



STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DIVISION
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

The New Mexico
DRUG FALL
It's a State of Mind

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6170

Date: 12/17/93

Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504-2088

RE: Proposed MC _____
Proposed NSL _____
Proposed WFX _____
Proposed NSP _____

Proposed DHC X _____
Proposed SWD _____
Proposed PMX _____
Proposed DD _____

Gentlemen:

I have examined the application received on 11/15/93

for the Amore OPERATOR Jimmie B #5E LEASE & WELL NO.

E-21-26N-SW and my recommendations are as follows:
UL-S-T-R

Amore

Yours truly,

31.8



Amoco Production Company

Southern Rockies Business Unit
Amoco Building
1670 Broadway
Post Office Box 800
Denver, Colorado 80201
303-830-4040

November 4, 1993

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Post Office Box 2088
Santa Fe, New Mexico 87504

File: CAW-296-986.511

Application for Exception to Rule 303-A
Downhole Commingling
Jicarilla B-5E Well
1850' FNL, 870' FWL, Sec. 21, T26N-R5W
Basin Dakota and Tapacito Gallup Pools
Rio Arriba County, New Mexico

RECEIVED
NOV 5 1993
OIL CON. DIV. I
DIST. 3

Amoco Production Company hereby requests administrative approval to downhole commingle production from the Basin Dakota and Tapacito Gallup pools in the Jicarilla B-5E well referenced above. The ownership (WI, RI, ORRI) of these two pools is identical in this wellbore. Production methods are limited due to the 4 1/2" casing in the well. Downhole commingling will offer an economical method of production while protecting against reservoir damage, waste of reserve and violation of correlative rights.

A copy of this application will be sent to the offset operators. If there are any questions concerning this matter, please contact me at (303) 830-5072.

Sincerely,


J. W. Hawkins

Enclosures

cc: Wayne Branam
Lara Kwartin

Frank Chavez, Supervisor
Amoco District III
1000 Rio Brazas Road
Aztec, NW 87410

Robert Kent
Bureau of Land Management
435 Montano NE
Albuquerque, NM 87107

Marathon Oil Company
P. O. Box 552
Midland, TX 79702

Application for Exception to Rule 303-SEGREGATION OF PRODUCTION FROM POOLS

D. REQUIREMENTS

(1) Name and address of the operator:

Amoco Production Company
P. O. Box 800
Denver, CO 80201

(2) Lease name, well number, well location, name of the pools to be commingled:

Lease Name: Jicarilla/B/
Well Number: 5E
Well Location: 1850' FNL & 870' FWL
Sec. 21, T26N-R5W
Rio Arriba County, New Mexico
Pools Commingled: Tapacito, Gallup
Basin Dakota

(3) A plat of the area showing the acreage dedicated to the well and the ownership of all offsetting leases.

Attached (Attachment I)

(4) A current (within 30 days) 24-hour productivity test on Division Form C-116 showing the amount of oil, gas and water produced from each zone.

Attached (Attachment II)

(5) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be permitted.)

Dakota Completion: Historical production curve attached, well was shutin from 1987-1992.

(Attachment III)

Gallup Completion: New completion, no production history available, completion report attached.

(Attachment IV)

(6) Estimated bottomhole pressure for each artificially lifted zone. A current (within 30 days) measured bottom hole pressure for each zone capable of flowing.

Dakota Completion:	BH Press.	SI Tub. Press.	Fluid Level
Jicarilla B-5E	3560 psi	1090 psi	193
Gallup Completion:	BH Press.	SI Tub. Press.	Fluid Level
Jicarilla A-5	1827 psi	445 psi	3749

This well is immediate offset to the Jicarilla B-5E and has been shut-in for about 2 years. This is best estimate of SI BH Press. for the Gallup formation in this area.

- (7) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the wellbore.

The fluids have no abnormal components that would prohibit commingling, or promote the creation of emulsions or scale (see attached produced gas and fluid analysis).

- (8) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

<u>Dakota Production</u>		<u>Gallup Production</u>	
Oil, BOPD	5	Oil, BOPD	20
Gas, MCFD	80	Gas, MCFD	638
Water, BWPD	6	Water, BWPD	14

The combined production from the Gallup-Dakota formations will be approximately 718 MCFD/25 BOPD/20 BWPD. Since the BTU content and API gravities of the produced fluids are very similar, we would expect the commingled production to have the same value as the sum of the individual streams.

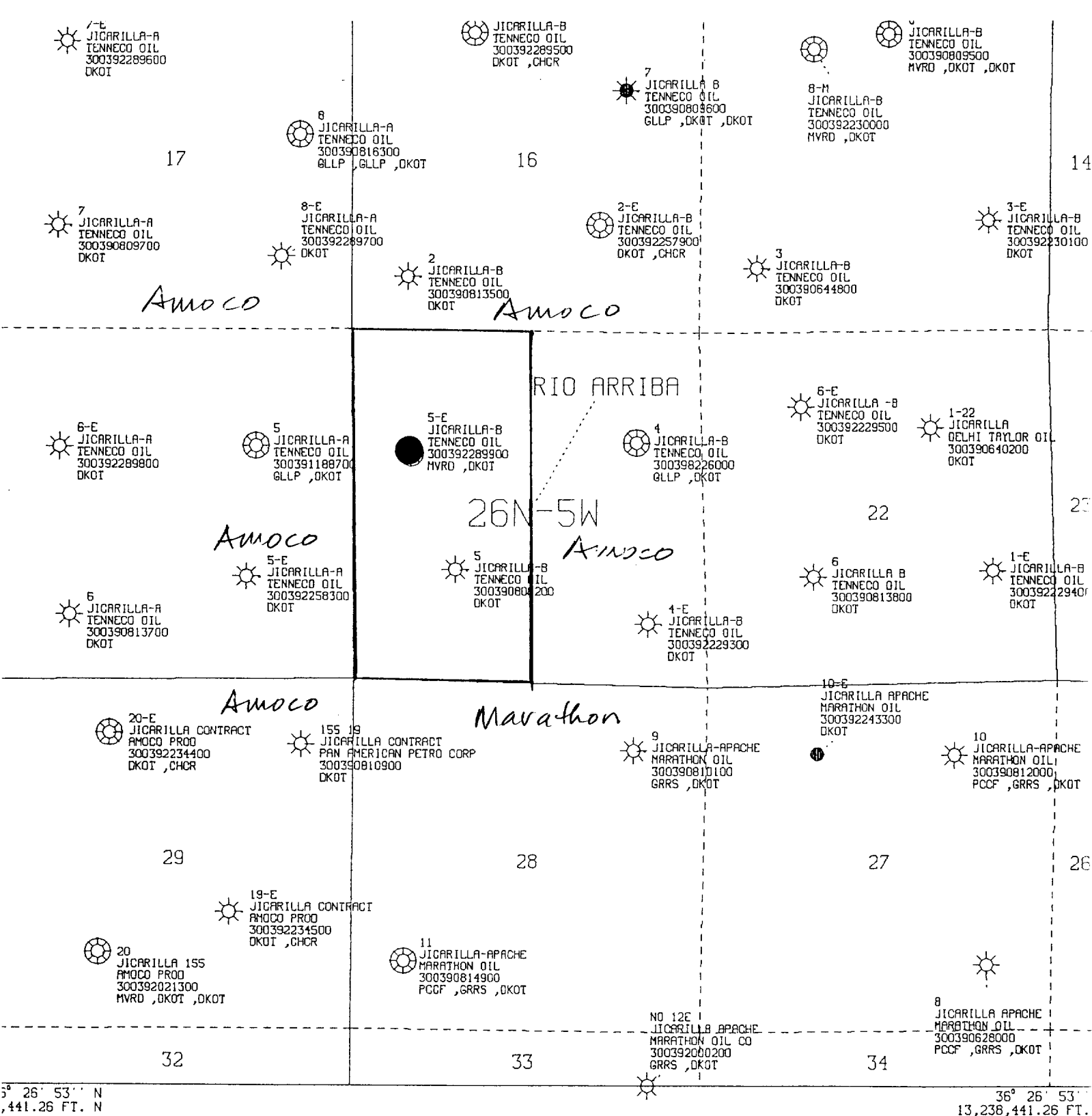
- (9) A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula:

Based on C-116 report:

	<u>Dakota</u>	<u>Gallup</u>
Gas -	$80/718 = 11\%$	$638/718 = 89\%$
Oil -	$5/25 = 20\%$	$20/25 = 80\%$

- (10) A statement that all offset operators and, in the case of a well on federal land, the United States Bureau of Land Management, have been notified in writing of the proposed commingling.

All offsetting operators will receive a copy of this application by certified mail. The offsetting operator is: Marathon Oil Co., P. O. Box 552, Midland, TX 79702.



Geological and geophysical data, including the interpretation of, appearing on this map is the private and confidential property of Amoco Production Company. The publication or reproduction thereof without the written permission of said Company is strictly prohibited.

AMOCO PRODUCTION COMPANY
PLAT MAP

AREA SURROUNDING JICARILLA BSE

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

GAS - OIL RATIO TEST

Operator Amoco Production Company		Pool Basin Dakota Tapacito Gallup		County Rio Arriba											
Address P. O. Box 800, Denver, CO 80201		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐ Special ☒											
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU FT / BBL.		
		U	S	T						R	WATER BBL'S.	GRAV. OIL		OIL BBL'S.	GAS MCF.
Jicarilla / B/															
Dakota	5E	E	21	26N	5W	6-25-93	P 1/2"	250		24 hrs.	6	50.5	5	80	16,000
Gallup						8-2-93	P none- (245# back pressure)	255		24hrs.	14.4	58	20.4	638	31,275

Instructions:

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Division.
Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F.
Specific gravity base will be 0.60.
Report casing pressure in lieu of tubing pressure for any well producing through casing.

(See Rule 301, Rule 1116 & appropriate pool rules.)

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

Kelly Stearns

Signature

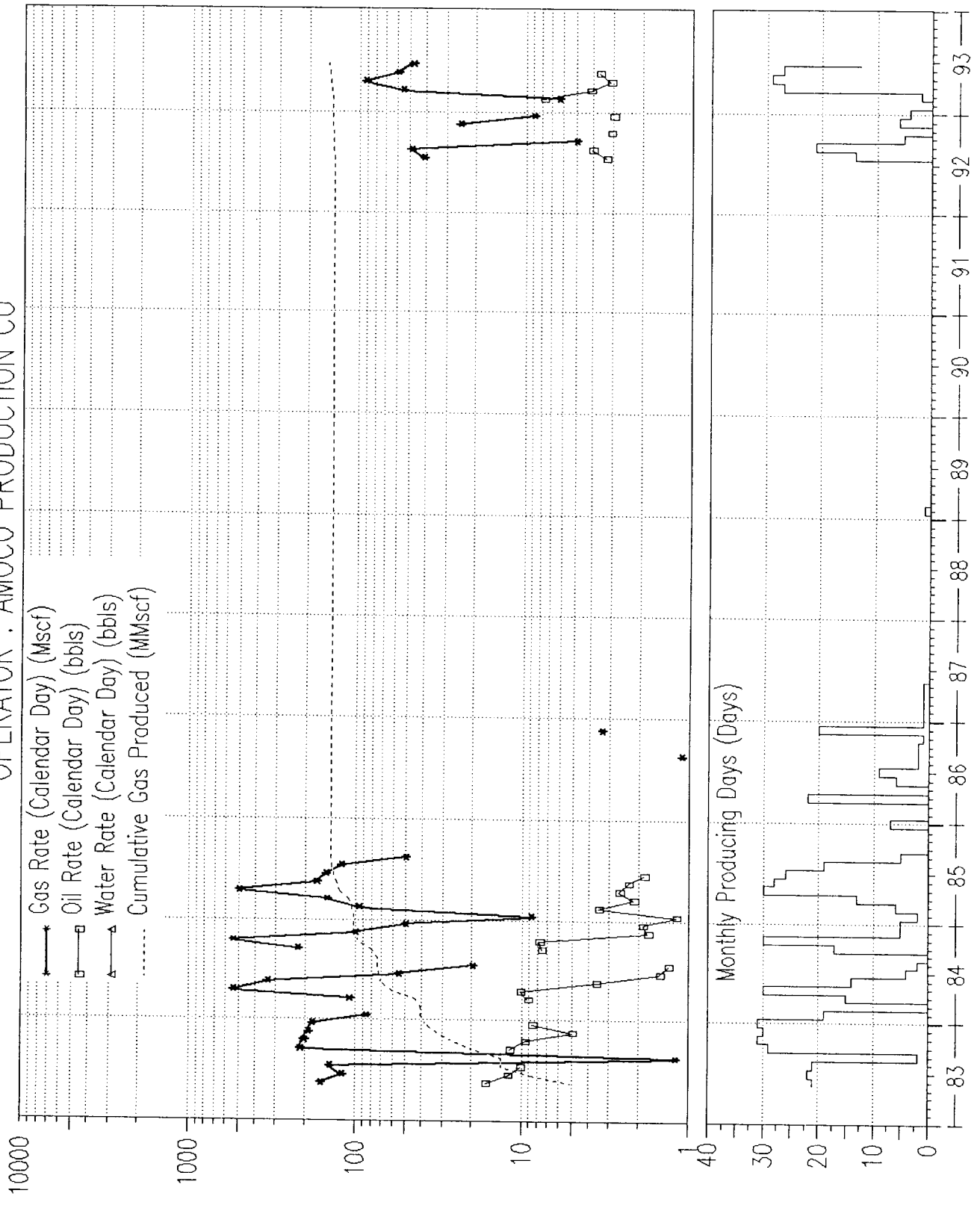
Kelly Stearns, Business Analyst

Printed name and title

8-5-93 (303) 830-4457

Date

Telephone No.



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

(See other instructions on reverse side)

FOR APPROVED
OMB NO. 1004-0137
Expires: December 31, 1991

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER ☐		5. LEASE DESIGNATION AND SERIAL NO. JICARILLA CONTRACT 109	
b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DUFF. RESER. ☒ OTHER ☐ Recompletion		6. IF INDIAN, ALLOTTEE OR TRIBE NAME JICARILLA APACHE	
2. NAME OF OPERATOR Amoco Production Company		7. UNIT AGREEMENT NAME	
3. ADDRESS AND TELEPHONE NO. P.O. Box 800, Denver, Colorado 80201 (303) 830-4457		8. FARM OR LEASE NAME, WELL NO. JICARILLA /B/ #5E	
4. LOCATION OF WELL. (Report location clearly and in accordance with any State requirements)* At surface 1850' FNL 870' FWL At top prod. interval reported below At total depth		9. API WELL NO. 3003922899	
11. PERMIT NO.		12. COUNTY OR PARISH RIO ARriba	
DATE ISSUED		13. STATE NM	
15. DATE SPUDDED 06/21/82	16. DATE T.D. REACHED 07/06/82	17. DATE COMPL. (Ready to prod.) 08/03/83	18. ELEVATIONS (DE, RKD, RT, GR, ETC.)* 6590' KB
19. ELEV. CASING HEAD 6578' GR		20. TOTAL DEPTH, MD & TVD 7500' KB	
21. PLUG BACK T.D. MD & TVD 7456' KB		22. IF MULTIPLE COMPL. HOW MANY* 1	
23. INTERVALS DRILLED BY YES		24. PRODUCING INTERVAL(S), OF THIS COMPLETION - TOP, BOTTOM, NAME (MD AND TVD)* 6682'-6728' Gallup	
25. WAS DIRECTIONAL SURVEY MADE NO		26. TYPE ELECTRIC AND OTHER LOGS RUN	
27. WAS WELL CORED N			

28. CASING RECORD (Report all strings set in well)					
CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
9 5/8"	36#	295' KB	12 1/4"	240 CF CL-B + 2% CaCl ₂ + 1/4# / ex flocc	
4 1/2"	11.5, 10.5#	7499' KB	8 3/4", 7 7/8"	1st: 822 CF econolite, 177 CF CL-B	
				2nd: 204 CF econolite, 118 CF CL-B	
				3rd: 622 econolite, 118 CF CL-B	
Lower DV @ 1018' KB, Upper DV @ 2583' KB					
29. LINER RECORD					
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	
30. TUBING RECORD					
SIZE	DEPTH SET (MD)	PACKER SET (MD)			
2 3/8"	not yet set	RBP @ 7082'			
w/on commingling approval					
31. PERFORATION RECORD (Interval, size and number) See Attached.			32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.		
DEPTH INTERVAL (MD)			AMOUNT AND KIND OF MATERIAL USED		
6682' - 6728'			See Attached.		

33. PRODUCTION							
DATE FIRST PRODUCTION 08 02 1993		PRODUCTION METHOD (Flowing, gas lift, pumping - size and type of pump) Flowing				WELL STATUS (Producing or shut-in) SI w/on Pipeline	
DATE OF TEST 08 02 1993	HOURS TESTED 24	CHOKE SIZE 24 1/2" back pressure	PROD'N FOR TEST PERIOD OIL - BBL 20.4	GAS - MCF 638	WATER - BBL 14.4	GAS-OIL RATIO	
FLOW TUBING PRESS 255	CASING PRESSURE 380	CALCULATED 24-HOUR RATE	OIL - BBL 20.4	GAS - MCF 638	WATER - BBL 14.4	OIL GRAVITY - API (CORR.) 58	
34. DISPOSITION OF GAS (Solid, used for fuel, vented, etc.) To Be Sold					TEST WITNESSED BY		

35. LIST OF ATTACHMENTS Note: RBP will be removed and tubing landed once downhole commingling is approved.		
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records		
SIGNED <u>Kelly Stearns</u>	TITLE <u>Business Analyst</u>	DATE <u>08-04-1993</u>

*(See Instructions and Spaces for Additional Data on Reverse Side)

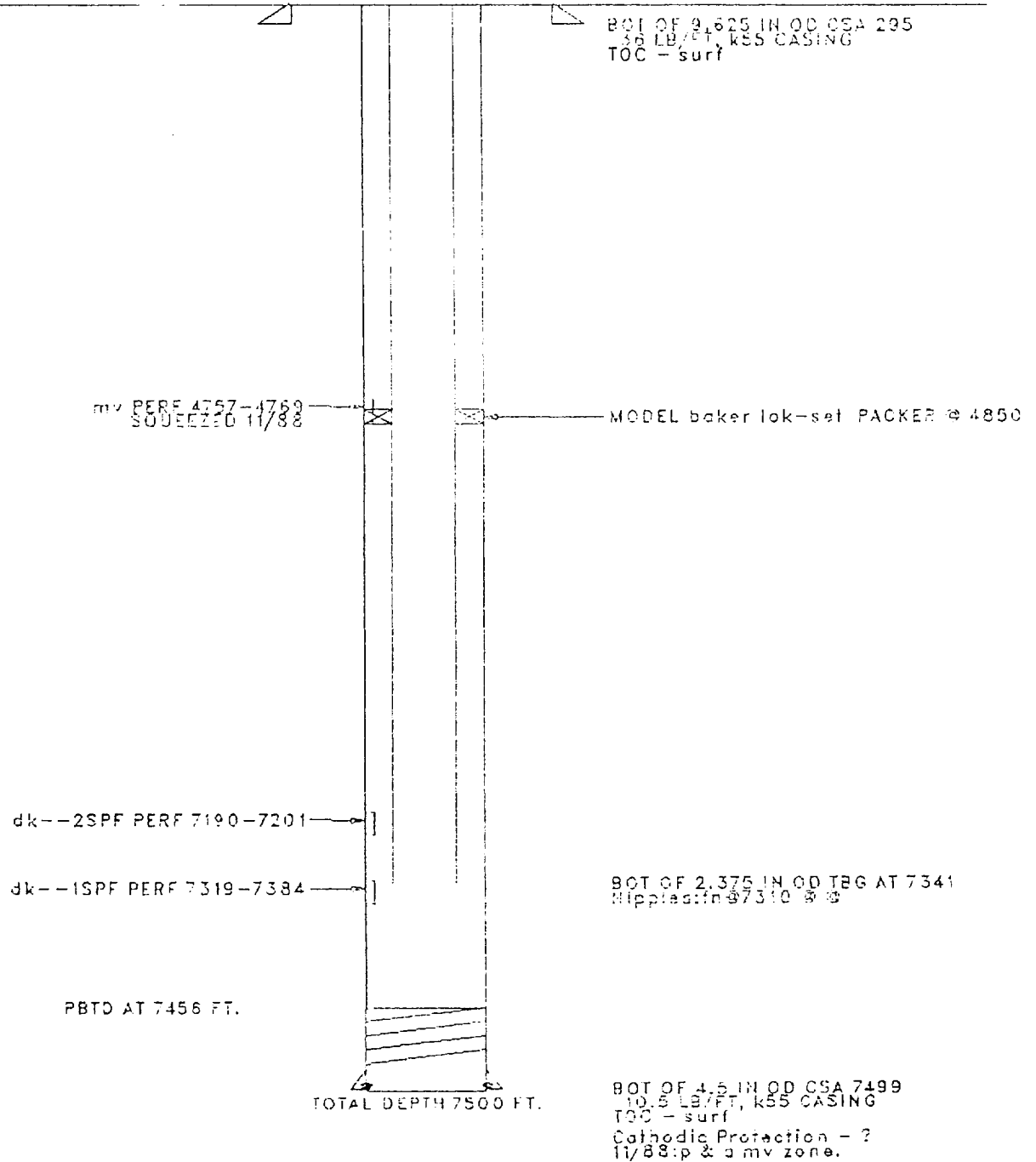
MIRUSU 6/30/93. NDWH,NUBOP. TIH TAG FILL AT 7377' KB, 76' OF FILL TO PBTD. TOH. TIH W/RBP AND PKR TO 5000'. SET RBP AT 7082 AND TEST, HELD. TOH W/40 STDS, SET PKR AT 4865'. TST INTERVAL FROM 4865' TO 7082' AT 4200 PSI, HELD. TOH TO 4740' SET PKR. TST CSG TO SURFACE, DID NOT TST. TOH TO 4680', SET PKR, TST CSG TO SURFACE. LOCATED CSG LEAK BETWEEN 2200' AND 2850'. TOH W/TBG AND PKR. RIG UP.

TIH PERF 6682' TO 6728' W/4 JSPF .38 INCH DIAMETER. RIG DN. TIH W/PKR TO 4880'. TST TBG TO 7500 PSI, HELD. TIH RET STD VALVE. TOH. SET PKR AT 4879'. TEST ALL LINES, HELD.

FRAC 6682' TO 6728' PUMP 95,000 GALLONS NITROGEN FOAM AND 192,000 POUNDS 20/40 SAND. AIP 5300PSI, AIR 35 BARRELS PER MINUTE.

REL PKR. PICKUP 2ND RBP AND PKR. TIH SET RBP AT 4859'. TOH 3 STDS SET PKR. TST MV SQZ TO 1000 PSI, HELD. TOH 38 STDS, TST CSG 1000 PSI HAVE A SLIGHT BLEEDOFF. TIH REL RBP. TOH RESET RBP AT 3152'. TOH SET PKR AT 2224'. LOAD CSG TST 2224' TO SURFACE TO 1000 PSI, HELD. TST DN TBG 3152' TO 2224'. LOCATE 2 SMALL LEAKS 2467' TO 2224'. RBP SET AT 3152'. DUMP SAND ON RBP. TOH W/PKR, TIH TBG TO 2567'. PMP 50 BBLS WATER TO CIRC HOLE CLEAN. MIX AND PUMP 8.4 BBLS CLS B CMT ACROSS LEAK INTERVAL TO 2224'. DISP CMT W/7 BBLS. TOH. SQUEEZE LEAKS AT 2000 PSI W/2.5 BBLS CMT. STAGE SQUEEZES TILL LEAKS MAINTAIN SQUEEZE PRESS AT 2000 PSI. TIH W/BIT. TAG CMT AT 2109'. DRL CMT TO 2609'.PRESS TST SQZ TO 1000 PSI, HELD. TOH. TIH W/RET, CIRC SAN OFF RBP AT 2906 '. REL PLG. TOH TO 6726' LAND TBG. NDBOP, NUWH. RDMOSU 07/21/93.

JICARILLA B 005E 154
Location - 21E-26N-5W
SINGLE dk
Orig. Completion - 8/82
Last File Update - 1/89 by JSF





1115 FARMINGTON AVE. - FARMINGTON, NM 87401

(505) 325-6622

ANALYSIS NO. AMO30289

WELL/LEASE INFORMATION

COMPANY: AMOCO PRODUCTION COMPANY PRESSURE: 245 PSIG
 WELL NAME: JICARILLA B #5E SAMPLE TEMP.: DEG. F
 LOCATION: DATE SAMPLED: 8/2/93
 FORMATION: GALLUP SAMPLE SRC:
 COUNTY: RIO ARRIBA, NM SAMPLED BY: CLEVE J NOBLE JR
 STATION NO.: TEST E-153 PROD FOREMAN: JAKE NUNEZ
 REMARKS:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP. GR.*
NITROGEN	3.234	0.0000	0.00	0.0313
CO2	0.737	0.0000	0.00	0.0112
METHANE	72.253	0.0000	731.41	0.4002
ETHANE	13.929	3.7175	247.07	0.1446
PROPANE	6.230	1.7130	157.11	0.0949
I-BUTANE	0.858	0.2799	27.96	0.0172
N-BUTANE	1.637	0.5150	53.53	0.0329
I-PENTANE	0.465	0.1698	18.65	0.0116
N-PENTANE	0.349	0.1263	14.04	0.0087
HEXANE	0.308	0.1341	15.84	0.0099
TOTAL	100.000	6.6556	1265.61	0.7625

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

** @ 14.696 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0038
 BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1267.5
 BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1245.4
 REAL SPECIFIC GRAVITY 0.7649

ANALYSIS RUN AT 14.696 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 236 PSIG

CYLINDER NO.: GAS-AZT040

DATE RUN: 8/4/93

ANALYSIS RUN BY: CHELLE DURBIN

Post-it[®] brand fax transmittal memo 7571 # of pages 2

To <u>Laura Kwartin</u>	From <u>John Baker</u>
Co. <u>Amoco</u>	Co. <u>Halliburton</u>
Dept.	Phone #
Fax #	Fax #

**SERVICES
LABORATORY
REA
ANALYSIS**

To: Mr. Jake Nunez
AMOCO PRODUCTION

Date: August 4, 1993

Submitted by: _____ Date Rec. 8-3-1993

Well No. Jicarilla B #5F Location: _____

Sample Markings Gallup Formation

API Oil Gravity	<u>58 at 60°F</u>		
Specific Gravity	<u>1.006</u>		
pH	<u>6.25</u>		
Resistivity	<u>0.684 at 80.7°F</u>		
Iron (Fe)	<u>16</u>		
Potassium (K)			Milligrams per Liter
Sodium (Na)	<u>3,006</u>	"	"
Calcium (Ca)	<u>350</u>	"	"
Magnesium (Mg)	<u>71</u>	"	"
Chlorides (Cl)	<u>3,850</u>	"	"
Sulfates (SO ₄)	<u>3,000</u>	"	"
Carbonates (CO ₃)		"	"
Bicarbonates (HCO ₃)	<u>468</u>	"	"
Total Dissolved Solids	<u>10,761</u>	"	"

By Mike Ulrich

Title Lab Tech

Location Farlington, NM

NOTICE:

This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or its use.

M.U.

HALLIBURTON DISTRICT LABORATORY WATER ANALYSIS DATA SHEET

Analysis Date: 8-6-93

Report No. _____

AMOCO

Requested By _____ Date Received _____

Number JICARILLA B #5E

Location _____ Formation DAKOTA

Data For Report

Specific Gravity 1.005

pH 7.72

Ion	Calculation	ppm
Fe Log		6
K %T		<10
Na %T		3042
Ca		117
Mg		7
Cl		1656
SO4 Log		3400
CO3		
HCO3		1317
TDS		9545

Rw .95 @ 80.5°F

Notes

Report is based on sound engineering practices, but because of variable well conditions and other information which must be relied upon, Halliburton makes no warranty, express or implied, as to the accuracy of the data or of any calculations or opinions expressed herein. You agree that Halliburton be liable for any loss or damage whether due to negligence or otherwise arising out of or in connection with such data, calculations or opinions.

SENT BY: NWP SLC/FAX 8010045483 8-8-88 10:08AM
T50M630
QUALITY DATA SCREEN
14.73 0 60 F

NWP-SALT LAKE-808

P.2/2
P.1: # 1/ 1
SCREEN NBR: _

TRAN CODE: I

METER NBR:

METER NAME:

SEG CREATE DATE:

SEG EFFECT DATE:

DATE PULLED:

85786 - 01 P

JICARILLA B #5E COMG

070293

063093

062393

SEG EFFECT TIME: 1800

CHECK DIGIT: _

MOL %

GPM

MOL %

GPM

CH4 METHANE: 82 . 824

11.783

C2 ETHANE : 10 . 792

2.885

C3 PROPANE: 03 . 303

.964

IC4 ISO BUT : 00 . 429

.140

NC4 BUTANE : 00 . 681

.215

IC5 ISO PEN : 00 . 158

.061

NC5 PENTANE: 00 . 133

.048

C6 HEXANE : 00 . 177

.077

C7 HEPTANE: 00 . 000

.000

C8 OCTANE : 00 . 000

.000

C9 NONANE : 00 . 000

.000

C10 DECANE : 00 . 000

.000

N2 NITROGEN: 00 . 481

.000

CO2 CARBON : 00 . 841

.142

SPECIFIC GRAV: 0 . 578

DRY BTU: 1178

MOL %

GRAINS/CCF

MOL %

#/MMCF

H2S SULFUR : 00 . 000

.00

H2O WATER : 000

00

01701 - INQUIRY SUCCESSFULLY COMPLETED