

DISTRICT I

P.O. Box 1980, Hobbs, NM

DISTRICT II

P.O. Drawer DD, Artesia, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM

OIL CONSERVATION DIVISION

P.O. Box 2088

Santa Fe, New Mexico 87504-2088

WELL API NO.	3004529228
5. Indicate Type of Lease STATE ☐ FEE ☒	
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name Roberts	
8. Well No.	1
9. Pool name or Wildcat West Kutz Pictured Cliffs Ext.	
10. Elevation (Show whether DF, RKB, RT, GR, etc.)	5356' GR

SUNDY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A
DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:
OIL WELL ☐ GAS WELL ☒ OTHER

2. Name of Operator
AMOCO PRODUCTION COMPANY Attention Gail M. Jefferson

P.O. Box 800 Denver Colorado 80201 (303) 830-6157

4. Well Location
Unit Letter A : 1130 Feet From The NORTH Line and 810 Feet From The EAST Line
Section 14 Township 29N Rang 13W NMPM SAN JUAN County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
5356' GR

11. Check Appropriate Box to Indicate Nature of Notice Report or Other Data	
NOTICE OF INTENTION TO:	SUBSEQUENT REPORT OF:
PERFORM REMEDIAL WORK ☐	REMEDIAL WORK ☐
PLUG AND ABANDON ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	COMMENCE DRILLING OPNS. ☐
CHANGE PLANS ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	CASING TEST AND CEMENT JOB ☐
OTHER: Fracture Stimulate ☒	OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed)

Amoco Production Company requests permission to fracture stimulate this well per the attached procedures. Amoco received verbal approval for this procedure April 22, 1998 from Ernie Busch of the NMOCD.

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

RECEIVED
APR 24 1998
OIL CON. DIV.
DIST. 3

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

SIGNATURE Gail M. Jefferson TITLE Sr. Admin. Staff Asst. DATE 04-22-1998
TYPE OR PRINT NAME Gail M. Jefferson TELEPHONE NO. (303) 830-6157

(This space for State

APPROVED BY ORIGINAL SIGNED BY ERNIE BUSCH TITLE DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE MAY 1 1998
CONDITIONS OF APPROVAL, IF ANY:

Roberts # 1

Sec. 14 T 29 R 13

Completed 1/96

PBTD=

Perfs - 1228-38, 1250-55, 1262-71

1. Test anchors.
2. MIRUSU. Blow down well. NDWH.
3. Lower tubing, tag and CO to PBTD. TOH.
4. Fracture PC according to attached procedure.
5. Land 2 3/8" tubing. Clean out / swab if necessary.
6. ND BOP's. NU and test wellhead. RDMOSU.

Frac Schedule - A

Well Name: **Roberts #1**
 Location: **NE, Sec 14, T29N, R13W**
 County: **San Juan**
 State: **New Mexico**

KB elev. **5364**
 API No. **30-045-29228**
 Well Flac **715635**
 Formation: **Pictured Cliff**

Perforated @
 and Perf- Stim
 treated with N2

from	to		
1228	1238	10	
1250	1255	5	FT
1262	1271	9	
total interval		24	ft

RATE

35 (bpm)

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

Perf w/ 3 1/8" TCP, 4SPF, 90 Phasing,
 36 gm charges, 19"TTP, 0.34 EHD

NOTE: Maintain N2 rates as per schedule; the well has been producing for 2 years
 and may have lower observed treating pressure due to lowered pore pressure.

Step Treatment Schedule

TAG	STAGE	STAGE	PROP	PROP	FLUID	QUALITY	SAND	SUM	STAGE	SUM
NUM.	TYPE	VOLUME	CONC.	TYPE	TYPE	IPF	TOTAL	SAND	TIME	TIME
		(gallons)	(lb/gal)			(%)	(lbs)	(lbs)	(min)	(min)
1	PAD	9,001	0.00	NA	Foam	0.75	0	0	5.36	5.36
2	SLF	3,500	1.00	16/30	Foam	0.70	3500	3500	2.49	7.85
3	SLF	4,286	1.75	16/30	Foam	0.70	7500	11000	3.15	11.00
4	SLF	4,000	2.50	16/30	Foam	0.70	10000	21000	3.03	14.03
5	SLF	4,000	3.00	16/30	Foam	0.70	12000	33000	3.09	17.12
6	SLF	3,286	3.50	16/30	Foam	0.70	11500	44500	2.59	19.71
7	SLF	2,000	4.00	16/30	Foam	0.70	8000	52500	1.61	21.32
8	Flush	900	0.00	NA	Foam	0.70	0	0	0.61	21.93

Blender and Pumping Schedule

TAG	STAGE	VOLUME	FLUID	PROP	DENSITY	SLURRY	SUM	DIM.	SLURRY	N2 RATE
NUM.	TYPE	FLUID	SUM	CONC		VOLUME	SLURRY	FACT	RATE	
		(gallons)	(gallons)	(lb/gal)	(lb/gal)	(gallons)	(gallons)		(bpm)	(scf/min)
1	PAD	2250	2250	0.00	8.33	2250	2250	1.00	8.75	9073
2	SLF	1098	3348	3.19	10.06	1257	3508	1.15	12.03	8753
3	SLF	1388	4736	5.40	11.02	1730	5238	1.25	13.09	7829
4	SLF	1337	6073	7.48	11.79	1793	7031	1.34	14.08	7473
5	SLF	1364	7437	8.80	12.22	1911	8942	1.40	14.71	7248
6	SLF	1143	8580	10.06	12.61	1667	10610	1.46	15.32	7032
7	SLF	709	9290	11.28	12.95	1074	11684	1.51	15.90	6824
8	Flush	270	9560	0.00	8.33	270	11954	1.00	10.50	6824
		7310								

Totals:

Foam	30,072	gallons
Water (less tank bottoms)	12,000	gallons
Tanks (500 bbl)	1	tanks
Proppant, 16/30 Arizona Sand	52,500	pounds
Nitrogen (less cool down)	700	MSCF

Frac Schedule - A

acz

Special Instructions:

- 1 Frac down: 4 1/2 " 10.5 lb/ft Casing
- 2 Optimal frac rate is: 35 bpm
- 3 Anticipated WHTP: 1,200 psi.
- 4 Pressure on the annulus is: 100 psi.
- 5 Monitor and record annular pressure during frac job. Y
- 6 **Maximum pressure on the casing is:** 3000 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: 2500 psi.
- 10 Displace with: 900 gals.N2 Volume
- 11 Displace frac to 1300 ft. (100' 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	7.00 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

Ramp Pump Schedule

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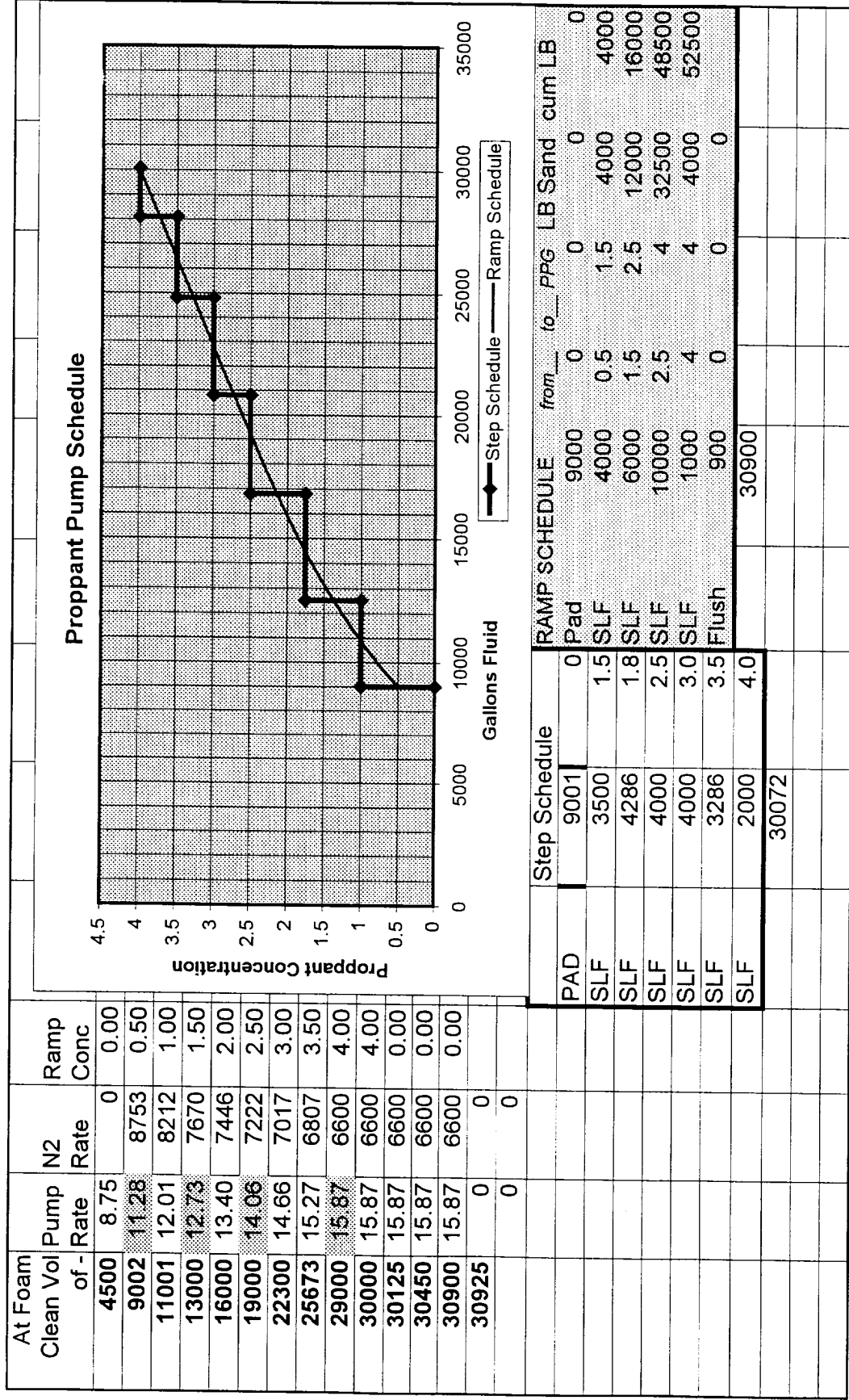
Ramp Treatment Schedule

STAGE NUM.	STAGE TYPE	STAGE VOLUME (gallons)	PROP FROM (lb/gal)	CONC. TO (lb/gal)	PROP TYPE	FLUID TYPE	QUALITY IPF (%)	SAND TOTAL (lbs)	SUM SAND (lbs)	STAGE TIME (min)	SUM TIME (min)
1	Pad	9,000	0.00	0.00	NA	Foam	0.75	0	0	6.12	6.12
2	SLF	4,000	0.50	1.50	16/30	Foam	0.70	4000	4000	2.78	8.91
3	SLF	6,000	1.50	2.50	16/30	Foam	0.70	12000	16000	4.36	13.27
4	SLF	10,000	2.50	4.00	16/30	Foam	0.70	32500	48500	7.58	20.84
5	SLF	1,000	4.00	4.00	16/30	Foam	0.70	4000	52500	0.80	21.65
6	Flush	900	0.00	0.00	NA	Foam	0.50	0	0	0.54	22.18

Blender and Pumping Schedule

STAGE NUM.	STAGE TYPE	VOLUME FLUID (gallons)	FLUID SUM (gallons)	PROP FROM (lb/gal)	CONC TO (lb/gal)	DENSITY (lb/gal)	SLURRY VOLUME (gallons)	SUM SLURRY (gallons)	AVG. DIM. FACT	STAGE AVG SLRY RATE (bpm)	N2 RATE START (scf/min)	N2 RATE FINISH (scf/min)
1	Pad	2250	2250	0.00	0.00	8.33	2250	2250	1.00	8.75	9039	0
2	SLF	1255	3505	1.63	4.68	10.72	1435	3685	1.14	12.01	8753	7670
3	SLF	1964	5469	4.68	7.49	11.79	2509	6194	1.28	13.41	7670	7222
4	SLF	3445	8913	7.49	11.29	12.95	4920	11114	1.43	15.00	7222	6600
5	SLF	355	9268	11.29	11.29	12.95	537	11651	1.51	15.91	6600	6600
	Flush	450	9718	0.00	0.00	8.33	450	12101	1.00	17.50	6600	6600
	Totals:	9718										
	Foam											
	Water (less tank bottoms)						30,900		gallons			
	Tanks (500 bbl)						14,000		gallons			
	Proppant, 16/30 Arizona Sand						1		tanks			
	Nitrogen (less cool down)						52,500		pounds			
							200		MSCF			

Proppant Schedule

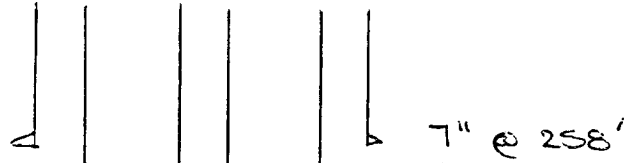


SUBJECT _____

ROBERTS #1

SEC 14 29N-13W

PICTURED CLIFFS



2 3/8" @ 1188'

PERFS:

1228-38'

56-55'

62-71'

4 1/2" @ 1517'
 TD @ 1545'