

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

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SANTA FE	
FILE	
U.S.C.S.	
LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease State ☐ Fee ☒
5. State Oil & Gas Lease No.
7. Unit Agreement Name
8. Farm or Lease Name Gerk Gas Com "D"
9. Well No. 1
10. Field and Pool, or Wildcat Aztec Pictured Cliffs
12. County San Juan

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. OIL WELL ☐ GAS WELL ☒ OTHER ☐
2. Name of Operator Amoco Production Company
3. Address of Operator 501 Airport Drive, Farmington, NM 87401
4. Location of Well UNIT LETTER C 700 FEET FROM THE North LINE AND 920 FEET FROM THE West LINE, SECTION 30 TOWNSHIP 29N RANGE 9W NMPM.
15. Elevation (Show whether DF, RT, GR, etc.) 5588' GR

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data
NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☒	PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☐
PULL OR ALTER CASING ☐	OTHER ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐	ALTERING CASING ☐
COMMENCE DRILLING OPS. ☐	PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☐	OTHER ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Amoco Production Company requests approval to repair the subject well according to the attached procedure.

RECEIVED
FEB 01 1985
OIL CON. DIV.
DIST. 3

I hereby certify that the information above is true and complete to the best of my knowledge and belief.		
Original Signed By B. D. Shaw	TITLE Administrative Supervisor	DATE 1/29/85
Original Signed By FRANK T. CHAVEZ	TITLE SUPERVISOR DISTRICT #3	DATE FEB 01 1985
CONDITIONS OF APPROVAL, IF ANY:		

FARMINGTON DISTRICT WORKOVER

DATE: 1/17/85

OPERATIONS TO BE PERFORMED: (CIRCLE ONE) RECOMPLETION REPAIR SERVICE
 LEASE AND WELL GERK Gas Com. D No. 1 FIELD Aztec Pictured Cliffs
 FORMATION Pictured Cliffs LOGS GAMMA Ray-Neutron
 LOCATION 700' FNL x 920' FNL, Section 30, T29N, R9W, San Juan Co, NM
 COMP. DATE 9/21/70 EL: 5601' KB TO: 2080' PBD: 2023'
 CSG: 8 7/8" 24 # K-55 @ 212' : 4 1/2" 9.5 # K-55 @ 2059'
 COMP. INT. 1963-73, 1983-88 x 2.5 ft ORIG. STIM. SWHFX/6800 gal 4.0 x 3000' 10-20
 IP 1384 MCF/D CURRENT PROD. INT. SAFE SAUD
 PURPOSE: repair casing leak and Form Frac

WJH TKA

GOM
DHS

MCH
RGH
BVD
GMK

5/PERMITTING DESK

DW
ENGR

FILE

WELLBORE SKETCH

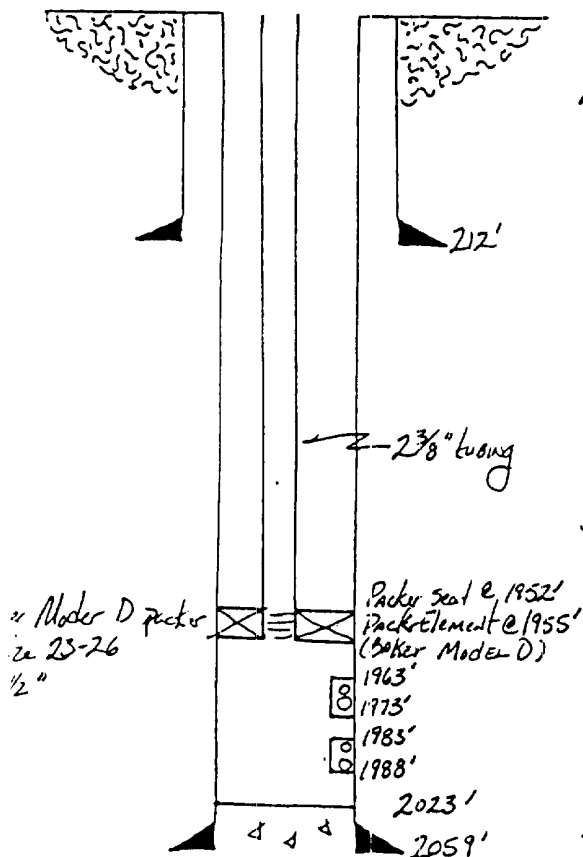
PROCEDURE

1. MI x RUSU. ND WELLHEAD (See Note 1), NU BOP

2. TO x tubing x Sealbore assembly. TI x Model D packer plug, Baker Fullbore Packer x 2 3/8" tubing. Set Model D packer plug in w Model D packer. TO 1 joint, set fullbore packer and pressure test to 1500 psi. Dump a mixture of sand and barite on top of Model D packer and plug - enough to ADEQUATELY COVER RETRIEVING HEAD

3. After sand has settled on top of packer AND plug, start searching for casing leak with fullbore packer. I expect the leak to be across the CVO Alamo at approximately 700'. It might be lower at the 800-1200' interval.

4. After leak has been located, set fullbore packer 200' above leak (this will give you 3.25 barrels of volume above leak in the 4 1/2 inch casing). Fullhead 50 sx Class B cement containing 10% 2 1/2" CaCl₂ and 5.2' gallons of water /sx yield is 1.24 cu ft /sx for a total of 62 cu ft or 11.04 bbls into casing leak.



DISTRICT MANAGER

W. J. H. H. H.

DISTRICT ENGINEER

Jim C. C. C.

DISTRICT FOREMAN

John C. C.

ENGINEER

David W. Schott

DATE

1/18/85

ENCODE

Pump ^{top of} anoxic cement to 100' above leak (1.5 bbls)
 So that top of cement is midway between bottom of packer and top
 of leak. Keep pressure up on cement and hold pressure for
 60 minutes. Thickening time of this slurry at 80°
 is 1:15.

5. WOC overbite. Pull out cement x bit x casing
 SCRAPER x pressure test casing to 1500 Psi.
 TO x bit x scraper. TI x tubing and retrieving
 head. Circ sand off packer plug and retrieve same.
 TO x packer plug. TIX tubing and land at
 1750' open ended.

6. Refrac Pictured Cliffs down tubing and annulus
 with 45,000 gallons 70 quality foam and
 70,000 lb 10-20 mesh beach sand. Use
 2% filtered KCl water containing 20 lb/1000 gal
 gel. Pump water, sand and 10% of N₂ down
 annulus and remaining N₂ down tubing. Pump as
 follows (See Note 2):

Foam Volume (GAL/BBL)	Water Volume (GAL/BBL)	Slurry Volume (GAL/BBL)	Stage	Conc. (PPG) (Foam/Slurry)
5000/119	1500/36	1500/36	1	PAO
5000/119	1500/36	1614/38	2	.5/1.7
5000/119	1500/36	1728/41	3	1.0/3.33
5000/119	1500/36	1841/44	4	1.5/5.0
15000/357	4500/107	5865/140	5	2.0/6.7
10000/238	3000/71	4138/99	6	2.5/8.33
			7	Flare

7. Shut-in well a minimum of 24 hours. May want to shut-down the entire day after the frac

8. Clean out to top of Model D packer x Nitrogen, string into Sumex seal assembly and swab well in to kick off. After well has cleared up, mix 2 bbls inhibitor and .5 bbls oxygen scavenger with 21 bbls water. This is our packer fluid, Dump packer fluid down backside. KEEP ANY WATER OFF FORMATION AFTER FRAC.

7. Put well on 7-day flow test with 50 psi backpressure on tubing. Record results on daily morning report. Put well back into salesline.

Notes:

1. There is 9000 lb. compression on the tubing when it was last landed in the Model D packer.

2. Expected treating pressures are 1200 psi on backside and 2500 psi down tubing. Expected bottom hole treating pressure is 1800 psi. N_2 injection rate is 12,700 scf/min and 1411 scf/bbl liquids. Have about .5 million scf N_2 on location. Squeeze will have been tested to 1500 psi. Absolute Maximum pressure, ^{rating} on casing should be 1750 psi. Maximum rating on tubing is 6000 psi.

3. If we cannot get into the formation below tubular limits set down above. String into packer x seal assembly and frac down ^{24/11} tubing with same frac pump schedule shown in step 6 only add 5000 gals. to pad volume and pump at

15 BPM. Expected treating pressures down tubing are 3600-3700 psi.

4. Total Pump rate for triple entry job is 30 BPM
(21 BPM N_2 pump rate $\times$ 9 BPM liquid pump rate).
Total pump rate if it is necessary to go down tubing
is 15 BPM (10.5 BPM N_2 $\times$ 4.5 BPM water)

Thanks

Dave

QUALITY CONTROL:

1. Please Check

a. Sieve Analysis

b. Steam Clean all frac tanks

c. FILTER ALL WATER to 1 micron before it goes into well

d. Use brady seal

2. Record load recovered and load yet to be recovered

Amoco Production Company
WELL REPAIR AUTHORIZATION AND REPORT

LEASE/UNIT NAME AND WEL. NUMBER GERK GAS COM D No. 1				HORIZON NAME PICTURED CLIFFS		ORIGINAL BLANK CORRECTION 6 ☐ DELETION 9 ☐ FLAC (WELL) NO. ☐	
FIELD AZTEC PICTURED CLIFFS		COUNTY SAN JUAN		STATE N.M.		HORIZON CODE ☐	
OPERATOR AMOCO		DISTRICT FARMINGTON		ELEVATION 5401'		CONTROL DATE MO. DAY YR. ☐	
LAST PRODUCING WELL ON LEASE ☒ YES ☐ NO		T. D. 2080'		P. B. T. D. 2023		LOCATION 700' FNL x 920' FNL, Sec 30, 29N 9W Co, NM	
Amoco WORKING INTEREST ☐ 427		OTHER WORKING INTERESTS SOUTHLAND ROYALTY (.513)					
Amoco NET INTEREST ☐ 374		TOTAL REPAIR HORIZONS ☒		STATUS AFTER REPAIR PRODUCING ☒ INJECTION ☐		PRODUCTION INCREASE EXPECTED YES ☐ NO ☐	

TYPE JOB SELECT ONE MAJOR (1) AND MAXIMUM THREE MINOR (2)

CONVERT TO INJECTION ☐	CONVERT TO PROD. ☐	DEEPEN ☐
WATER FRAC ☐ 2	OIL FRAC ☐	ACID FRAC ☐
ACIDIZE ☐	REPAIR CASING ☐	WHIPSTOCK ☐
PLUG BACK ☐	PERFORATE ☐	CEMENT SQUEEZE ☐ 1
WASHING SAND ☐	SAND CONTROL ☐	OTHER ☐
SET LINER OR SCREEN ☐	PULL LINER OR SCREEN ☐	

TREATING VOLUME - GAL. **45,000** AREA REPAIR CODE ☐

REPAIR DESCRIPTION MAXIMUM 25 SPACES
SQUEEZE CASING LEAK x Refrac

GROSS PRODUCTION	BEFORE	ANTICIPATED	UNIT PRICE
OIL --- BOPD	☐	☐	\$ / BBL ☐
WATER --- BOPD	☐	☐	
GAS --- MCFD	0	1	\$ / MCF 4.80
OTHER --- /DAY	☐	100	\$ / UNIT ☐

EXPECTED PAYOUT MONTHS ☐

GROSS INJECTION
WATER ☐ GAS ☐ LPG ☐ AIR ☐ STEAM ☐ OTHER ☐

RATE --- BPD OR MCFD ☐ BEFORE ANTICIPATED ☐
PRESSURE --- PSIG ☐

ESTIMATED COST

INTANGIBLES	
RIG COST	\$ 18,000
EQUIPMENT RENTAL	
CIRCULATING MEDIA	1,000
CEMENT AND SERVICE	5,000
PACKERS AND EQUIPMENT	5,000
PERFORATE, LOG, WIRELINE	
STIMULATION	60,000
LABOR	3,000
SPECIAL EQUIPMENT	
FISHING	
OTHER INTANGIBLES	18,400
TOTAL INTANGIBLES	\$
TANGIBLES	
CSG., TBG., HEAD, ETC.	\$
TOTAL GROSS COST	\$ 170,400
Amoco WORKING INTEREST COST	\$ 47,140

REASON FOR WORK

THIS WELL DEVELOPED A CASING LEAK IN 1982. IN September 1984, A RIG WAS MOVED ON THE WELL TO DETERMINE IF THE WELL WOULD PRODUCE TO ATMOSPHERE UNDER A PACKER, THIS TEST SHOWED EXTENSIVE DAMAGE CAUSED BY THE LEAK AND THE WELL WILL NOT FLOW. SINCE HE HAS REC. ONLY .3 BCF AND TOTAL RESERVE ARE .79 BCF, THIS WELL WILL HAVE ITS CASING REPAIRED AND BE REFRACED x N₂ FOAM

REPAIR RESULT DATE REPAIR COMPLETED	SUCCESS ☐ FAILURE ☐ MO. DAY YR.	RECOMMENDED <i>[Signature]</i> <i>[Signature]</i>	DATE 1/18/85 1/25/85
GROSS PRODUCTION DURING PAYOUT		AUTHORIZED <i>[Signature]</i>	MO. DAY YR. 01/25/85
OIL --- BOPD ☐	GAS --- MCFD ☐		
WATER --- BOPD ☐	OTHER --- /DAY ☐		
GROSS INJECTION			
RATE --- BPD OR MCFD ☐	PRESSURE --- PSIG ☐		
ESTIMATED FINAL GROSS COST	\$ ☐		