

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

Sundry Notices and Reports on Wells

1. Type of Well  
GAS

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

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

4. Location of Well, Footage, Sec., T, R, M  
930' FNL 1650' FEL, Sec. 36, T-27-N, R-9-W, NMPM, San Juan County

API # (assigned by OCD)  
30-045-06177

5. Lease Number

6. State Oil & Gas Lease #  
E-1199-1-NM  
Lease Name/Unit Name  
Huerfanito Unit

8. Well No.  
78

9. Pool Name or Wildcat  
Blanco MV/Basin DK

10. Elevation:

**RECEIVED**  
FEB 12 1999  
OIL CON. DIV.  
DIST. 3

Type of Submission	Type of Action
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment <input type="checkbox"/> Change of Plans
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion <input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging Back <input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair <input type="checkbox"/> Water Shut off
	<input type="checkbox"/> Altering Casing <input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other -

13. Describe Proposed or Completed Operations

It is intended to commingle the subject well according to the attached procedure and wellbore diagram.

SIGNATURE [Signature] (KLM1) Regulatory Administrator February 10, 1999

TLW

(This space for State Use)

Approved by ORIGINAL SIGNED BY ERNEST BROWN Title DEPUTY OIL & GAS INSPECTOR, DIST. 3 Date FEB 12 1999

*Need DHC*

**Huerfanito Unit No. 78**  
**Blanco Mesa Verde / Basin Dakota**  
**AIN: 3002102 (DK) and 3002101 (MV)**  
**930' FNL & 1650' FEL**  
**Unit B, Sec. 36, T27N, R9W**  
**Latitude / Longitude: 36° 32.1597' / 107° 44.1696'**

**Recommended Commingle Procedure**

**Project Summary:** The Huerfanito Unit No. 78 was drilled in 1964 as a dual Mesa Verde / Dakota well. In 1973 the Dakota plunged from 200 MCFD to 0 MCFD in 1 month. A slickline run found an obstruction which was pushed to the bottom of the tubing. This obstruction could not be fished with slickline. The packer is set deep (80' above the top perf) and a recent packer leakage test indicates no tubing or packer leaks. Thus, a casing failure on the Dakota side is not suspected. Rather, given our experience in the Dakota in this area, we believe the obstruction caused the well to load up and no action was taken to repair the problem. A slickline check in February, 1998, found fluid at 307'. On the Mesa Verde side we see a decline curve which is very indicative of liquid loading. This is not surprising given the high yield from the Mesa Verde (18 BO/MMCF). Both zones should benefit from commingling and the installation of a pumping unit.

1. Comply with all NMOCD, BLM and Burlington safety and environmental regulations. Test rig anchors and build blow pit prior to moving in rig. **Notify BROG Regulatory (Peggy Bradfield 326-9727) and the appropriate Regulatory Agency prior to pumping any cement job. If an unplanned cement job is required, approval is required before the job can be pumped. If verbal approval is obtained, document approval in DIMS/WIMS. Allow as much time as possible prior to pump time in case the Agency decides to witness the cement job.**
2. MOL and RU workover rig. Conduct safety meeting for all personnel on location. NU relief line. Blow down well and kill with 2% KCl water as necessary. ND wellhead and NU BOP. Test and record operation of BOP rams. Have wellhead and valves serviced at machine shop to convert to a single string wellhead (2-3/8"). Test secondary seal and replace/install as necessary.
3. Set a plug with wireline in the 1-1/2" Dakota tubing. Pick up 1-1/4" 2.3# IJ tubing and RIH to the top of the Model D packer with the Mesa Verde string to determine if any fill is present. If fill is present attempt circulate any fill off of the packer (may not be feasible due to the possible existence of a bull plug and perf joint). If unable to circulate off fill then roundtrip the Mesa Verde tubing to check the BHA and circulate fill off of the packer. TOOH laying down the 1-1/4" tubing.
4. Release seal assembly (assume Model G-22, but it could also be a Model E) from the Model D Packer with straight pickup (no rotation required for the Model G-22, but the Model E would require 8-10 turns). If seal assembly will not come free, then cut 1-1/2" tubing above the packer and fish with overshot and jars using 2-3/8" tubing. TOOH with 1-1/2" 2.9# EUE Dakota tubing (set at 6428') laying down. Check tubing for scale build up and notify Operations Engineer.

5. Pick up 2-3/8" 4.7# J-55 tubing and TIH with Model HE packer retrieval spear (PRS, with holes drilled near rotary shoe), rotary shoe, drain sub, top bushing, bumper sub, jars, and 4-6 drill collars on 2-3/8" tubing. Mill out Model D packer at 6388' with air/mist. **Note: when using air/mist, the minimum mist rate is 12 bph. Try to maintain air rate at 1,400 cfm. A hydrocarbon stable foamer should be utilized since this well makes significant amounts of condensate.** After milling over the packer slips, POOH with tools and packer body.
6. TIH with 4-3/4" bit on 2-3/8" tubing and cleanout to PBTD at +/- 6682'. TOOH with tubing.
7. TIH with purge valve, one joint of tubing, 8' perforated sub, S J, and 2-3/8" production tubing. Land tubing approximately 1 joint off bottom. RIH with 8' John son Sand Filter (strainer nipple type with 12 mil slots, 1-8' piece), 2" X 1.25" X 10' X 14' RHAG-Z insert pump, from Energy Pump & Supply, and 3/4" Grade D rods with T-couplings. Use 3/4" pony rods with T-couplings to properly space out pump. Configure wellhead according to the attached diagram. Test pump action and hang on jack. RD and MOL.
8. Production Operations will install C160-173-74 pumping unit with the Pitman Arms in the middle hole and sheaved to run at 5 SPM.

Recommended:

*KL Midkiff* 1/26/99  
Operations Engineer

Approval:

*Bruce W. Boyer* 1-29-99  
Drilling Superintendent

**Contacts:**

Operations Engineer

Kevin Midkiff  
326-9807 (Office)  
564-1653 (Pager)

Production Foreman

Steve Florez  
326-9560 (Office)  
327-8346 (Pager)

LTV Energy Products - DuraTech  
Modified API RP11L Sucker Rod Pump Prediction

Ver. 1.1

Well Name : Huerfanito Unit No. 78 - Design Parameters

English Units                      Metric Equivalent

\*\*\* INPUT VALUES \*\*\*

	Conventional	Conventional
Surface Unit Geometry .....	66	66
API Rod Number .....	6650 ft.	2026.9 m
Fluid Level from Surface .....	6650 ft.	2026.9 m
Pump Depth .....	5.00 SFM	5.00 SPM
Pumping Speed .....	62.0 in.	157.5 cm
Length of Stroke .....	1.2500 in.	31.7500 mm
Pump Plunger Diameter .....	1.000	1.000
Specific Gravity of Fluid .....	2.375 in.	60.32 mm
Tubing is Unanchored - API Size ...	3.0700E-07 in/lb-ft	5.7514E-07 cm/N-m
Tubing Elastic Constant Et .....	1.6340 lb/ft	2.9180 kg/m
Rod Weight in Air (Wr) .....	8.8300E-07 in/lb-ft	1.6542E-06 cm/N-m
Rod Elastic Constant (Ec) .....	1.0000	1.0000
API Frequency Factor .....	0.3346	0.3346
Fo/Skr .....		

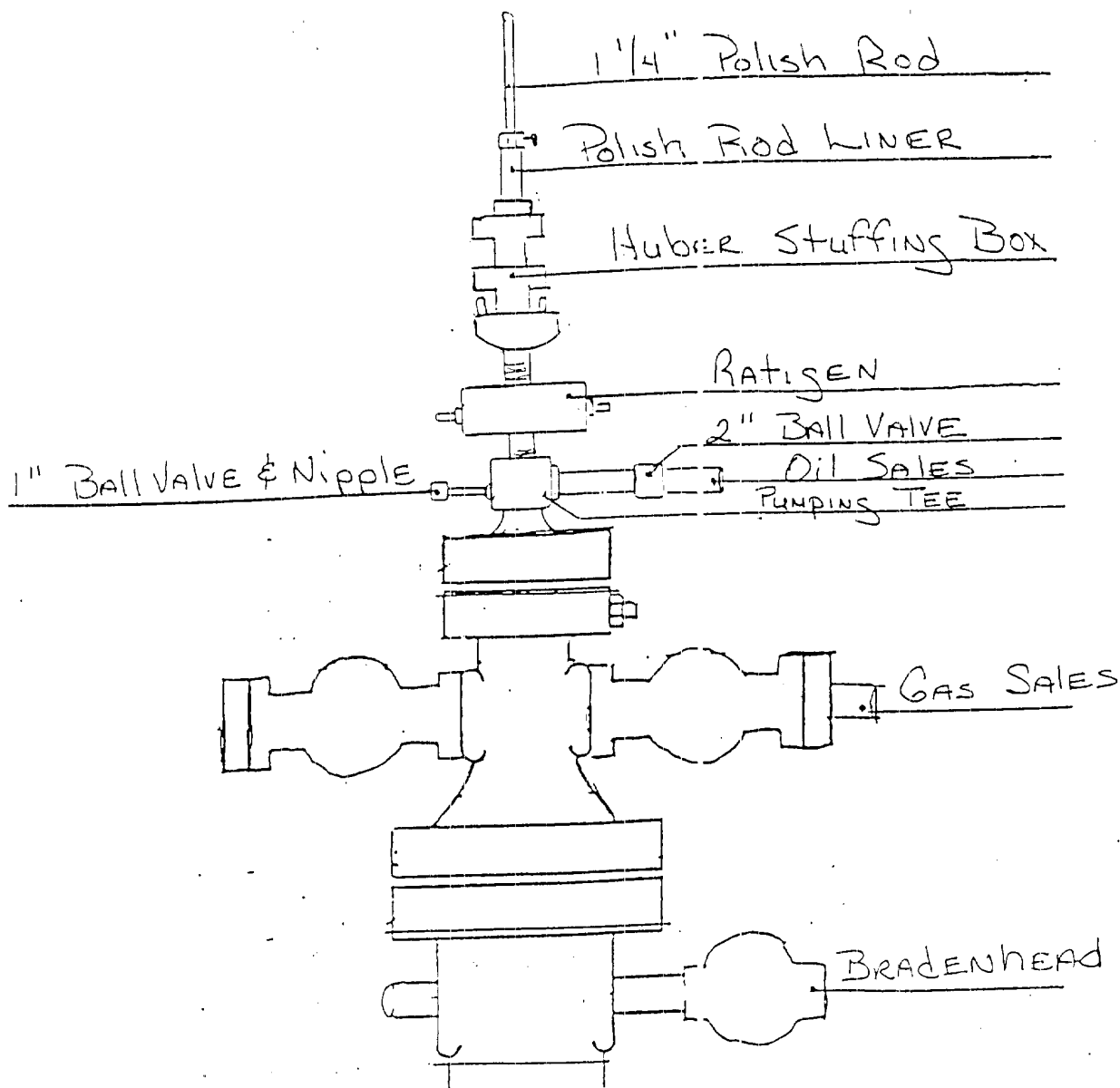
\*\*\* OUTPUT VALUES \*\*\*

Stroke at the Pump .....	36.67 in.	93.15 cm
Production at 100% Efficiency .....	33.4 BFD	5.31 m3/day
Production at 80% Efficiency .....	26.7 BFD	4.25 m3/day
Peak Polished Rod Load (PPRL) .....	13868 lks.	61689 N
Minimum Polished Rod Load (MPRL) ...	8761 lks.	38971 N
Peak Torque (PT) .....	96188 in-lbs.	10868 N-m
Polished Rod Horsepower (HP) .....	2.0 hp	1.5 kw
Counterweight Required (CBE) .....	11916 lks.	53008 N
Maximum Stress (Top Rod) .....	31390 psi.	216436 KPa
Minimum Stress (Top Rod) .....	19830 psi.	136728 KPa

% of Allowable Rod Loading (Top Rod) per API Modified Goodman Diagram:

Service Factor =>	1.0	0.9	0.8	0.7	0.6
LTV Type HS :	30.7	34.2	38.4	43.9	51.2
API Grade D :	57.6	64.0	72.0	82.3	96.0
API Grade C :	83.6	92.9	104.5	119.5	139.4
API Grade K :	91.9	102.2	114.9	131.3	153.2

Rod Design:	Nominal	Percent	Length	Weight in
	Rod Dia.	of String	in Feet	Air in lbs.
Top	3/4"	100.0%	6650.0	10866
Bottom				



100% S.D. 1/2" J-55  
Spud 3/5/64  
Elevation: 6160' (GL)  
6169' (KB)

Workovers:

8/73: Tried to swab DK, would not go below 400'. Ran sinker bar and knocked obstruction to 6400' (had 750' fluid above obstruction)  
4/4/78: Ran sinker bars and knocked obstruction to 6375' (no fluid).  
4/25/78: Jarred on object @ 6400' with no results.  
2/98: Slickline, 1-1/4" blind box to 6418' and fluid level at 3075'.

## Huerfanito Unit No. 78

### CURRENT

Blanco Mesa Verde / Basin Dakota

930' FNL & 1650' FEL

UL-B Section 36, T-27-N, R-9-W, San Juan County, NM

Latitude/Longitude: 36°32.1597'/107°44.1693'

