

(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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-078926

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Gallegos Canyon Unit #287

9. API Well No.

3004523606

10. Field and Pool, or Exploratory Area

Kutz Pictured Cliffs West

11. County or Parish, State

SAN JUAN NEW MEXICO

1. Type of Well

☐ Oil ☒ Gas Well ☐ Other

2. Name of Operator

AMOCO PRODUCTION COMPANY

Attention:

Gail M. Jefferson

3. Address and Telephone No.

P.O. BOX 800 DENVER, COLORADO 80201

(303) 830-6157

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1000' FSL

1720' FEL

Sec. 35 T 29N R 13W

UNIT O

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

TYPE OF SUBMISSION

TYPE OF ACTION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Refrac

- ☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ 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 refrac the above referenced well per the attached procedures.

If you have any technical questions please contact Wayne Peterson at (303) 830-4332 or Gail Jefferson for any administrative concerns.

RECEIVED
JUN 1 1998
OIL CON. DIV.
DIST. 6

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

Signed

Gail M. Jefferson

Title

Sr. Admin. Staff Asst.

Date

05-15-1998

(This space for Federal or State office use)

Approved by

/S/ Duane W. Spencer

Title

MAY 27 1998

Conditions of approval, if any:

Date

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.

* See Instructions on Reverse Side

NMOCD

1. Check anchors. MIRUSU. Blow down wellhead, kill if necessary.
2. TOH with tbg and frac per attached schedule.
3. CO to PBTD 1783 X set pump intake below bottom of perfs.

ENGINEERING CHART

SUBJECT

GCM #287

11/79

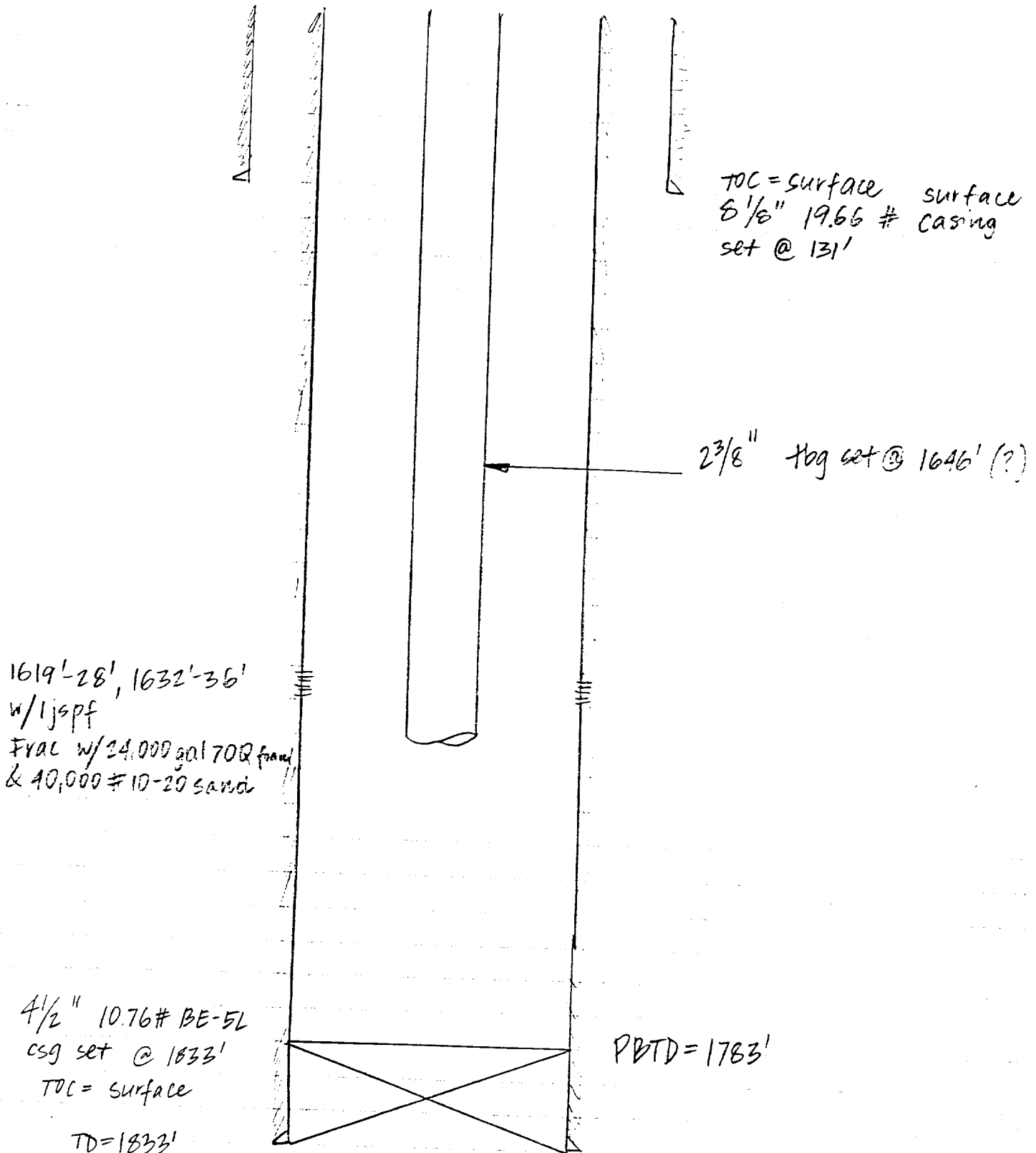
Wellbore diagram

File

Appn

Date

By



Well Name: **G C U #287**
 Location: Sec 35, T29N, R13W
 County: San Juan
 State: New Mexico

KB elev.
 API No. 30-045-23606
 Well Flac
 Formation: Pictured Cliff

Perforated @
 and fraced in 1996
 w/ 20/40 sand

from	to		
1594	1606	12	FT
1619	1636	17	
total interval		29	ft

RATE
 30 (bpm)

4 1/2" 10.5 LB/ft Casing
 Frac down the casing

Perfed w/ 3 1/8" TCP, 2SPF,
 12.5 gm charges, 13.13" TTP, 0.34 EHD

NOTE: Maintain N2 rates as per schedule; the well has been producing for several years and may have lower observed treating pressure due to lowered pore pressure.

Step Treatment Schedule

TAG NUM.	STAGE TYPE	STAGE VOLUME (gallons)	PROP CONC. (lb/gal)	PROP TYPE	FLUID TYPE	QUALITY IPF (%)	SAND TOTAL (lbs)	SUM SAND (lbs)	STAGE TIME (min)	SUM TIME (min)
1	PAD	6,000	0.00	NA	Foam	0.75	0	0	3.57	3.57
2	SLF	1,200	2.00	16/30	Foam	0.70	2400	2400	1.04	4.61
3	SLF	3,600	3.00	16/30	Foam	0.70	10800	13200	3.25	7.86
4	SLF	3,000	4.00	16/30	Foam	0.70	12000	25200	2.82	10.67
5	Flush	868	0.00	NA	Foam	0.55	0	25200	0.69	11.36

Blender and Pumping Schedule

TAG NUM.	STAGE TYPE	VOLUME FLUID (gallons)	FLUID SUM (gallons)	PROP CONC (lb/gal)	DENSITY (lb/gal)	SLURRY VOLUME (gallons)	SUM SLURRY (gallons)	DIM. FACT	SLURRY RATE (bpm)	N2 RATE (scf/min)
1	PAD	1500	1500	0.00	8.33	1500	1500	1.00	7.50	9025
2	SLF	393	1893	6.11	11.29	502	2002	1.28	11.51	7419
3	SLF	1228	3121	8.80	12.22	1720	3723	1.40	12.61	7006
4	SLF	1064	4185	11.28	12.95	1611	5334	1.51	13.63	6613
5	Flush	391	4575	0.00	8.33	391	5725	1.00	13.60	6613
		3075								

Totals:

Foam	13,800	gallons
Water (less tank bottoms)	6,000	gallons
Tanks (500 bbl)	1	tanks
Proppant, 16/30 Arizona Sand	25,200	pounds
Nitrogen (less cool down)	110	MSCF

Special Instructions:

- 1 Frac down: 4 1/2 " 10.5 lb/ft Casing
- 2 Optimal frac rate is: 30 bpm
- 3 Anticipated WHTP: 1,200 psi.
- 4 Pressure on the annulus is: 100 psi.
- 5 Monitor and record annular pressure during frac job. NA
- 6 Maximum pressure on the casing is: 2500 psi.
- 7 Maximum pressure on the tubing is: NA psi.
- 8 Set pressure relief valve for the frac at: NA psi.
- 9 Set pressure kick-outs on fluid and N2 pumps at: 2000 psi.
- 10 Displace with: 868 gals.N2 Volume
- 11 Displace frac to 1300 ft. (200' above zone.)
- 12 **Use breaker as required for a 1 hour break at 100 F
- 13 Flow well back immediately on 1/4" choke.
- 14 Please provide Denver with the following # of fracture stimulation reports:
un-bound 3 ea
- 15 Fluid composition per 1000 gallons base fluid:

LGC-8	6.00 gallons	(guar liquid gel concentrate)
HC-2	10.00 gallons	(foamer/surfactant)
BE-6	0.19 pounds	(bactericide)
Clay Fix II	1.00 gallons	(clay control)
Sand Wedge	0.15 gals per 100 lbs of sand	(proppant flow back control)
Optiflo HTE	as req. pounds	(breaker)
GBW-30	as req. pounds	(enzyme breaker)
- 17 Perform ALL quality control checks.
- 18 Water trucks and tanks should be clean prior to filling.
- 19 Bactericide should be added to the tanks prior to filling.
- 20 Water used should be city water or water filtered to 5 micron absolute.
- 21 Record strap, pH, temp, and appearance for each tank. Amoco rep to get this data prior to pumping.
- 22 The following pre and post job inventories should be included in the frac report:

Fluid	Proppant
Gas	Chemicals

Sand sieve acceptable limits:

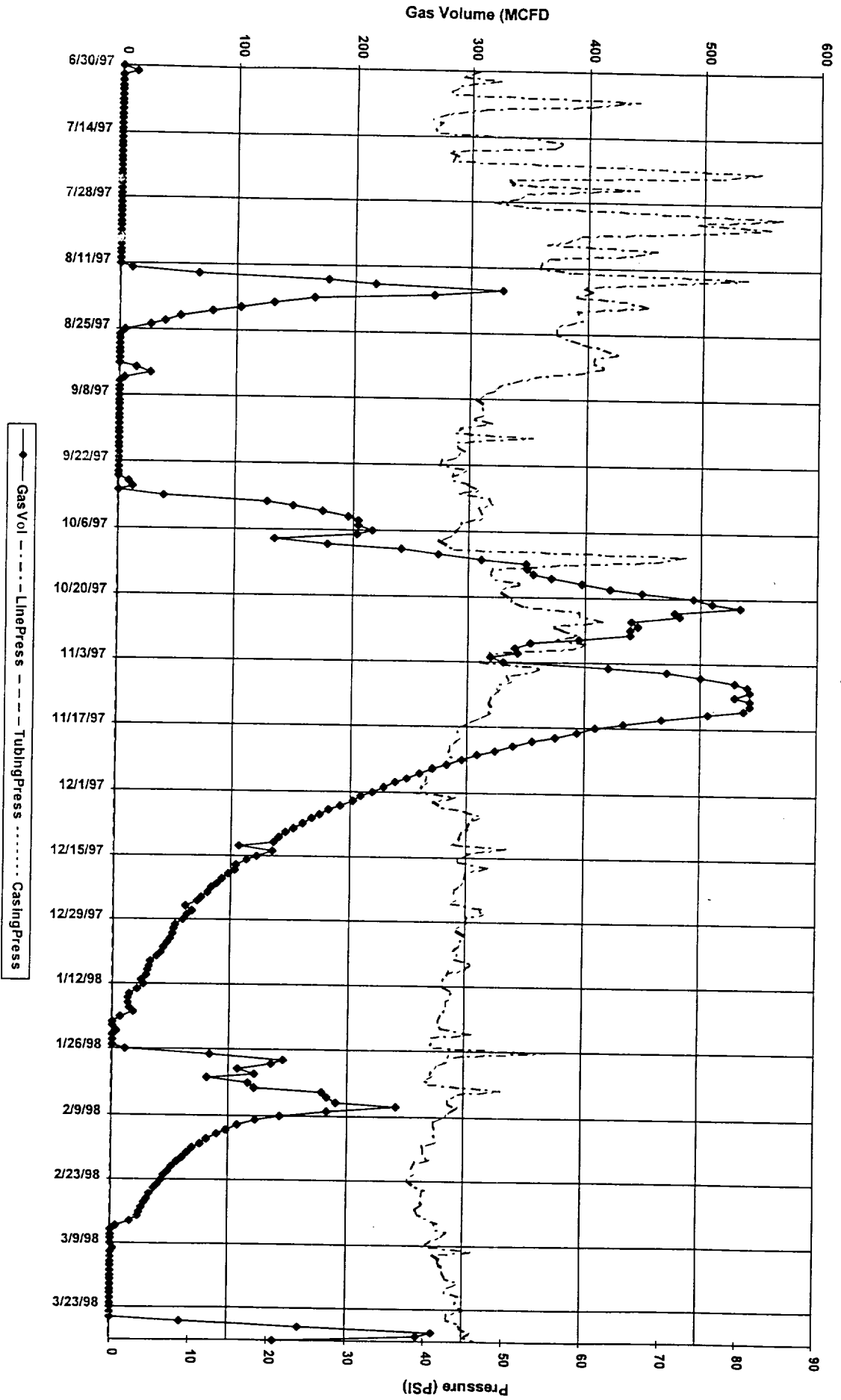
	40/70	20/40	16/30	12/20	SAND
<0.1% REMAIN	30	16	12	8	MESH
> 90% REMAIN	70	40	30	20	MESH
<1.0% GO THRU	100	50	40	30	MESH

Wellname: GCU 287-PC

Flacwell: 88658601 API: 300452360600

Amoco - OI/DB/Synergy Data

Daily Well Production



StimWinH v3.1.2 Foam Schedule v1.0.3
Halliburton Energy Services' Foam Schedule
28-Apr-98 16:08

Amoco, GCU #287 Down 4 1/2" Casing
Pictured Cliffs, 2149a1.xls Stimulation of PC Zone

Treating Schedule

Stage Number	IPF		Prop Conc lb/gal	lb Proppant		Proppant Type
	gal Foam	at Perfs		Stage	Cumulative	
1	6000.	.75	0.00	0.	0.	----
2	1200.	.70	2.00	2400.	2400.	16/30 Brady sand
3	3600.	.70	3.00	10800.	13200.	16/30 Arizona sand
4	3000.	.70	4.00	12000.	25200.	16/30 Arizona sand
5A	833. gal of foam displacement (internal-phase fraction = .70)					
or 5B-C	9.8 mscf of nitrogen displacement					

Liquid and Proppant Pumping Schedule

Stage	Pumping Time min:sec	Liquid Volume gal	Proppant Conc. lb/gal liq	Liquid + Prop Vol gal	Rate Out bpm	N2 Volume mscf	N2 Rate scfm	Surface Vol Tot gal	WHTP psi
1	4:46	1500.	.00	1500.	7.50	43.0	9025.	5688.	1118.
2	1:02	393.	6.11	501.	11.49	7.7	7419.	1301.	1049.
3	3:15	1227.	8.80	1716.	12.59	22.7	7006.	4113.	1032.
4	2:49	1063.	11.29	1607.	13.60	18.6	6613.	3598.	1015.
Total	11:52	4182.		5324.		92.0		14700.	
5A	0:46	387.	.00	387.	13.60	6.4	6613.	833.	
or 5B	1:29	nitrogen displacement at 6613. scf/min							

Injection down. Casing
Flow rate in wellbore 30.00 bpm
Total volume of foam less flush . . . 13800. gal
Final bottom-hole wellbore fluid temp 72. °F
Liquid density. 8.35 lb/gal
Bottom-hole treating pressure in frac 1060. psi
Instantaneous shut-in pressure - N2 . 1003. psi
Instantaneous shut-in pressure - foam 798. psi
Maximum friction loss in wellbore . . 438. psi
Number of perforations. 54
Perforation diameter.34 in.
Perforation discharge coefficient90
Average perforation friction. 32. psi
N2 for treatment and gas flush. . . . 101.8 mscf--plus cool-down
N2 for treatment and foam flush . . . 98.5 mscf--plus cool-down

Length (ft)	Tubing ID (in)	Tubing OD (in)	Casing ID (in)	Casing OD (in)
1600.			4.000	4.500