Amoco Production Company
Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

S. D. Blossom
District Superintendent

RECEIVED
AUG - 4 1983
OIL CONSERVATION DIVISION
SANTA FE

August 3, 1983

Oil Conservation Commission
Box 2088
Santa Fe, NM 87501

File: DHS-358-986.510.1

Commingling Application for the Jicarilla Apache Tribal 151 No. 4, 1600' FWL x 820' FNL, Section 3, T26N, R5W, Rio Arriba County, New Mexico

Amoco Production Company requests approval to commingle production from the Undesignated Gallup and the Basin Dakota pools in the subject well. The commingling will utilize a production packer set between the two zones at 7432' and a sliding sleeve set at 7428' to produce up 2-3/8" tubing landed at 7514'.

The commingling of the Gallup and Dakota is necessary due to the size of the production casing. The 4-½" casing is too small to land two standard size tubing strings. The proposed commingling will not adversely affect either zone for the following reasons:

1. Neither zone will be damaged by the small amount of formation water which is produced. In 1982, the Dakota formation produced an average of 0.5 BWPD. The 52 hour flow test of the Gallup side produced only 1.4 BW for a rate of 0.6 BWPD. The water analyses performed on water samples obtained from the two zones indicate the waters produced will be compatible.

2. Neither zone has a history of sensitivity to liquid hydrocarbons and should not be damaged by condensate production.

3. Both zones have common ownership, so there will be no problems in allocating royalty or working interest payments.

4. The bottom hole pressure of the Gallup is 76 percent of the Basin Dakota.

In compliance with NMOCD Rule 303C, please find enclosed two copies of each of the following:

Attachment No.

1. "Well Location and Dedication Plat"(NMOCD Form C-102).

2. Well location map showing location of all outside operated wells.

3. List of names and addresses of operators for all outside operated wells.

4. A complete well completion history (USGS Form 9-331, "Sundry Notices and Reports on Wells).

5. A complete engineering completion summary on both zones along with well test data on the Gallup.

6. Production deline curve for the Basin Dakota.

7. NMOCD Form C-116 showing latest Dakota production.

8. NMOCD Form C-116 showing 48 hour flow test of the Gallup from 4-19-83 to 4-21-83. We request an exception to be granted on the 30-day limit because the Gallup has been shut in since the flow test.

9. Actual bottom hole pressure taken on the Dakota.

10. Actual bottom hole pressure taken on the Gallup.

11. A copy of the gas analysis from the Dakota.

12. A copy of the gas analysis from the Gallup.

13. Water analysis of produced water from the Dakota.

14. Water analysis of produced water from the Gallup.

15. Formula for the allocation of production for each commingled zone.

16. A copy of the letter sent to all offset operators and the Minerals Management Services notifying them of our intent to commingle.

To allocate production to the individual Gallup and Dakota horizons we recommend the following:

1. Allocate 26.78 percent of the gas production to the Gallup horizon.

2. Allocate 73.22 percent of the gas production to the Dakota horizon.

3. Allocate 100 percent of the condensate production to the Dakota.

We would like to obtain approval for this commingling application as soon as possible so we can start producing the Gallup formation.

S. D. Bloxson DHS

MJB/gw

Attachments

AM13

Attachment 1

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Amoco Production Company	Jicarilla Apache Tribal 151	4

Unit Letter	Section	Township	Range	County
C	3	26 North	5 West	Rio Arriba

Actual Footage Location of Well: 820 feet from the North line and 1600 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Avereage:
5591' GL	Dakota / Gallup	Basin Dakota / Undes. Gallup	320 / 160 Acres

1. Outline the acerage dedicated to the subject well by colored pencil or hachure marks on the plat below.

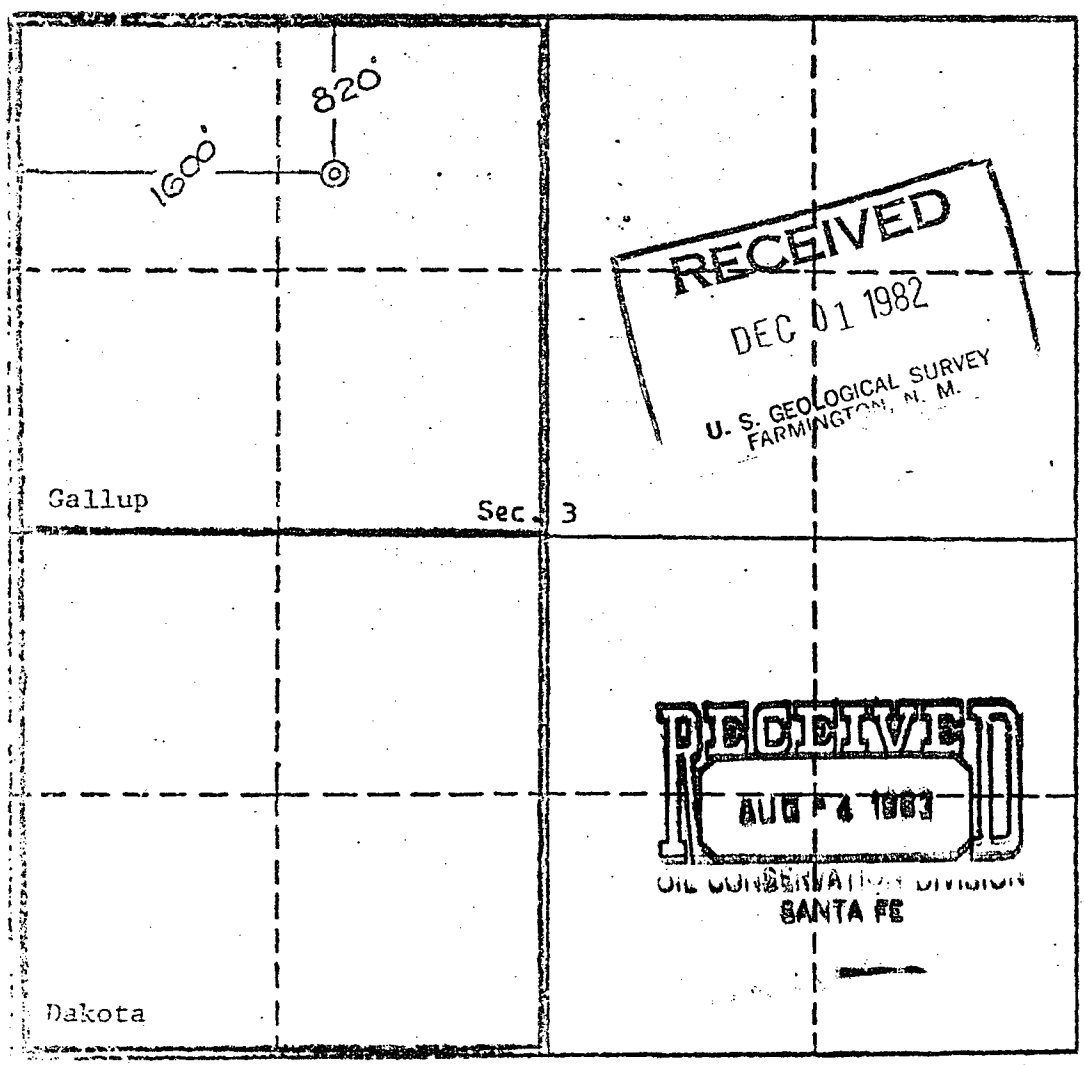
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

( ) Yes ( ) No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually consolidated. (Use reverse side of this Form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non standard unit, eliminating such interests, has been approved by the Commission.



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DEC 01 1982
U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

RECEIVED
AUG 4 1983
OIL CONSERVATION DIVISION
SANTA FE

CERTIFICATION

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

Name: L. O. Speer, Jr.

Position: Area Superintendent

Company: AMOCO PRODUCTION COMPANY

Date: April 17, 1973

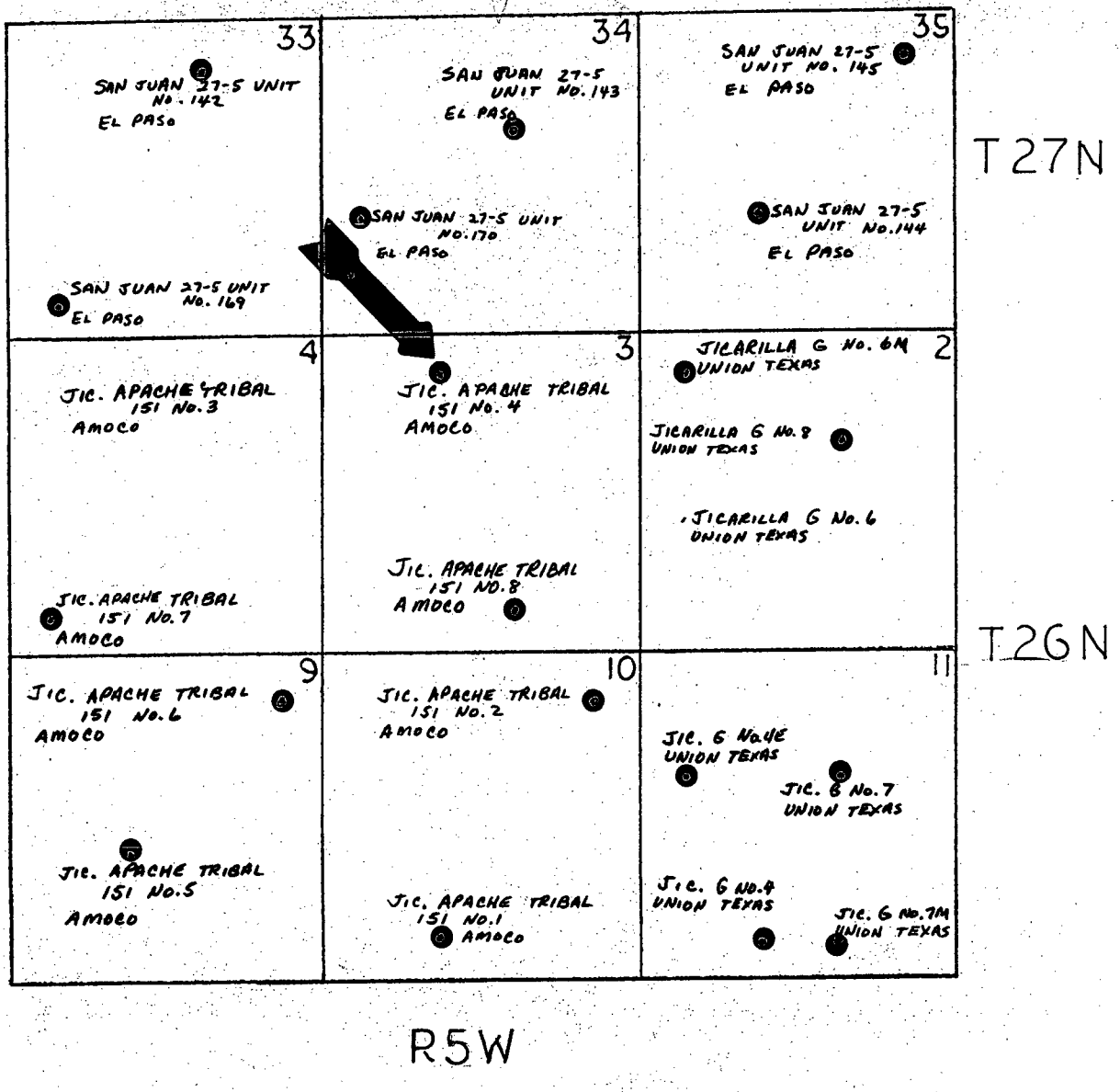
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: April 13, 1973

Registered Professional Engineer and/or Land Surveyor

Certificate No. [illegible] E. V. Echohawk LS

Attachment 2



JICARILLA APACHE TRIBAL 151 NO. 4

● Basin Dakota Wells

Attachment 3

El Paso Exploration Company
P.O. Box 4289
Farmington, NM 87499-4289

Union Texas Petroleum
14001 E. Iliff Ave.
Suite 500
Aurora, Co. 80014

Attachment 4

Form 9-331
Dec. 1973

Form Approved.
Budget Bureau No. 42-R1424

RECEIVED
JUL 27 1983
FARMINGTON
DISTRICT

	DS	
	DAS	
	DE	
	DF	
	AS	

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY 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 Form 9-331-C for such proposals.)

1. oil well ☐ gas well ☒ other

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OIL CONSERVATION DIVISION
SANTA FE

2. NAME OF OPERATOR
Amoco Production Company

3. ADDRESS OF OPERATOR
501 Airport Drive, Farmington, NM 87401

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 820' FNL x 1600' FWL
AT TOP PROD. INTERVAL: Same
AT TOTAL DEPTH: Same

5. LEASE
Jicarilla Apache Tribal 151

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Jicarilla Apache

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Jicarilla Apache Tribal 151

9. WELL NO.
4

10. FIELD OR WILDCAT NAME
Basin Dakota/Undes. Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
NE/NW, Section 3, T26N, R5W

12. COUNTY OR PARISH
Rio Arriba

13. STATE
New Mexico

14. API NO.
30-039-20605

15. ELEVATIONS (SHOW DF, KDB, AND WD)
6591' GL

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐
(other) Corrected Recompletion Sundry			

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U. S. GEOLOGICAL SURVEY
FARMINGTON, N. M.

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. 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.)*

This sundry is to amend our subsequent recompletion sundry of 3-18-83. Rigged up service unit on 12-17-82. Total depth of the well is 7749' and plugback depth is 7716'. Perforated interval 6992'-7000' with 4 JSPF for a total of 32 holes, .38" in diameter. Fraced the interval with 37,110 gals of 20# crosslinked gel containin 2% KCL and 43,000# 10-20 mesh sand. Set production packer at 7432' and landed tubi at 7518'. Opened sliding sleeve at 7428'. Released the rig on 12-27-82. Flow tested Gallup from 1-29-83 to 2-3-83. Moved in and rigged up service unit on 3-9-83. Perforated intervals 6584'-6594', 6646'-6662', 6676'-6700', 6724'-6744', 6754'-6762', 6794'-6842', 6878'-6924' with 2 JSPF. Fraced from 6584'-6924' with 70 quality foam. Frac pressured out when 1.0 ppg sand hit perfs. Refraced same interval with 32,633 gals 20# gelled water and 20,600# 20-40 mesh sand. Landed 2-3/8" production tubing at 7514'. Released rig on 4-2-83. Sliding sleeve is now closed on the Gallup pending approval of commingling order. Basin Dakota is back o production.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

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

SIGNED Original Signed By D.D. Lawson TITLE Dist. Admin. Supvr DATE July 19, 1983

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

ACCEPTED FOR RECORD

JUL 25 1983

FARMINGTON
BY KB

0 + 5 MMS, Farmington
1 - J.C.Burnside,Denver
1 - Open

*See Instructions on Reverse Side

OPERATOR

ATTACHMENT NO. 5

5/8/73 Drilled 15" surface hole to 316'. Set 10-3/4" casing at 316'. Cement with 300 sx Class "A" cement with 2% $CaCl_2$. Circulated cement.

5/15/73 Set 7-5/8" intermediate casing at 3558'. Cement with 640 sx 50-50 Pozmix with 6% gel and 2 pounds Tuf Plug per sack and tail-in with 100 sx Class "C" Neat. No cement circulated.

5/22/73 Set 4-1/2 casing at 7749' and cemented with 375 sacks 50-50 Class "C" Pozmix with 6% gel and 2 pounds Tuf Plug per sack and tail-in with 100 sacks Class "C" Neat. No cement circulated.

5/29/73 Spotted 7-1/2 HCL and perforated 7659-80' and 7630-44' with 1 SPF. Sand-water fraced with 47,460 gallons water, 15,000# 20-40 sand and 15,000# 10-20 sand. Dropped from 40 BPM to 36 BPM at 3700 psi. Finish injecting 10,000# 20-40 sand and 10,000# 10-20 sand. Breakdown pressure was 2000 psi. Treating pressures: Maximum 3800, minimum 3600, average 3700 psi. AIR 37 BPM. Set 4-1/2" bridge plug at 7620'and tested with 3800 psi for 15 minutes. Test OK. Perforated 7584-96 and 7482-96' with 2 SPF.

5/30/73 Sand-water fraced interval 7596-7482' with 47,530 gallons water. Spearhead frac with 500 gallons 7-1/2% HCL. Sand-water frac with 10,000# 20-40 sand and 10,000# 10-20 sand. Dropped 24 balls and had no effect on pressure or injection rate. Completed frac with additional 15,000# 20-40 sand and 15,000# 10-20 sand. Maximum pressure 3800, minimum 3650, average 3750 psi. AIR 33 BPM.

5/31/73 Landed 2-3/8" production tubing at 7641'.

Gallup Recompletion

12/17/82 RUSU x KILL Dakota well.

12/19/82 Perforate interval 7000-6992' with 4 JSPF.

12/22/82 Sand-water frac Gallup with 37,110 gallons 20 pound gelled water and 43,000 pounds 10-20 mesh sand. Breakdown at 1090 psi. Maximum treating pressure 3560, average treating pressure 2160, minimum treating pressure 1900. Average injection rate - 30 BPM.

12/25/82 Set production packer at 7432'.

12/26/82 Landed tubing at 7518' with sliding sleeve at 7428'.

1/29/83 Flow test Gallup.

	hrs	MCF	BO	BW
1/29/83	24	23	0	0
1/30/83	24	22	0	0
1/31/83	24	22	0	0
2/01/83	24	22	0	0
2/02/83	24	22	0	0
2/03/83	24	16	0	0

3/09/83 Move in rig up service unit.

3/10/83 Set retrievable bridge plug at 6985' and test to 3500 psi. Perforate intervals 6794-6842', and 6878-6924' with 2 JSPF.

3/11/83 Breakdown formation at 1100 psi. Set retrievable bridge plug at 6786'. Pressure test to 3500 PSi. Perforate intervals 6584-6594", 6646-6662', 6676-6700', 6724-6744' and 6754-6762' with 2JSPF.

3/12/83 Retrieved bridge plug at 6786'.

3/13/83 Frac Gallup with 70 percent quality foam and 20-40 mesh sand. Frac pressured out when 1.0 ppg sand hit perfs.

3/15/83 Frac Gallup with 32,633 gallons 20 pounds gelled water and 20,600 pounds of 20-40 sand. Maximum treating pressure 3500 minimum treating pressure 1900 psi. Average treating rate was 30 BPM.

4/02/83 Land 2-3/8" production tubing at 7514 with sliding sleeve at 7428.

Flow test Gallup

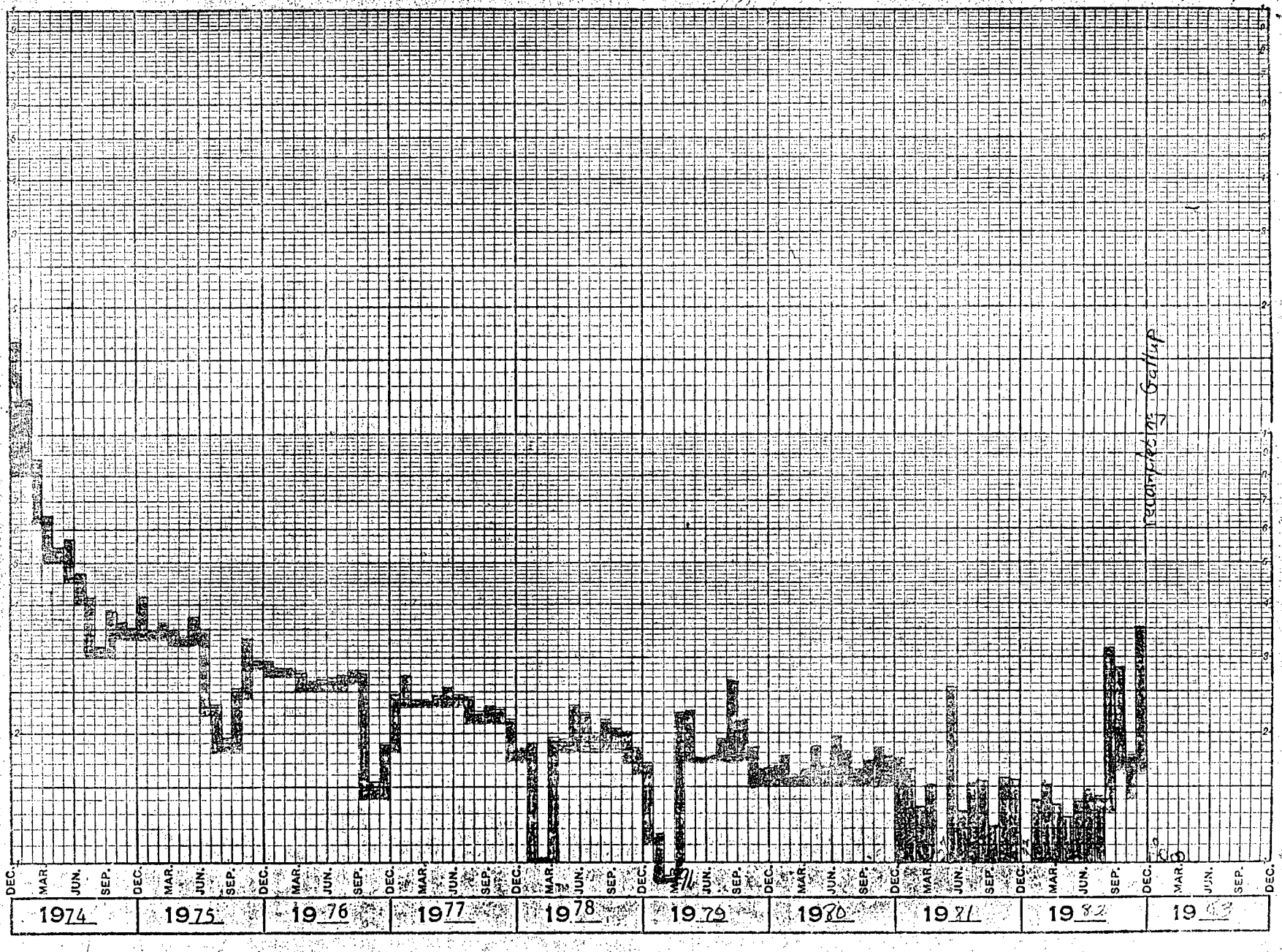
Date	Hrs	MCF	BO	BW
4/19/83	24	65	0	1.4
4/20/83	24	45	0	0

Sliding sleeve is now closed on the Gallup horizon and the Basin Dakota is back on production.

AM13

NO. 3157 TEN YEARS BY MONTHS X 3 5-INCH CYCLES RATIO RULING
codex GRAPH PAPER IN STOCK DIRECT FROM CODEX BOOK CO., INC., NORWOOD, MASS. 02

Basin Dakota
Jicarilla Apache Tribal 151 No. 4



Attachment 6

Attachment 6 con't

WELL NAME JICARILLA APACHE TRIBAL 151 #4
C 3 26N 5W
BASIN DAKOTA

1980

	DAYS	BO	BW	MCF	MCFD
JAN	31	32	4	5209	168
FEB	31	38	4	5499	177
MAR	29	42	4	4578	158
APR	31	32	4	5308	166
MAY	30	37	4	5618	187
JUNE	24	23	4	4017	167
JULY	23	27	4	4569	199
AUG	31	32	4	5618	181
SEPT	31	38	4	5135	166
OCT	30	32	4	5167	172
NOV	31	53	4	5693	184
DEC	30	19	4	5319	177

1981

	DAYS	BO	BW	MCF	MCFD
JAN	31	30		5432	175
FEB	29	27		4796	165
MAR	28	30		3764	134
APR	21	22		4677	151
MAY	30	11		799	27
JUNE	23	48		5891	256
JULY	30	27		3917	131
AUG	31	24		4712	152
SEPT	31	44		4769	154
OCT	30	31		3637	121
NOV	31	30	2	4851	156
DEC	30	25	2	4642	155

1982

	DAYS	BO	BW	MCF	MCFD
JAN	31	30	4	2888	93
FEB	31	26	11	4319	139
MAR	28	31	9	4239	151
APR	31	24	35	4208	136
MAY	29	33	30	3670	127
JUNE	26	23	30	3598	138
JULY	30	26	15	4451	148
AUG	27	23	20	3838	142
SEPT	1	0	0	316	316
OCT	12	28	10	3382	282
NOV	31	33	14	5523	178
DEC	16	13	7	2104	351

283 42552

1983

	DAYS	BO	BW	MCF	MCFD
JAN	4	0	0	305	76
FEB	0	0	0	0	0
MAR	0	0	0	0	0
APR	0	0	0	0	0
MAY	4	8	6	1356	339
JUNE					
JULY					
AUG					
SEPT					
OCT					
NOV					
DEC					

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-116
Revised 10-1-78

GAS-OIL RATIO TESTS

Operator	Pool	County
Amoco Production Company	Basin Dakota	Rio Arriba County

Address: 501 Airport Drive, Farmington, NM 87401

TYPE OF TEST - (X): Scheduled [XX] Completion [ ] Special [ ]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL
Jicarilla Apache Tribal 151	4	C	3	26N	5W	May Production					96	6	61	8	1464	183,000

Attachment 7

No well will be assigned an allowable greater than the amount of oil produced on the official test.

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.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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

Dale H Shoemaker
(Signature)
District Engineer
(Title)
July 14, 1983

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

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

Form C-116
Revised 10-1-78

GAS – OIL RATIO TESTS

Operator	Pool	County
Amoco Production Company	Undesignated Gallup	Rio Arriba County

Address	TYPE OF TEST – (X)	Scheduled	Completion	Special
501 Airport Drive, Farmington, NM 87401		[ ]	[ ]	[X]

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT/BBL.
Jicarilla Apache Tribal 151	4	C	3	26N	5W	4-19-83 – 4-21-83					48	1.4		0	110	---

Attachment 8

No well will be assigned an allowable greater than the amount of oil produced on the official test.

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.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Division in accordance with Rule 301 and appropriate pool rules.

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

Dale H. Shoemaker
(Signature)
District Engineer
(Title)
July 14, 1983

BOTTOM HOLE PRESSURE DATA

WELL NAME & NO. JIC 151-4
FIELD Dakota

Date of Test 5-5-83

Well Completion Data

Total Depth _____
Plugged Back Depth _____
Production Casing _____ " CSA _____ Ft.
Tubing _____ " Landed At _____ Ft.
Seating Nipple Depth _____
Perforations _____

Mid-Point Perforations _____
Elevation _____ GL; _____ DF; _____ RDB
Datum (Sub-Sea) _____

Pressure Data

Shut-in Tubing Pressure 760 PSIG
Shut-in Casing Pressure 1048 PSIG

Bottom Hole Pressure Data

Type Instrument Used AMERADA RPG-3
Pressure Range of Element 0-3000
Date Element Calibrated _____

Time	Depth Stopped	Extension	Pressure	Gradient	Temperature
	Surface	.499	757		
	6700	.652	991		
	7000	.723	1099		

BHP _____ Datum _____

Remarks _____

BOTTOM HOLE PRESSURE DATA

WELL NAME & NO. Jic Apache 151-4
FIELD Gallup

Date of Test 4-28-83

Well Completion Data

Total Depth _____
Plugged Back Depth _____
Production Casing _____ " CSA _____ Ft.
Tubing _____ " Landed At _____ Ft.
Seating Nipple Depth _____
Perforations _____

Mid-Point Perforations _____
Elevation _____ GL; _____ DF; _____ RDB
Datum (Sub-Sea) _____

Pressure Data

Shut-in Tubing Pressure 900 PSIG
Shut-in Casing Pressure 900 PSIG

Bottom Hole Pressure Data

Type Instrument Used Amerada RPG-3 Element
Pressure Range of Element 0-3000
Date Element Calibrated _____

Time	Depth Stopped	Extension	Pressure	Gradient	Temperature
	Surface	.427	647		
	BH	.550	835		

BHP 835 Datum _____

Remarks _____

SOUTHERN UNION GAS COMPANY
REPORT OF BTU TEST RESULTS

TO: AMOCO PROD CO (677)

REF: AMOCO APACHE 151 4 (Dakota)
2991
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 4/20/82
DATE OF LAST TEST: 5/13/81
TEST FREQUENCY: NOT SPECIFIED

RESULTS: SPECIFIC GRAVITY: 0.9972
BTU/CF @ 14.73/60F/DRY: 1167.2

	MOL %	G.P.M.
CARBON DIOXIDE	0.709	0.0000
NITROGEN	0.142	0.0000
METHANE	86.600	0.0000
ETHANE	8.010	2.1410
PROPANE	2.385	0.6560
ISOBUTANE	0.485	0.1580
N-BUTANE	0.642	0.2020
ISOPENTANE	0.274	0.1000
N-PENTANE	0.216	0.0780
HEXANE +	0.558	0.2460
TOTAL	100.021	3.5810

Attachment 12

CHEMICAL & GEOLOGICAL LABORATORIES

P.O. Box 2794
Casper, Wyoming 82602

GAS ANALYSIS REPORT

Company Amoco Production Co. Date 2-11-83 Lab. No. A30051-2
Well No. Jicarilla Apache 151-4 Location
Field Otero Gallup Formation Gallup
County Rio Arriba Depth
State New Mexico Sampling point
Line pressure 45 psig; Sample pressure 2 psig; Temperature ° F; Container number RG # 3125
Remarks
(2-1-83)

Component	Mole % or Volume %	Gallons per MCF
Oxygen	0	
Nitrogen	0.37	
Carbon dioxide	0.53	
Hydrogen sulfide	Nil	
Methane	78.16	
Ethane	11.67	
Propane	5.40	1.481
Iso-butane	0.90	0.294
N-butane	1.86	0.585
Iso-pentane	0.52	0.190
N-pentane	0.39	0.141
Hexanes & higher	0.20	0.092
Total	100.00	2.783

GPM of pentanes & higher fraction 0.423

Gross btu/cu. ft. @60° F. & 14.7 psia (dry basis) 1271
Specific gravity (calculated from analysis) 0.733
Specific gravity (measured) 0.736

Remarks:

Attachment 13

ANALYSIS # 3 0 2

DIRECT ANY QUESTIONS TO:
CLAY TERRY
DISTRICT ENGINEER
505-327-6222

THE WESTERN COMPANY
LABORATORY SERVICES
P.O. DRAWER 360
FARMINGTON, N.M.

WATER ANALYSIS

OPERATOR AMOCO PRODUCTION
WELL JICARILLA APACHE 151 #4
FIELD BASIN DAKOTA S T R
FORMATION DAKOTA
DEPTH (SURFACE) SEPARATOR
COUNTY RIO ARRIBA
STATE NEW MEXICO

DATE SAMPLED 5-24-83
DATE RECEIVED 5-26-83
SUBMITTED BY MORRIS BELL
WORKED BY CLAY TERRY
SAMPLE DESCRIPTION DINGY, RUSTY COLORED AQUEOUS SOLUTION. NO SUSPENDED MATERIAL NOTICABLE.

PHYSICAL DETERMINATIONS

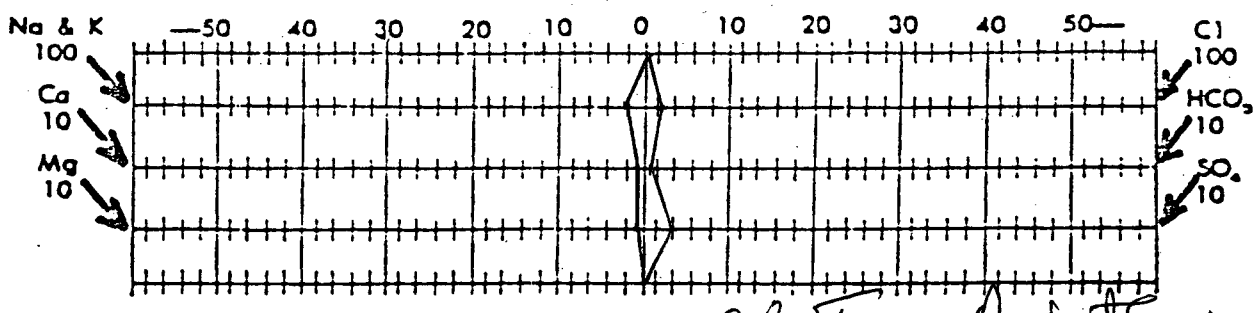
SPECIFIC GRAVITY 1.01 AT 60 °F
pH 7.0
TOTAL DISSOLVED SOLIDS 15,519 ppm
RESISTIVITY (Ohm-meters) 0.41 Ω-M (CALC)

CHEMICAL DETERMINATIONS

IRON Fe^{++} 15 ppm / Fe^{+++} -0- ppm
HYDROGEN SULFIDE -0-
TOTAL HARDNESS 1200 ppm
CALCIUM 240 ppm
MAGNESIUM 146 ppm
PHOSPHATE -
SULFATE 1875 ppm
BICARBONATE 647 ppm
CHLORIDE 7292 ppm
SODIUM & POTASSIUM 5319 ppm

COMMENTS:

for Stiff type plot (in meq./l.)



Analyst Clay Terry District Engineer
CLAY TERRY / DISTRICT ENGINEER

Attachment 14

WESTERN ENGINEERING CORPORATION

WATER TEST FOR INORGANIC CONTAMINATES

PROJECT: AMOCO PRODUCTION CO. I.D. Number: 4-049

REPORT TO: M. Bell PROJECT NO.:

REQUESTED BY: M. Bell SAMPLED BY: M. Bell

LOCATION OF SAMPLE: Jicarilla Apache Tribal 151 No. 4 - Wellhead Gallup

DATE SAMPLED: 5/12/83 TESTED BY: Nicole Oglethorpe

DATE RECEIVED: 5/13/83

LAB NO.	DATE TESTED	SPECIMEN	PARAMETER	RESULT
4-049-1	5/16/83	water	pH	6.95
			Resistivity	0.33 ohm-meters
			Hydroxide	none
			Carbonate	none
			Bicarbonate	108 mg/l as $CaCO_3$
			Total Dissolved Solids	21008 mg/l
			Chloride	11600 mg/l
			Sulfate	73 mg/l
			Nitrate	3.8 mg/l as Nitrogen
			Sodium	10800 mg/l
			Potassium	500 mg/l
			Calcium	448 mg/l as Ca
			Magnesium	600 mg/l as Mg
			Total Hardness	3506 mg/l as $CaCO_3$

COMMENTS:

COPIES TO:

AMOCO PRODUCTION CO.

501 Airport Drive

Farmington, NM 87401

Attn: M. Bell

TESTED BY: N Oglethorpe

Nicole Oglethorpe

REVIEWED BY: Stan Lueck

Stan Lueck, Sr. Chemist

333 EAST MAIN STREET • PHONE: (505) 327-5171 • FARMINGTON, NEW MEXICO 87401

Attachment 15

Formula for Allocation of Production

Basin Dakota 1982 Average Production			-	150.4	MCFD
Gallup Production during test			-	55.0	MCFD
				205.4	MCFD Total
Basin Dakota	-	$\frac{150.4}{205.4}$	=	73.22%	of total production
Gallup	-	$\frac{55}{205.4}$	=	26.78%	of total production

Attachment 16

Amoco Production Company
Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

S. D. Blossom
District Superintendent

August 3, 1983

RECEIVED
AUG - 4 1983
OIL CONSERVATION DIVISION
SANTA FE

El Paso Natural Gas Company
P.O. Box 990
Farmington, NM 87401

Union Texas
14001 E. Iliff Ave.
Aurora, CO 80014

Minerals Management Services
Drawer 600
Farmington, NM 87401

File: DHS-363-986.510.1

Proposed Downhole Commingling of Jicarilla Apache Tribal 151 No. 4, Rio Arriba County, New Mexico

This is to advise you that the Farmington District Office of Amoco Production Company is requesting approval from the New Mexico Oil Conservation Division to downhole commingle production from the well below:

Jicarilla Apache Tribal 151 No. 4, Unit C, Section 3, T26N, R5W

This well has been completed in the Basin Dakota and Undesignated Gallup pools.

Enclosed is a wellbore diagram and a map showing the location of offset wells.

If you, as an offset operator, have no objections to the commingling of production from the Basin Dakota and Undesignated Gallup pools of the subject well, please sign the waiver below and send to:

New Mexico Oil Conservation Division
Box 2088
Sante Fe, NM 87501

We would appreciate your sending one executed copy to the undersigned.

Very truly yours,

MJB/gw

Enclosures

Waiver

We hereby waive any objections to Amoco Production Company's application for commingling as set forth above.

_____
Company

_____
By Date

AM13

Amoco Production Company
Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401
505-325-8841

S. D. Blossom
District Superintendent

August 3, 1983

RECEIVED
AUG 15 1983
OIL CONSERVATION DIVISION
SANTA FE

RECEIVED
AUG 4 1983
EL PASO NATURAL GAS
FARMINGTON OFFICE

El Paso Natural Gas Company
P.O. Box 990
Farmington, NM 87401

Union Texas
14001 E. Iliff Ave.
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S. D. Blossom
DMB

MJB/gw

Enclosures

Waiver

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El Paso Exploration Co.
Company

Donald R. Read 8-10-83
By Date

AM13