Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
BLM MAIL ROOM
96 FEB -8 PM 1:01
070 FARMINGTON, NM

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

5. Lease Designation and Serial No.
SF-080917

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
Atlantic B LS 2

2. Name of Operator
Amoco Production Company

Attention:
Patty Haefele

9. API Well No.
3004509966

3. Address and Telephone No.
P.O. Box 800, Denver, CO 80201 (303) 830-4988

10. Field and Pool, or Exploratory Area
Blanco Mesaverde

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
990' FNL 990' FEL Sec. 4 T 30N R 10W Unit A

11. County or Parish, State
San Juan New Mexico

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

| TYPE OF SUBMISSION | TYPE OF ACTION | |
|---|---|---|
| ☒ Notice of Intent | ☐ Abandonment | ☐ Change of Plans |
| ☐ Subsequent Report | ☐ Recompletion | ☐ New Construction |
| ☐ Final Abandonment Notice | ☐ Plugging Back | ☐ Non-Routine Fracturing |
| | ☐ Casing Repair | ☐ Water Shut-Off |
| | ☐ Altering Casing | ☐ Conversion to Injection |
| | ☒ Other Sidetrack | ☐ 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 any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Amoco Production Company requests permission to sidetrack this well per the attached procedure.

RECEIVED
FEB 23 1996
OIL CON. DIV.
DIST. 3

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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

Signed Patty Haefele Title Staff Assistant Date 02-08-1996

(This space for Federal or State office use)

APPROVED
FEB 13 1996
DISTRICT MANAGER

Approved by _____ Title _____ Date _____
Conditions 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.

Order Required (E)

NMOCD

* See Instructions on Reverse Side

# SJOET Well Work Procedure

**Name** **Atlantic B LS #2**
**Version:** Preliminary
**Date:** February 7, 1996
**Budget:** Repair
**Repair Type:** Sidetrack Completion

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**Objectives:**
1. Complete new sidetrack wellbore in Mesaverde.

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**Pertinent Information:**

| | | | |
|---|---|---|---|
| Location: | 990' FNL x 990' FEL, Sec 4, T30N-R10W | Horizon: | MV |
| County: | San Juan | API #: | 3004509966 |
| State: | New Mexico | Engr: | Kutas |
| Lease: | SF-080917 | Phone: | W-(303)830-5159 |
| Well Flac: | 978752 | | |

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**Economic Information:**

| | | | |
|---|---|---|---|
| APC WI: | 25% | Current MV Production | 20 MCFD |
| Estimated Cost: | $100,000 | MV Anticipated Prod | 300 MCFD |
| Payout: | | | |
| Max Cost -12 Mo. P.O. | | | |
| PV15: | | | |
| Max Cost PV15: | $M | | |

**Note:** **Economics will be run on all projects that have a payout exceeding ONE year.**

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**Formation Tops:** (Estimated formation tops)

| | | | |
|---|---|---|---|
| Nacimento: | | Menefee: | 4885' |
| Ojo Alamo: | 1603' | Point Lookout: | 5370' |
| Kirtland Shale: | 1742' | Mancos Shale: | |
| Fruitland: | 2657' | Gallup: | |
| Pictured Cliffs: | 3001' | Graneros: | |
| Lewis Shale: | 3102' | Dakota: | |
| Cliff House: | 4650' | Morrison: | |

---

**Bradenhead Test Information:**
**Test Date:** **Tubing:** **Casing:** **BH:**

| Time | BH | CSG | INT | CSG |
|---|---|---|---|---|
| 5 min | | | | |
| 10 min | | | | |
| 15 min | | | | |

Comments:

1. MIRU wireline unit. Run gauge ring to ensure clean casing. Tag for and report PBTD.

2. Run GR/CCL/TMD from TD' to 500' above to top of Cliffhouse. Fax log copy to Denver to select perforation intervals.

3. RU perforating equipment. Perforate PLO pay intervals using limited entry techniques. Perf intervals will be identified from TMD log. Utilize 3 1/8" HCP w/ 12.5 g charges (0.34" EHD, 13.13" Penetration).

4. Break down perforations using 2% Kcl water and 7/8" RCN balls w/ 1.1 SG. Recover balls with junk basket.

5. RU fracture stimulation equipment. Fracture stimulate PLO pay according to frac schedule A. Flowback well as soon as stimulation equipment is disconnected and moved off. Flow well back starting with 1/4" choke gradually increasing to 1/2" choke. Flow well back overnight or over weekend. Record flowing and shutin pressures, choke size, and liquid recoveries.

6. TIH w/ wireline and tag for fill. If sand fill is below next perf interval(s) then set wireline CIBP between MN and PLO. If sand fill is into MN section then a rig or CTU will be required to clean out fill prior to proceeding with completion.

7. Once CIBP is set, pressure test to ensure good seal.

8. RU perforating equipment. Perforate MN pay intervals using limited entry techniques. Perf intervals will be identified from TMD log. Utilize 3 1/8" HCP w/ 12.5 g charges (0.34" EHD, 13.13" Penetration).

9. Break down perforations using 2% Kcl water and 7/8" RCN balls w/ 1.1 SG. Recover balls with junk basket.

10. RU fracture stimulation equipment. Fracture stimulate MN pay according to frac schedule A. Flow back well as soon as stimulation equipment is disconnected and out of the way. Flow well back starting with 1/4" choke gradually increasing to 1/2" choke. Flow well back overnight or over weekend. Record flowing and shutin pressures, choke size, and liquid recoveries.

11. TIH w/ wireline and tag for fill. If sand fill is below next perf interval(s) then set wireline RBP between CH and MN. If sand fill is into CH section then a rig or CTU will be required to clean out fill prior to proceeding with completion.

12. Once RBP is set, pressure test to ensure good seal.

13. RU perforating equipment. Perforate CH pay intervals using limited entry techniques. Perf intervals will be identified from TMD log. Utilize 3 1/8" HCP w/ 12.5 g charges (0.34" EHD, 13.13" Penetration).

14. Break down perforations using 2% Kcl water and 7/8" RCN balls w/ 1.1 SG. Recover balls with junk basket.

15. RU fracture stimulation equipment. Fracture stimulate CH pay according to frac schedule A. Flow back well as soon as stimulation equipment is disconnected and out of the way. Flow well back starting with 1/4" choke gradually increasing to 1/2" choke. Flow well back overnight or over weekend. Record flowing and shutin pressures, choke size, and liquid recoveries.

16. MIRUSU. TIH w/ tubing x bit and scraper. Clean out fill to RBP. Pull RBP. Clean out MN interval. DO CIBP. Clean out to PBTD.

17. Land 2 3/8" production tubing. Set tbg at approximately mid-perf depth' (1/2 mule shoe on bottom w/ seating nipple one joint up). Final setting depth will be selected based on pay intervals from TMD log. Flow well to clean up. Swab well in if necessary. RDMOSU.

18. Obtain gas and water samples. SI well pending equipment hook up. Turn well over to production.

February 06, 1996

## *Atlantic "B" LS #2*

990' FNL, 990' FEL Sect. 4, 30N, 10W
San Juan County, New Mexico
Sidetrack Procedures

***PREPARATION*** ***NOTE--5.500" casing***

1. MIRUSU complete with 3.5 power swivel, circulating equipment and rental string of 2.375" drill pipe or Hydril PH-6 tubing and 6-3.750" drill collars. Ensure that the drill pipe and collars have recent inspection papers.

2. Blow down well, ND tree, NUBOPS and pull 2.375" tubing. (Landed at 5,344'--perf'd at 5,310--5,344'. May be stuck) If stuck, cut at 4,550' and lay down.

3. Pick up drill pipe and set CIBP at 4,500'. Circulate hole with fresh water. Mix and pump 25 sx Class "B" cement (neat) at 15.7 ppg and spot on top of bridge plug (100'+). POH.

4. Test casing to 750 psi. If test positive, proceed to **step 5**. If casing leaks, pick up RTTS packer and isolate hole(s).

5. Run CBL from 4,400' to top of cement (3,400' by TS). Check for good cement at KOP of 3,600' and check for cement below surface pipe at 162' to see if previous operators pumped down bradenhead. If no good cement is found at KOP, perforate, set retainer 100' above holes and squeeze with 100 sx of 50:50 Pozmix containing 0.4 % Halad 344, 0.25 #/sx flocele, and 5-10 #/sx Gilsonite and CAL-SEAL as recommended by Howco. Remainder of bradenhead work will depend on CBL but will probably require the following steps.

6. Perforate 4 JSPF at 2,650' (top of Fruitland) unless casing leaks found near this depth.

7. Set cement retainer at 2,550' and attempt to establish circulation to bradenhead. If circulation obtained, mix and pump sufficient cement to circulate. Use same cement mixture as in **step #5** and proceed to **step #9.** If no circulation obtained, squeeze holes with 100 sx of the same and proceed to **step #8.**

8. Perforate 4 JSPF at 1,200' (above Ojo Alamo), set retainer at 1,100' and repeat **step #7.**

9. WOC. NDBOPS, install casing spool above bradenhead to receive the 3.500" long string. NUBOPS.

10. Pick up 4.750" tooth bit with premium bearings, 6-3.750" drill collars on the drill pipe (tubing) and drill out cement and retainers. Test each perforated interval to 750 psi after drilling and re-squeeze with 100 sx cement if necessary. Re-run CBL if cement at KOP is questionable

11. RDMOSU.

*Atlantic "B" LS #2*

***SIDETRACK*** 

1. MIRURT complete with 2.875" drill string, air package and misting equipment. NUBOPS and test to 2,000 psi with third party tester on first well and every third well thereafter.

2. Orient Smith Anchor-Stock whipstock at KOP at 270 degrees with gyro, running gyro from surface for tie-in. Mill window utilizing air/mist, reaming window sufficiently to run directional and stiff bottom hole assemblies without problem.

3. Pick up premium, gage protected, 4.750" TC bit (Smith diamond enhanced gage F37 DODPD w/motor or F37 DP conventional), directional equipment and cut curve as indicated on the attached directional program. Trip out when bit wears out and pick up stiff bottom hole assembly with monel collar and rotate ahead to total measured depth. Take single shot surveys every 150-200' to make certain the general azimuth direction is acceptable and that the angle is not dropping excessively. A final directional plot is required at TMD by the NMOCD. Generally, the directional program is as follows.

| | | |
|---|---|---|
| KOP-- | 3,600' TVD | |
| Orientation-- | 180 +/- 20 degrees | |
| Curve-- | 2.5 degrees/100' | |
| Maximum angle-- | 28-30 degrees | |
| Total depth-- | 5,450' TVD | 5,585'TMD |

4. Lay down the 2.875" drill string, run 3.500" used casing using a marker joint at 1,000' from bottom. Utilize stand-off bands (3.625" x 4.625") every second joint on the lower 20 joints and every third joint thereafter up to 100' inside the existing 5.500" casing.

5. Cement w/190 sx (60% excess) 50:50 Pozmix containing 2 % gel, 6 % salt, 0.4 % Halad 344, 0.25 #/sx flocele, 5 #/sx Gilsonite. Pump 20 bbls water ahead, mix and pump cement at 13.5-14.0 ppg and displace with water. Utilize two wiper plugs (discuss w/ Howco--attempt to ensure that the cement is completely wiped from the casing to allow a rigless completion). This single stage job should bring cement at least 500' inside the 5.500" casing. Reciprocate the casing throughout the cement job, passing joints. Land casing in full tension. Run temperature survey 10-12 hours after bumping plug.

6. RDMORT.

brad
02/06/96 2:30 PM

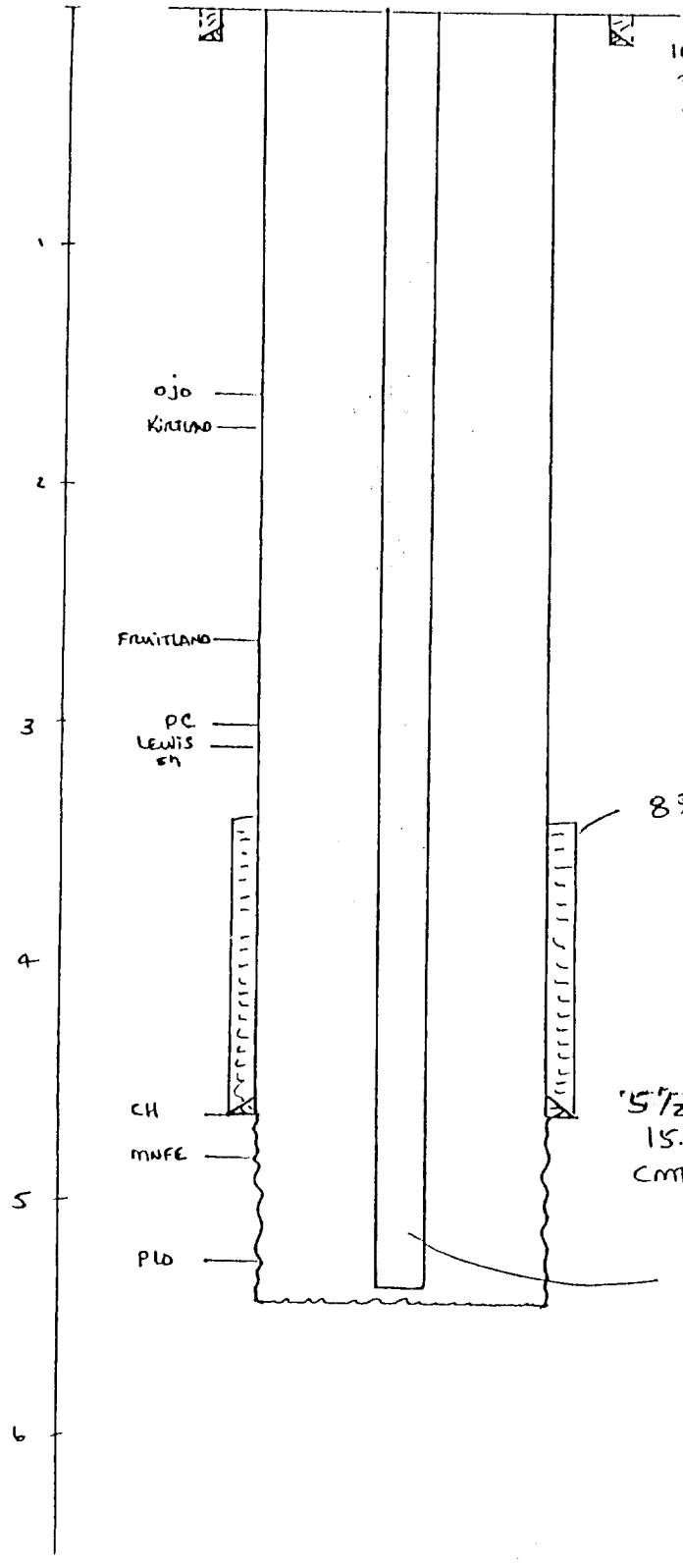
# Amoco Production Company

ENGINEERING CHART

Sheet No ____ Of ____
File ____
Appn ____
Date 1/28/96
By GMK

SUBJECT ATLANTIC B LS 2

990'FEL x 990'FNL SEC 4A-T30N-R10W




10 3/4" CSA 162'
32.75# J55
CMT CIRC'd - *USED 1" W/65 SKS TO GET CMT BEHIND CSG TO SURFACE

7/52 D/O OH FROM 4613'-5412'
SHOOT 4672'-5412' W/1635 QHS SNG

8 3/4" HOLE

5 1/2" CSA 4613'
15.5# J55
CMT W/ 300 SXS REG CMT

TOC @ 3400' (BY TEMP SURV.)

2 3/8" TSA 5344'
4.7# J55
PERF'D @ 5310-44'

FINAL COPY

# AMOCO PRODUCTION COMPANY
# DRILLING AND COMPLETION PROGRAM

File No.: atntb02.xlw
Date: 2/6/96

Lease: Atlantic "B" LS | Well No. #2
County: San Juan, New Mexico | Location: 990' FNL, 990' FEL Sect. 4, 30N, 10W
Former name: None | Field: Basin Mesaverde 30 10

OBJECTIVE: Further exploit the Mesaverde.

**METHOD OF DRILLING**
TYPE OF TOOLS | DEPTH OF DRILLING
Rotary | KOP - TD

**SPECIAL SURVEYS**
TYPE | DEPTH
NONE

REMARKS:
Logs run as considered necessary.
**None anticipated**

**APPROXIMATE DEPTHS OF GEOLOGICAL MARKER**
Actual GL---------Estimated KB 6,327 6,339

| Marker | True Vert Depth | Msd.Depth (ft.) | SS Elev. (ft.) |
|---|---|---|---|
| Ojo Alamo | | 1,603 | 4,736 |
| Kirtland | | 1,742 | 4,597 |
| Fruitland* | | 2,657 | 3,682 |
| Pictured Cliffs* | | 3,001 | 3,338 |
| Lewis Shale | | 3,102 | 3,237 |
| Cliff House* | 4,622 | 4,650 | 1,717 |
| Menefee | 4,810 | 4,885 | 1,529 |
| Point Lookout | 5,255 | 5,370 | 1,084 |
| Mancos | 5,347 | 5,470 | 992 |
| **KOP** | **3,600** | **3,600** | |
| **TOTAL DEPTH** | **5,450** | **5,585** | |

#Probable completion * Possible pay
**OJO ALAMO IS POSSIBLE USEABLE WATER**

**SPECIAL TESTS**
TYPE | DEPTH INTERVAL, ETC
**None**

Remarks:

**DRILL CUTTING SAMPLES**
FREQUENCY | DEPTH
As penetration rate pe | ICP__TD

**DRILLING TIME**
FREQUENCY | DEPTH
Geolograph | 0 - TD

Remarks:
Mud Logging Program: None
Coring Program: None

**MUD PROGRAM:**

| Approx. Interval | Type Mud | Weight, #/gal | Vis, sec/qt. | W/L, cc's/30 min. |
|---|---|---|---|---|
| 0-------SCP | None--Recompletion only | | | |
| SCP----ICP | None--Recompletion only | | | |
| ICP-----TD | Air/Mist | //// | | |

REMARKS:

An air/mist circulating medium will be used as necessarry to remove steel cuttings and to protect air motors.

**CASING PROGRAM:**

| Casing String | Estimated Depth | Casing Size | Hole Size | Landing Point, Cement, Etc |
|---|---|---|---|---|
| Conductor | | | | |
| Surface | In place | | | |
| Intermediate | In place | | | |
| Production | 5,585 | 3 1/2" | 4 3/4" | 1 |

Remarks:

1. Production casing will be cemented back up into the 5.500" intermediate.

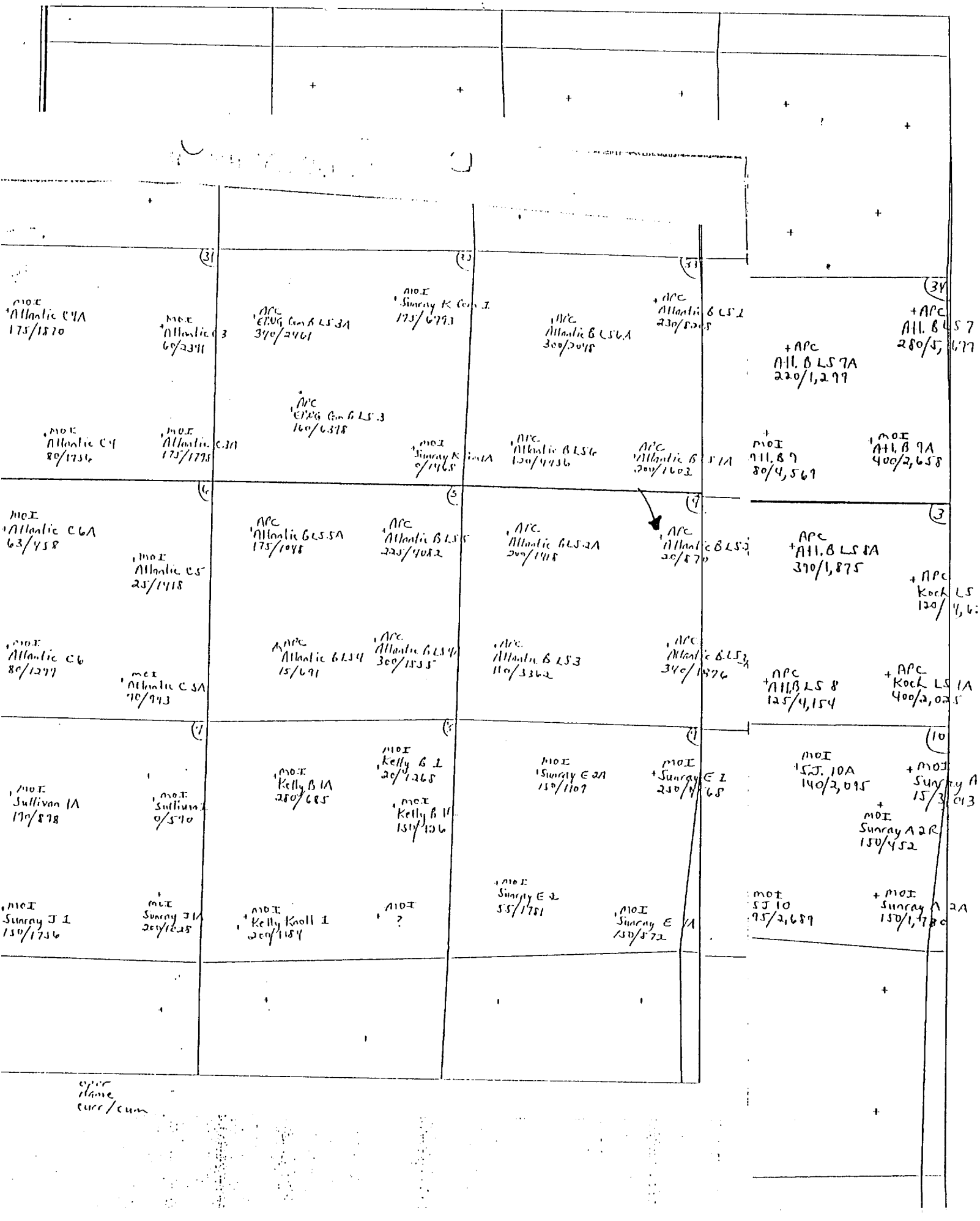
**GENERAL REMARKS:**

Well was drilled and completed in 1952. Will plug the existing open hole with CIBP set in 5.500" casing at 4,500' and 100' of Class "B" cement spotted on top (4500'-4,400'). Casing will be tested, repaired if necessary and the upper water sands will be protected by circulating and /or squeezing with cement. A whipstock will be set at =/-3,600' and the well redrilled into the Mancos at an approximate 270 degree azimuth. Southern Rockies Engineering staff to design completion program.

Form 46 Reviewed by: | Logging program reviewed by:

| PREPARED BY: | APPROVED: | APPROVED: |
|---|---|---|
| Kutas/bllyeu | Kurt Unger | |
| Form 46 7-84bw 2/6/96 | For Production Dept 2/6/96 | For Exploration Dept. |

# Atlantic B LS 2 w/ MV offsets

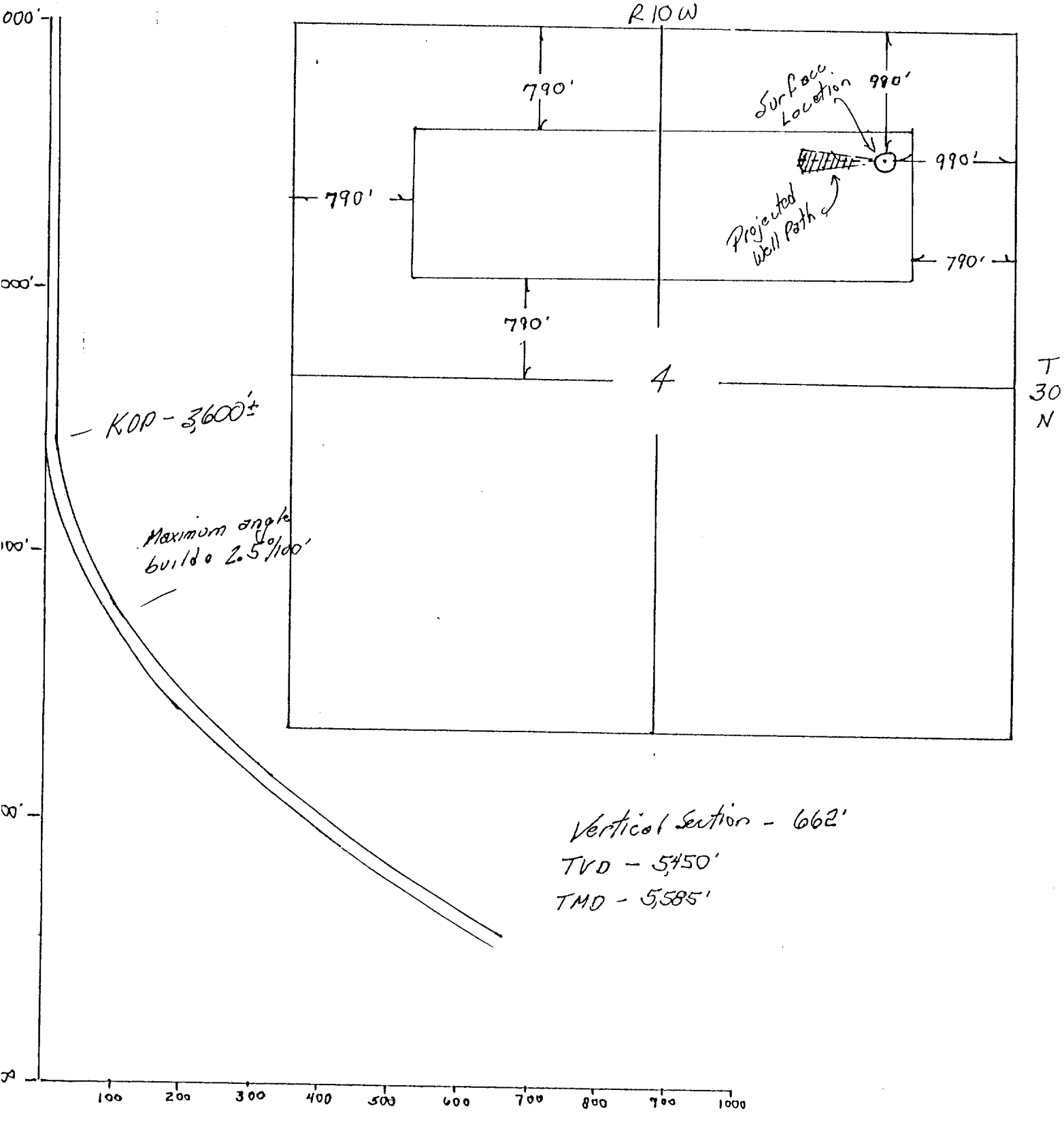


# Amoco Production Company

ENGINEERING CHART

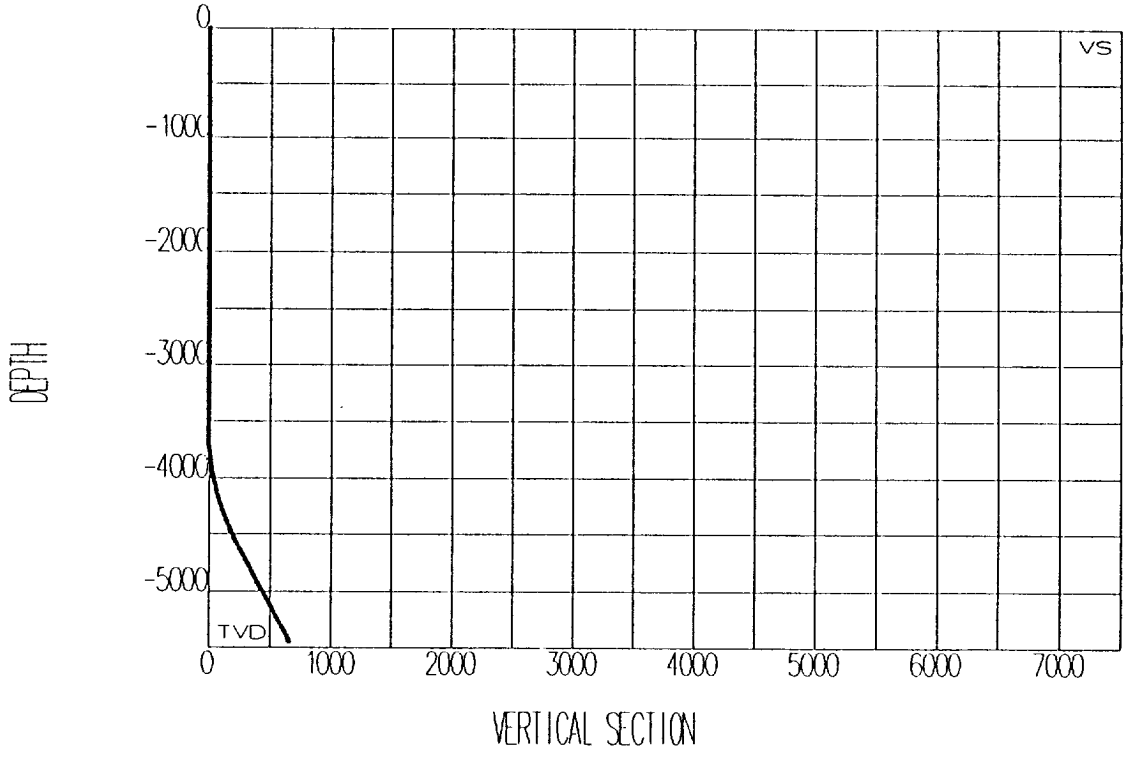
Sheet No. Of
File
Appn
Date 02/05/96
By

SUBJECT Atlantic "B" LS #2
990' FEL, 990' FNL, Sect 4A, 30N, 10W
San Juan County, New Mexico




Vertical Section - 662'
TVD - 5,450'
TMD - 5,585'

Atlantic "B" LS #2
990' FEL, 990' FNL
Section 4A, T30, 10W
San Juan County, New Mexico



Atlantic "B" LS #2
990-FEL, 990-FNL
Section 4-A, T30N, 10W
San Juan County, N.M.

Units are FEET

| T I | Meas. Depth | Survey Incl | Survey Dir | Depth (TVD) | North -South | East -West | Vert. Section | Closure Dist | Closure Dir | Dog Leg |
|---|---|---|---|---|---|---|---|---|---|---|
| | .00 | .00 | 270.00 | .00 | .00 | .00 | .00 | 0 | 0 | .0 |
| | 3600.00 | .00 | 270.00 | 3600.00 | .00 | .00 | .00 | 0 | 0 | .0 |
| | 3700.00 | 3.00 | 270.00 | 3699.95 | .00 | -2.62 | 2.62 | 3 | 270 | 3.0 |
| | 3800.00 | 5.50 | 270.00 | 3799.67 | .00 | -10.03 | 10.03 | 10 | 270 | 2.5 |
| | 3900.00 | 8.00 | 270.00 | 3898.97 | .00 | -21.78 | 21.78 | 22 | 270 | 2.5 |
| | 4000.00 | 10.50 | 270.00 | 3997.66 | .00 | -37.85 | 37.85 | 38 | 270 | 2.5 |
| | 4100.00 | 13.00 | 270.00 | 4095.56 | .00 | -58.22 | 58.22 | 58 | 270 | 2.5 |
| | 4200.00 | 15.50 | 270.00 | 4192.47 | .00 | -82.83 | 82.83 | 83 | 270 | 2.5 |
| | 4300.00 | 18.00 | 270.00 | 4288.22 | .00 | -111.65 | 111.65 | 112 | 270 | 2.5 |
| | 4400.00 | 20.50 | 270.00 | 4382.63 | .00 | -144.61 | 144.61 | 145 | 270 | 2.5 |
| | 4500.00 | 23.00 | 270.00 | 4475.50 | .00 | -181.67 | 181.67 | 182 | 270 | 2.5 |
| | 4600.00 | 25.50 | 270.00 | 4566.67 | .00 | -222.73 | 222.73 | 223 | 270 | 2.5 |
| | 4675.00 | 26.50 | 270.00 | 4634.08 | .00 | -255.61 | 255.61 | 256 | 270 | 1.3 |
| | 4800.00 | 26.50 | 270.00 | 4745.94 | .00 | -311.39 | 311.39 | 311 | 270 | .0 |
| | 4900.00 | 26.50 | 270.00 | 4835.44 | .00 | -356.01 | 356.01 | 356 | 270 | .0 |
| | 5000.00 | 26.50 | 270.00 | 4924.93 | .00 | -400.63 | 400.63 | 401 | 270 | .0 |
| | 5100.00 | 26.50 | 270.00 | 5014.42 | .00 | -445.25 | 445.25 | 445 | 270 | .0 |
| | 5200.00 | 26.50 | 270.00 | 5103.92 | .00 | -489.87 | 489.87 | 490 | 270 | .0 |
| | 5300.00 | 26.50 | 270.00 | 5193.41 | .00 | -534.49 | 534.49 | 534 | 270 | .0 |
| | 5400.00 | 26.50 | 270.00 | 5282.91 | .00 | -579.11 | 579.11 | 579 | 270 | .0 |
| | 5500.00 | 26.50 | 270.00 | 5372.40 | .00 | -623.73 | 623.73 | 624 | 270 | .0 |
| | 5585.00 | 26.50 | 270.00 | 5448.47 | .00 | -661.65 | 661.65 | 662 | 270 | .0 |

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
1235 La Plata Highway
Farmington, New Mexico 87401

IN REPLY REFER TO:

**Attachment to Notice of**

**Intention to Workover**

**Re: Workover**

**Well: 2 Atlantic B LS**

CONDITIONS OF APPROVAL

1. If bradenhead remedial cementing work is to be performed, the following intervals should be cemented:

A. Pictured Cliffs (top @ 2999') -- At a minimum, place a cement plug from 3049' to 2949' plus 100% excess cement in the 5 1/2" annular space.

B. Fruitland (top @ 2611') -- At a minimum, place a cement plug from 2661' to 2561' plus 100% excess cement in the 5 1/2" annular space.

C. Ojo Alamo (bottom @ 1747', top @ 1600') -- At a minimum, place a cement plug from 1797' to 1550' plus 100% excess cement in the 5 1/2" annular space.

D. Surface casing (set @ 162') -- Perforate at 212' and circulate cement to the surface.