

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 811 South First, Artesia, NM 88210
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 2040 South Pacheco
 Santa Fe, NM 87505

Form C-101
 Revised October 18, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 6 Copies
 Fee Lease - 5 Copies

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

| | | |
|---|---------------------------------|--------------------------------|
| Operator Name and Address. Amoco Production Company P. O. Box 800 Denver, Colorado 80201 | | OGRID Number 000778 |
| | | API Number 30 - 045 - 29296 |
| Property Code 17842 | Property Name McPhee Gas Com | Well No. #1 |

7 Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| F | 1 | 30N | 12W | | 1690 | North | 1645 | West | San Juan |

8 Proposed Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------------------|---------|----------|-------|---------|-----------------------------|------------------|---------------|----------------|--------|
| 72319 Blanco Mesayerde | | | | | Proposed Pool 1 N/319.20 | | | | |
| | | | | | Proposed Pool 2 | | | | |

| | | | | |
|------------------------------|-------------------------|-------------------------------|------------------------------|------------------------------------|
| Work Type Code N-New Well | Well Type Code G | Cable/Rotary Rotary | Lease Type Code P-Private | Ground Level Elevation GL-5825' |
| Multiple No | Proposed Depth 4988' | Formation Blanco Mesaverde | Contractor Aztec | Spud Date 1/1/96 |

21 Proposed Casing and Cement Program

| Hole Size | Casing Size | Casing weight/foot | Setting Depth | Sacks of Cement | Estimated TOC |
|-----------|-------------|--------------------|---------------|-----------------|---------------|
| 12.25 | 8.625 | 24# | 120' | 106 cu. ft. Cl. | B to surface |
| 7.88 | 5.500 | 14# | 1841' | 510 cu. ft. Cl. | B to surface |
| 4.75 | 2.875 | 6.5# | 4521' | 301 cu. ft. Cl. | B to 1550' |

Describe the proposed program. If this application is to DEEPEN or PLUG BACK give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

RECEIVED RECEIVED
 OCT 25 1995 OCT 17 1995
 OIL CON. DIV. DIST. 3 OIL CON. DIV. DIST. 3

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Gail M. Jefferson*
 Printed name: Gail M. Jefferson
 Title: Sr. Admin. Staff Asst.
 Date: 10/16/95
 Phone: (303) 830-6157

| | |
|--|------------------------------|
| OIL CONSERVATION DIVISION | |
| Approved by: <i>Ernie Busch</i> | 10-25-95 |
| Title: DEPUTY OIL & GAS INSPECTOR, DIST. #3 | |
| Approval Date: OCT 25 1995 | Expiration Date: OCT 25 1996 |
| Conditions of Approval: Attached <input type="checkbox"/> | |

The signature, printed name, and title of the person authorized to make this report. The date this report was signed and the telephone number to call for questions about this report.

program. Attach additional sheets if necessary.

- 1 Operator's OGRID number. If you do not have one it will be assigned and filled in by the District office.
- 2 Operator's name and address
- 3 API number of this well. If this is a new well the OCD will assign the number and fill it in.
- 4 Property code. If this is a new property the OCD will assign the number and fill it in.
- 5 Property name that used to be called 'well name'
- 6 The number of this well on the property.
- 7 The surveyed location of this well New Mexico Principal Meridian NOTE: If the United States government survey designates a Lot Number for this location use that number in the 'UL or lot no.' box. Otherwise use the OCD Unit Letter.
- 8 The proposed bottom hole location of this well at TD
- 9 and 10 The proposed pool(s) to which this well is being drilled.
- 11 Work type code from the following table:

| | |
|---|--------------|
| N | New well |
| E | Re-entry |
| D | Drill deeper |
| P | Plugback |
| A | Add a zone |
- 12 Well type code from the following table:

| | |
|---|-----------------------|
| O | Single oil completion |
| G | Single gas completion |
| M | Multiple completion |
| I | Injection well |
| S | SWD well |
| W | Water supply well |
| C | Carbon dioxide well |
- 13 Cable or rotary drilling code

| | |
|---|-----------------------------|
| C | Propose to cable tool drill |
| R | Propose to rotary drill |
- 14 Lease type code from the following table:

| | |
|---|---------|
| S | State |
| P | Private |
- 15 Ground level elevation above sea level
- 16 Intend to multiple complete? Yes or No
- 17 Proposed total depth of this well
- 18 Geologic formation at TD
- 19 Name of the intended drilling company if known.
- 20 Anticipated spud date.
- 21 Proposed hole size ID inches, proposed casing OD inches, casing weight in pounds per foot, setting depth of the casing or depth and top of liner, proposed cementing volume, and estimated top of cement
- 22 Brief description of the proposed drilling program and BOP

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 PO Drawer DD, Artesia, NM 88211-0719
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 PO Box 2088
 Santa Fe, NM 87504-2088

Form C-102
 Revised February 21, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | | | | |
|-------------------------------------|--|---|--|---------------------------------|----------------------|
| 1 API Number <i>30-045-29296</i> | | 2 Pool Code 72319 | | 3 Pool Name Blanco Mesaverde | |
| 4 Property Code <i>17842</i> | | 5 Property Name MCPHEE GAS COM | | | 6 Well Number # 1 |
| 7 OGRID No. 000778 | | 8 Operator Name AMOCO PRODUCTION COMPANY | | | 9 Elevation 5825 |

10 Surface Location

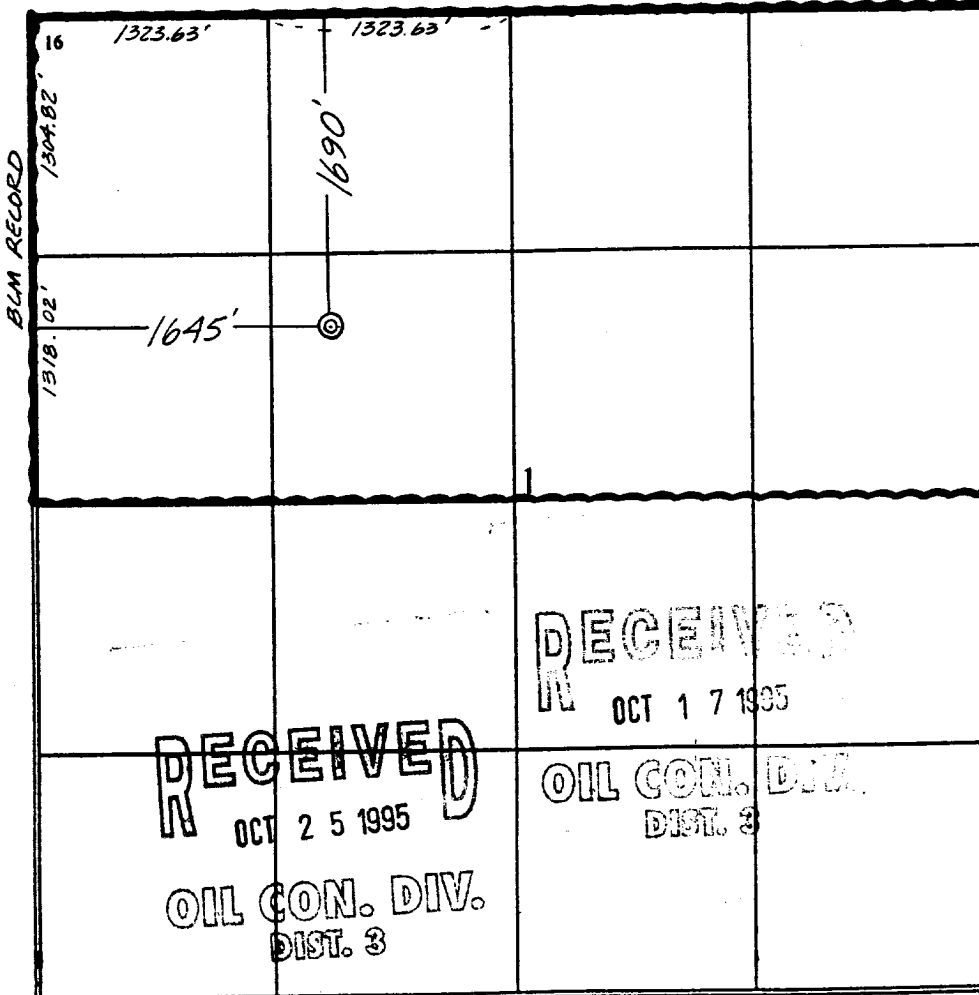
| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| F | 1 | 30 N | 12 W | | 1690 | NORTH | 1645 | WEST | SAN JUAN |

11 Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | |
|--|--------------------|-----------------------|--------------|
| 12 Dedicated Acres <i>N/ 319.20</i> | 13 Joint or Infill | 14 Consolidation Code | 15 Order No. |
|--|--------------------|-----------------------|--------------|

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION
 I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Gail M. Jefferson
 Signature
 Gail M. Jefferson
 Printed Name
 Sr. Admin. Staff Asst.
 Title
 10/16/95
 Date

18 SURVEYOR CERTIFICATION
 I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey July 20, 1995
 Signature and Seal of Professional Surveyor:
 GARY D. VAAN
 NEW MEXICO
 7016
 REGISTERED PROFESSIONAL LAND SURVEYOR

7016
 Certificate Number

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 OCT 25 1995
 OIL CON. DIV.
 DIST. 3

RECEIVED
 OCT 17 1995
 OIL CON. DIV.
 DIST. 3

AMOCO PRODUCTION COMPANY
DRILLING and COMPLETION PROGRAM

Lease/Well#: McPhee Gas Com #1
County: San Juan New Mexico
Former name:

Surface Location: 1690' FNL & 1645' FWL of Section 1, T30N, R12W
Field:

OBJECTIVE: Mesa Verde Gas

| METHOD OF DRILLING | DEPTH OF DRILLING | APPROXIMATE DEPTHS OF GEOLOGICAL MARKER | | |
|------------------------|-------------------|---|--------------|----------------|
| TYPE OF TOOLS | Ground Level - TD | Actual GL-----Estimated KB | 5825 | 5837 |
| Rotary | | Marker | Depth (ft.) | SS Elev. (ft.) |
| LOGGING PROGRAM | DEPTH | Ojo Alamo | 533 | 5,304 |
| TYPE | | Kirtland | 599 | 5,238 |
| | | Fruitland Coal | 1,824 | 4,013 |
| | | PC * | 2,209 | 3,628 |
| | | Lewis Shale | 2,399 | 3,438 |
| | | Cliff House | 3,778 | 2,059 |
| | | Menefee Shale * | 3,998 | 1,839 |
| | | Point Lookout * | 4,538 | 1,299 |
| | | Mancos | 4,938 | 899 |
| | | Gallup | | |
| | | Greenhorn | | |
| | | Graneros | | |
| | | Dakota | | |
| | | TOTAL DEPTH | 4,988 | 849 |

Logging Program Remarks:

No open hole logs required.

* Possible pay
** Probable completion
Ojo Alamo is possible usable water

| SPECIAL TESTS | DEPTH INTERVAL, ETC | DRILL CUTTING SAMPLES | | DRILLING TIME | |
|---------------|---------------------|---------------------------|----------|---------------|-------|
| TYPE | | FREQUENCY | DEPTH | FREQUENCY | DEPTH |
| None | | Geolograph | Int - 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' - 2549' (1) (2) | Water | 8.6 - 9.2 | Sufficient to clean hole | N/C | |
| 2549' - TD (3) | Air/Mist | | | | |

Mud Program Remarks:
1 - The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.
2 - If required to mud up, mud up with a LSND designed for good hole cleaning.
3 - If required to mud up, mud up with a LSND designed for good hole cleaning, API WL between 10-15.

| CASING PROGRAM: | | | | | |
|------------------------|-----------------|-------------|-----------|----------------------------|--|
| Casing String | Estimated Depth | Casing Size | Hole Size | Landing Point, Cement, Etc | |
| Conductor | 120 | 8-5/8" | | | |
| Surface | 2,549 | 5-1/2" | 7.875" | 1, 2 | |
| Production | 4,988 | 2-7/8" | 4.75" | 3 | |

Casing Program Remarks:
1 - Circulate cement to surface.
2 - Set casing a minimum of 150' into the Lewis Shale
3 - Circulate cement a minimum of 300' into the surface casing overlap.

GENERAL REMARKS:
Business Unit Engineering staff to design completion program.

| | | | |
|--|------------------------------|---------------------|----------------------|
| Form 46 Reviewed by: | Logging program reviewed by: | APPROVED: | APPROVED: |
| PREPARED BY: P. Edwards/Logan/Ovitz | | For Production Dept | For Exploration Dept |
| Form 46 7-84bw | Rev. Date: 10/3/95 15:40 | | File: mcphee01.xlw |
| Date: 10/3/95 | | | |

CEMENTING PROGRAM

McPhee Gas Com #1

Well Name: **McPhee Gas Com #1**
 Location: **Sec 01, T30N, R12W**
 County: **San Juan**
 State: **New Mexico**

Field:
 API No.
 Well Flac
 Formation: **Mesa Verde**
 KB Elev. (est.) **5837 ft.**
 GL Elev. (est.) **5825 ft.**

Casing Program:

| Casing String | Est. Depth (ft.) | Hole Size (in.) | Casing Size (in.) | Thread | TOC (ft.) | Stage Tool Or TOL (ft.) | Cmt Circ. Out (bbl.) |
|---------------|------------------|-----------------|-------------------|----------|-----------|-------------------------|----------------------|
| Conductor | 120 | 12.25 | 8.625 | 8R, ST&C | Surface | NA | |
| Surface | 2,549 | 7.88 | 5.500 | 8R, ST&C | Surface | NA | |
| Production | 4,988 | 4.75 | 2.875 | 8R, EUE | 2250 | NA | |

Casing Properties:

(No Safety Factor Included)

| Casing String | Size (in.) | Weight (lb/ft.) | Grade | Burst (psi.) | Collapse (psi.) | Joint St. (1000 lbs.) | Capacity (bbl/ft.) | Drift (in.) |
|---------------|------------|-----------------|-------|--------------|-----------------|-----------------------|--------------------|-------------|
| Conductor | 8.625 | 24 | J-55 | 2950 | 1370 | 244 | 0.0636 | 7.972 |
| Surface | 5.500 | 14 | J-55 | 4270 | 3120 | 172 | 0.0244 | 6.241 |
| Production | 2.875 | 6.5 | N-80 | 10570 | 11160 | 144 | 0.00579 | 2.347 |

Mud Program:

| Apx. Interval (ft.) | Mud Type | Mud Weight (lb/gal) | Recommended Mud Properties Prior Cementing: | |
|---------------------|------------|---------------------|---|-----|
| | | | PV | <20 |
| | | | YP | <10 |
| 0 - SCP | Water/Spud | 8.6-9.2 | Fluid Loss | <15 |
| SCP - TD | Air/Mist | NA | | |

Cementing Program:

| | Conductor | Surface | Production |
|-------------------------------|-----------|--------------------|--------------------|
| Excess %, Bit | 75 | 60 | 30 |
| Excess %, Caliper | NA | NA | 20 |
| BHST (est. deg. F) | 60 | 100 | 140 |
| Pipe Movement | NA | Rotate/Reciprocate | Rotate/Reciprocate |
| Rate, Max. (bpm) | 6 | 6 | 4 |
| Rate, Recommended (bpm) | 6 | 6 | 4 |
| Pressure, Max. (psi) | 200 | 2000 | 2000 |
| Shoe Joint | 40 | 80 | 40 |
| Batch Mix | NA | NA | NA |
| Circulating prior cmtng (hr.) | 0.5 | 1.5 | 1 |
| Time Between Stages, (hr.) | NA | NA | NA |
| Special Instructions | 1,6,7 | 1,6,8 | 2,4,6 |

- 1 Do not wash pumps and lines
- 2 Wash pumps and lines.
- 3 Do not reverse out
- 4 Run Blend Test on Cement
- 5 Record Rate , Pressure, and Density on 3.5" disk
- 6 Confirm densometer with pressurized mud scales
- 7 1" cement to surface if cement is not circulated.
- 8 If cement is not circulated to the surface, run temp. survey 10-12 hr. after landing plug.

Notes:

- *** Displace top plug on the production casing job with 0.2% Clay Fix II or 2% KCl water.
- *** Do not wash up on top of plug. Wash pumps and lines. We want to do rig less completions.

CEMENTING PROGRAM

McPhee Gas Com #1

Conductor:

| | | | |
|-------------------------|---------|--|-------------|
| Preflush | 10 bbl. | Fresh Water | |
| Slurry 1 TOC@Surface | 90 sk | Standard Cement + 2% CaCl ₂ (not mixed) or 1.5 cu. yard Ready Mix | 106 cu. ft. |

| Slurry Properties: | density (lb/gal) | yield (ft ³ /sk) | water (gal/sk) |
|--------------------|---------------------|--------------------------------|-------------------|
| slurry 1 | 15.60 | 1.18 | 5.20 |

Casing Equipment: (Halliburton) 8 5/8", 8R, ST&C
 1 Top Wooden Plug

Surface:

| | | | |
|---------------------------------|--------------------|--|-------------|
| Preflush | 20 bbl. 20 bbl. | Mud Flush Fresh Water + dye marker | |
| Lead Slurry 1 TOC@Surface | | 50/50 Standard Cement/Blended Silicalite + 0.2% gel (total) + 0.5% Versaset + 0.4% Halad-344 + 0.2% CaCl ₂ + 1/4 lb/sk flocele | 577 cu. ft. |
| Tail slurry 2 | 100 sk | Standard Cement + 0.4% Halad-344 + 0.4% CFR-3 + 2.0% Microbond + 5 lb/sk gilsonite + 1/4 lb/sk flocele | 129 cu. ft. |

| Slurry Properties: | density (lb/gal) | yield (ft ³ /sk) | water (gal/sk) |
|--------------------|---------------------|--------------------------------|-------------------|
| slurry 1 | 12.00 | 2.03 | 11.45 |
| slurry 2 | 15.11 | 1.29 | 5.40 |

Casing Equipment: (Halliburton) 5 1/2", 8R, ST&C

- 1 Type Regular Guide Shoe
- 1 Super Seal II Float Collar
- 1 Weld A
- 14 S-4 Centralizer 1 ea. on 1st 12 joints, 1 ea. above and below Ojo Alamo
- 1 Top Rubber Plug

CEMENTING PROGRAM

McPhee Gas Com #1

Production:

| | | | |
|---|---------|--|-------------|
| Preflush | 05 bbl. | Chemical Wash | |
| | 02 bbl. | Fresh Water | |
| Lead Cement Slurry 1 TOC @ 2250 ft. | | 50/50 Std. Cmt/Poz A + 2% gel (total) + 5 lb/sk gilsonite + 0.4% Halad-344 + 1/4 lb/sk flocele | 277 cu. ft. |

| Slurry Properties: | density (lb/gal) | yield (ft ³ /sk) | water (gal/sk) |
|--------------------|---------------------|--------------------------------|-------------------|
| slurry 1 | 13.50 | 1.32 | 5.59 |

Note: The job should be pumped at 4 bpm max rate. Do not exceed 2 bpm on displacement. Slow to 2 bpm for the displacement. Displace with 2% KCl or 0.2% Clay Fix II water. This is to be a rigless completion. Wash pumps and lines before displacing.

Casing Equipment: Halliburton 2 7/8", 8R, EUE, (no need to cut long pin)

- 1 Super Seal II Float Shoe
- 10 S-4 Fluidmaster Centralizer (2 7/8" * 4 3/4")
- 1 Lock Clamp
- 1 Weld A
- 1 Omega Latch Down Plug and Baffle

BOP Test Pressure

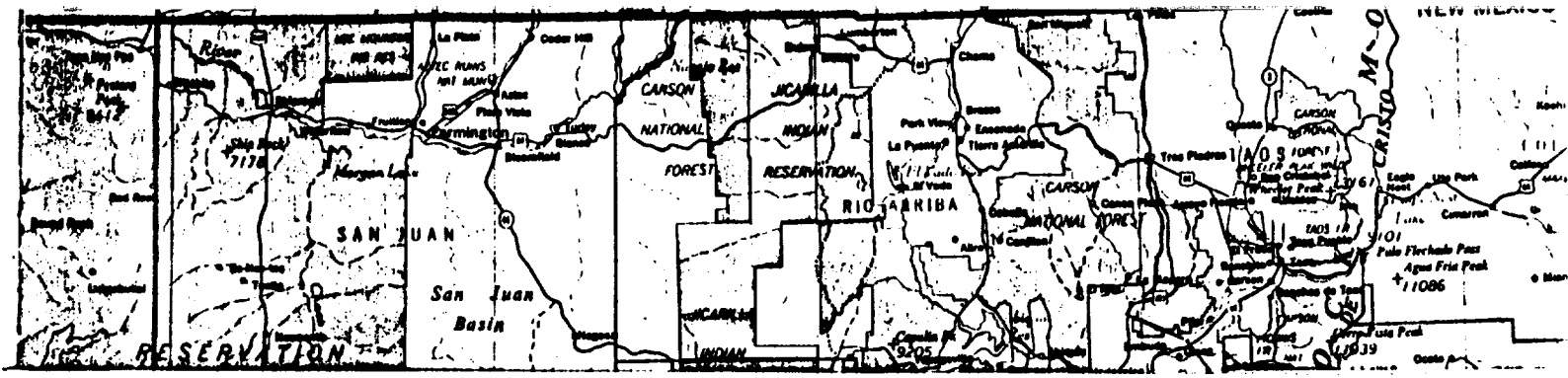
Amoco Production Company
BOP Pressure Testing Requirements

Lease/Well#: McPhee Gas Com #1
 County: San Juan State: New Mexico

| Formation | TVD | Anticipated Bottom Hole Pressure | Maximum Anticipated Surface Pressure ** |
|-----------------|-------|----------------------------------|---|
| Ojo Alamo | 533 | | |
| Kirtland | 599 | | |
| Fruitland Coal | 1,824 | | |
| PC | 2,209 | | |
| Lewis Shale | 2,399 | | |
| Cliff House * | 3,778 | 1200 | 369 |
| Menefee Shale * | 3,998 | | |
| Point Lookout * | 4,538 | 1700 | 702 |
| Mancos | 4,938 | | |
| Gallup | 0 | | |
| Greenhorn | 0 | | |
| Graneros | 0 | | |
| Dakota | 0 | | |

** Note: Determined using the following formula: $ABHP - (.22 * TVD) = ASP$

Requested BOP Pressure Test Exception: 750



McPHEE GAS COM # 1
1690' F/NL 1645' F/WL
SEC. 1, T30N, R12W, N.M.P.M.
RAIL POINT:
MUD POINT:
CEMENT POINT:

