. Release pkr and TOOH w/ workstring and pkr

** 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

13. 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 @ **4564'-4554'*****, 5' gun @ **4512'-4507'*****, 5' gun @ **4460'-4455'*****, 5' gun @ **4450'-4445'*****, **2nd gun run** – 5' gun @ **4429'-4424'*****, 10' gun @ **4416'-4406'*****, **5**' gun @ **4363'-4358'*****. RD wireline company.

** NOTE: Tie into new TDT log.

*****NOTE: Perforation intervals may change after review of the TDT log. Contact Steve Campbell, Hans Dube, or Glen Christiansen for final perforation intervals.**

14. TIH w/ 7" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr and 106 jts. 3-1/2" 9.3# N-80 8rd fracstring and set @ +/- **4250**'. RU stimulation company. Pressure test surface lines to **6000** psi. Breakdown perforations @ 10-15 BPM w/ tbg. volume of 2% KCL (approximately 37 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 49 BBL of 2% KCL to bottom perforation. Balloff to maximum pressure of **5000** psi (80% of burst in 7" 23.0# N-80 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

15. Reset 7" fullbore Model **Arrowset 1X 10K COMPRESSION SET** pkr @ +/- **3680'**. (Refer to tubing movement calculation enclosed. This will determine how much shrinkage will occur in tubulars.)

16. 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.**

17. Fracture stimulate in 0.6 to 3.0 ppg stages @ 35 BPM constant downhole rate with 137 tons of Liquid CO_2 and 47,500 lbs. 40/70 mesh sand. When enclosed blender is empty, call flush. Flush to top perf @ +/- **4358'** with Liquid CO_2. Refer to frac schedule enclosed. Maximum bottomhole treating pressure is **5000** psi (80% of burst in 7" 23.0# N-80 csg). Estimated friction pressure is approximately **5683** psi @ **35** BPM. Maximum surface treating pressure is **8000** psi. Monitor annulus pressure in treating van.

18. 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**

19. After well cleans up and pressures allow, release pkr and TOOH laying down 92 jts. 3-1/2" 9.3# N-80 fracstring and 7" pkr.

20. TIH w/ notched collar on 2-3/8" 4.7# J-55 workstring and clean-up to RBP @ +/- **4700'** with air/mist. TOOH w/ notched collar and TIH w/ retrieving head on 2-3/8" 4.7# J-55 workstring and retrieve RBP @ +/- **4700'**. TOOH w/ workstring, retrieving head and RBP laying down retrieving head and RBP. When well is sufficiently clean, gauge the Upper Lewis interval for one (1) hour. Obtain an accurate pitot gauge for the Upper Lewis interval.

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21. TIH w/ notched collar on 2-3/8" 4.7# J-55 workstring and clean-up to RBP @ +/- **5050'** with air/mist. TOOH w/ notched collar and TIH w/ retrieving head on 2-3/8" 4.7# J-55 workstring and retrieve RBP @ +/- **5050'**. TOOH w/ workstring, retrieving head and RBP laying down retrieving head and RBP. When well is sufficiently clean, gauge the entire Lewis interval for one (1) hour. Obtain an accurate pitot gauge for the entire Lewis interval.

22. TIH w/ 3-7/8" flat mill and 2-3/8" workstring and CO to PBTD @ **8138'****. TOOH w/ 2-3/8" 4.7# J-55 workstring and stand back. Lay down 3-7/8" flat mill.

****NOTE:** If tbg. was scaled-up, acid wash the existing Cliffhouse, Menefee, Point Lookout and Dakota perforations w/ treatment specified by service company.

23. Broach in tubing on sandline. TIH w/ one joint of 2-3/8" 4.7# J-55 tubing w/ expendable check, seating nipple, then remaining 2-3/8" production tubing. Land tubing @ **8063'**.

24. ND BOP's, NU single tubing hanger wellhead. Pump off expendable check. Obtain a 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.

Approve: _____ 2/1/99
Team Leader

Approve: _____ 2/1/99
Drilling Superintendent

Recommend: Steve Campbell 2/1/99
Production Engineer

VENDORS:

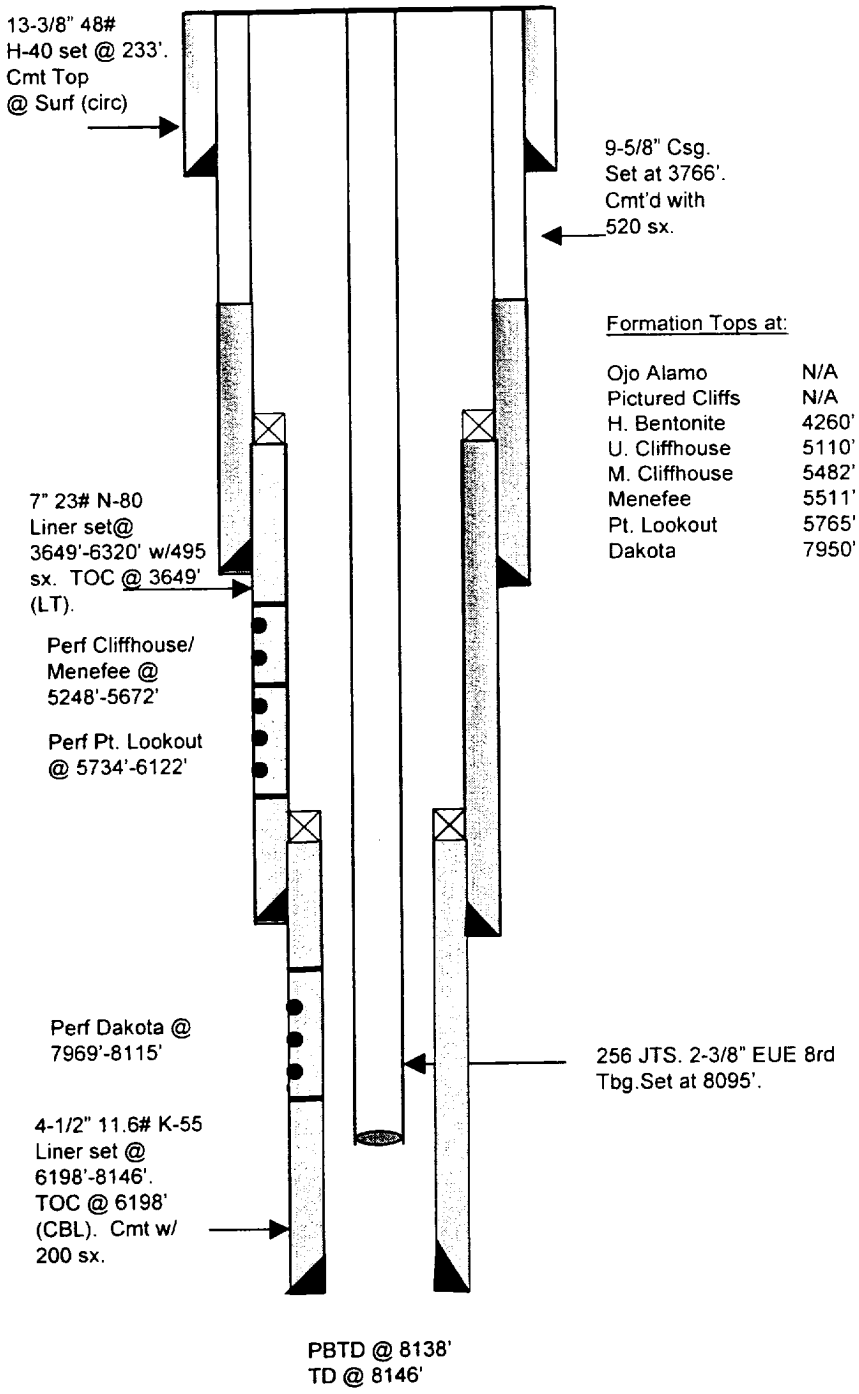
Wireline:	Schlumberger	325-5006
Stimulation:	Halliburton	324-3500
Enclosed Blender:	Universal Resources	1-800-935-2837
Liquid CO_2:	BOC Gases	1-800-448-5988
Packer:	Arrow Completion Systems	326-5141
Bridge Plug:	Arrow Completion Systems	326-5141
Flat Mill:	Arrow Completion Systems	326-5141

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	

Allison Unit #57

Unit K, Section 13, T32N, R07W
San Juan County, NM

Current Schematic



Proposed Schematic