CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562

January 21, 1983

Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Re: Application for approval of downhole commingling
Chace Oil Company - #1-47-JV Well
Unit 'I' - 1850' FSL and 790' FEL
Section 12, T23N,R4W, Rio Arriba County, New Mexico

Gentlemen:

Please refer to my letter dated January 19, 1983, regarding the above referenced application.

Enclosed is the waiver, or waivers, as a supplement to that application, necessary to dispense with the 20 day waiting period, referred to in Paragraph No. 3 of the Oil Conservation Division's Rule 303-C.

A copy has also been sent to the Aztec District Office.

Sincerely,

Ross Easterling
Landman

RE/ss

CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562

January 13, 1983

Amoco Production Company
Amoco Building
Denver, Colorado 80202

Attention: Laura H. Greeley

Re: Chace Oil Company #1-47-JV Well
Unit 'I' - 1850' FSL & 790' FEL
Section 12, T23N,R4W
Rio Arriba County, New Mexico

Gentlemen:

By executing this Waiver in the space provided below, Amoco Production Company, as offset operator, will indicate that they are not adverse to downhole commingling of Gallup production with the Chacon Dakota in the above referenced well.

Very truly yours,

Ross Easterling

Ross Easterling
Landman

RE/ss

WAIVER APPROVED

R.B. Giles

AMOCO PRODUCTION COMPANY

1/18/83

DHC-388

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF CHACE OIL COMPANY, INC.
FOR DOWNHOLE COMMINGLING

The applicant, Chace Oil Company, Inc. is the owner and operator of the Chace Oil Company, Inc. Jicarilla 47, Well No. 1.

The 47-1 well was completed in the Chacon Dakota Associated field February 21, 1982, and recompleted in an Undesignated Gallup group December 11, 1982.

Applicant requests authority for downhole commingling in the subject well of the Chacon Dakota Associated pool with the Undesignated Gallup pool.

The application is presented in the order that the requirements are set forth in the Oil Conservation Division's Rules and Regulations, dated March 1, 1982.

Rule: 303-C

Section 1

(a) For wells involving oil zones:

1. Bottom perforation — Bbl/day Limit

   Chacon Dakota Associated - 7249 — 50

   Undesignated Gallup - 7014 — 50

   Neither zone is expected to exceed the Bbl/day limit.

2. Each of the zones require artificial lift. Neither is capable of flowing.

3. "Neither zone produces more water than the combined oil limit as determined in Paragraph (1) above".

4. The fluids from both zones are compatible with the fluids from the other zones, and will not react with each other to cause damage in either of the reservoirs.

5. The total value of the crude will not be reduced by commingling.

6. Ownership of each zone is common.

7. The commingling will not jeopardize the efficiency of any future secondary recovery operations.

Section 2, Paragraph A-J, 'For approval of downhole commingling':

(a) Chace Oil Company, Inc.
313 Washington, SE
Albuquerque, NM 87108

(b) The applicant is the owner and operator of the Chace Oil Company, Inc. Jicarilla 47, Well No. 1.

Location: Unit 'I' - 1850' FSL & 790' FEL
Section 12, Township 23 North, Range 4 West
Rio Arriba County, New Mexico

Pools to be commingled:

Chacon Dakota Associated

Undesignated Gallup

(c) Plat indicating location of 47-1 well and offsetting location ownership. Attached p. 4.

(d) Gas Oil ratio form C-116, dated January 14, 1983. Attached p. 5.

(e) Production decline curve for Dakota production only. Attached p. 6.

(f) Estimated bottom hole pressure for each artificially lifted zone to be commingled, (PSIA):

Undesignated Gallup	2383
Chacon Dakota Associated	2605

(g) Fluid characteristics:

All zones produce oil of 40°-45° gravity with little or no water.

(h) Individual production of each zone would not increase or decrease the value of the production. The price per barrel of oil is the same for each producing horizon.

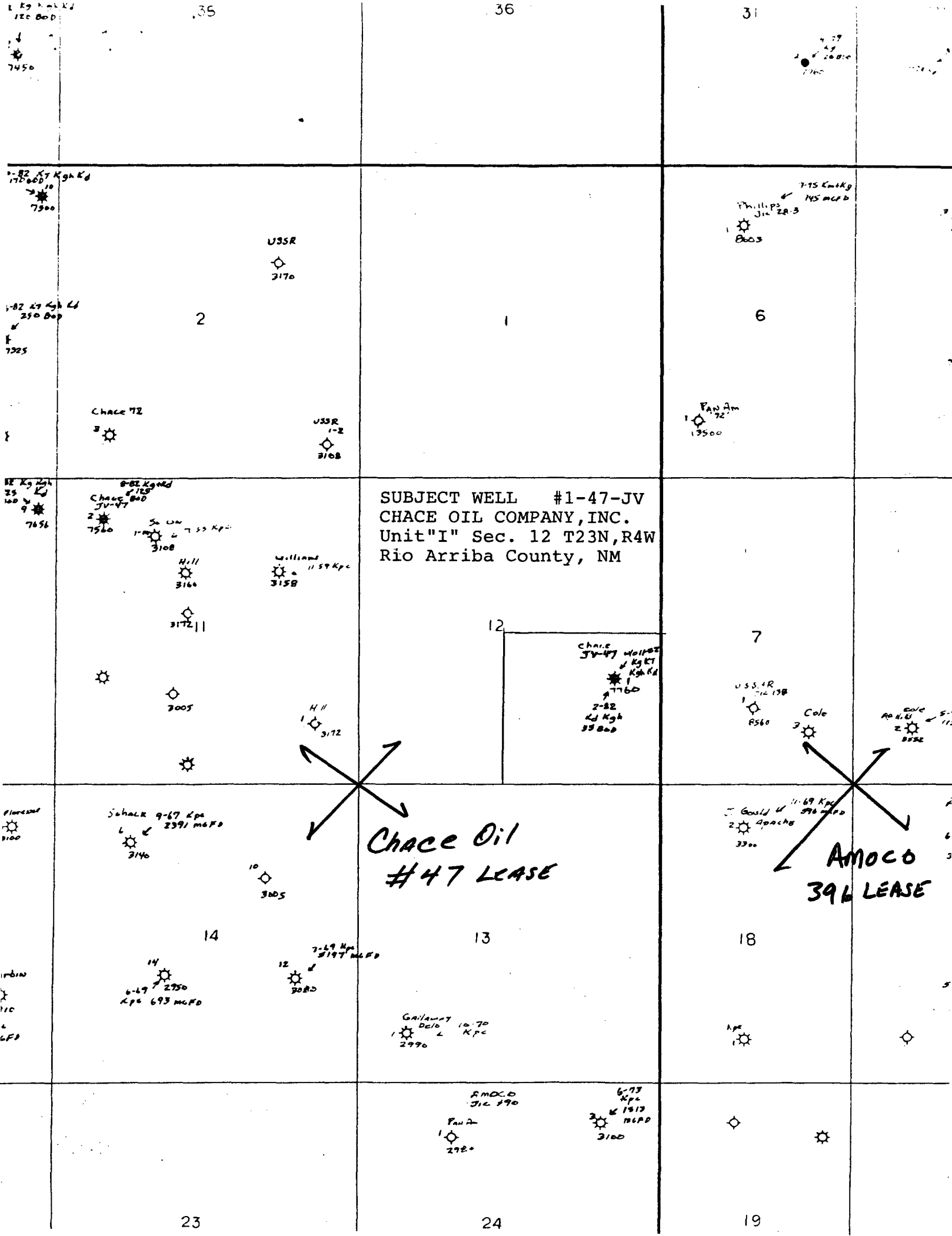
(i) Allocation of Production:

Estimated Oil and Gas:

	Oil	Gas
Dakota	60%	45%
Gallup	40%	55%

(j) Notification of proposed commingling:

The Minerals Management Service and all offset owners have been notified by attached letters. Waivers from offset operators will be forthcoming as a supplement to this application.


SUBJECT WELL #1-47-JV
CHACE OIL COMPANY, INC.
Unit"I" Sec. 12 T23N, R4W
Rio Arriba County, NM
Chace Oil
#47 LEASE
AMOCO
396 LEASE
35
36
31
2
1
6
11
12
7
14
13
18
23
24
19

NEW MEXICO OIL CONSERVATION COMMISSION
GAS - OIL RATIO TESTS

C-116
Revised 1-1-65

ator	Pool	County
Chace Oil Company, Inc.	S. Lindrith Gallup Dakota	Rio Arriba

ess	TYPE OF TEST - (X)	
313 Washington, SE, Albuquerque, NM 87108	Scheduled ☐	Completion ☐ Special XX

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS - OIL RATIO CU.FT/BBL
Jicarilla 47	1-JV	I	12	23N	4W	1-14-83	P	2"	85	30	24	13	43	50	22	440

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 Commission.

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.

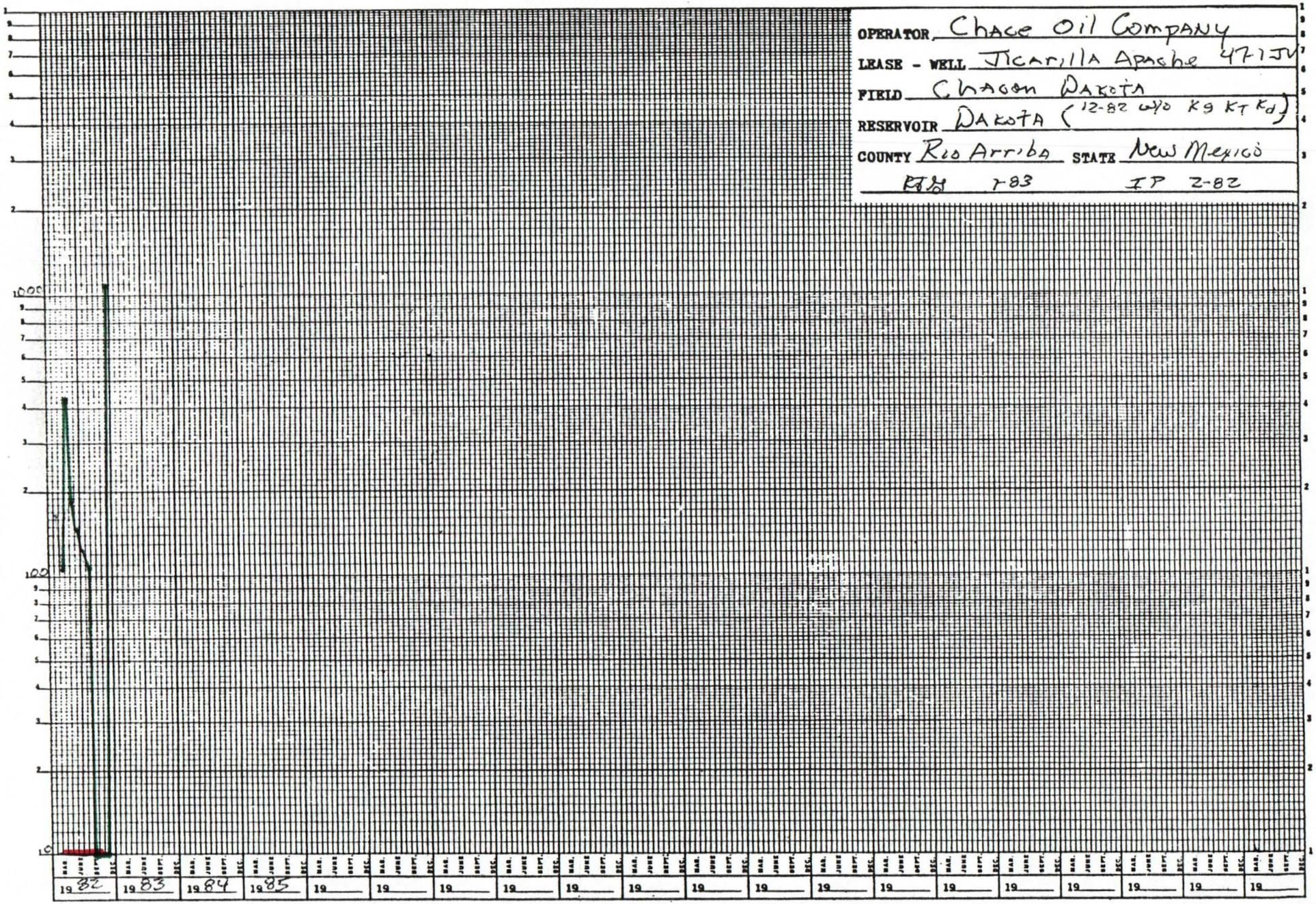
Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission 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.

R. C. Mills
(Signature)

President
(Title)


OPERATOR Chace Oil Company
LEASE - WELL Jicarilla Apache 471JV
FIELD Chacon Dakota
RESERVOIR Dakota (12-82 w/o Kg Kt Kd)
COUNTY Rio Arriba STATE New Mexico
P&A 7-83 IP 2-82
Bbls Oil & MCF Gas
1000
100
10
1982
1983
1984
1985

47-1-JV PRODUCTION HISTORY

	Bbls/Oil	MCF/Gas	
1981:			
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			
1982:			
January			
February	163	0	IP
March	105	0	
April	434	0	
May	184	0	
June	146	0	
July	126	0	
August	108	0	
September	0	0	
October	0	0	
November	0	0	
December	1080	0	

CHACE OIL COMPANY, INC.
313 Washington S.E.
Albuquerque, New Mexico 87108
(505) 266-5562

WELL HISTORY

WELL: JICARILLA #1 JV 47

LOCATION: UNIT "I" 1850' FSL & 790' FEL

ELEVATION: 7384' GR

PROPOSED DEPTH: 7760 ' (Dakota Test)

12/4/81 LOCATION AND ROAD APPROVED

EXPECTED FORMATION TOPS:

OJO	2740'
PICTURED CLIFFS	3125'
CHACRA	3575'
CLIFFHOUSE	4670'
POINT LOOKOUT	5210'
GALLUP	6260'
GREENHORN	7295'
DAKOTA "A"	7315'
DAKOTA "D"	7595'

12/08/81 Pad and road construction commenced by M Construction

12/17/81 Set deadman

12/25/81 Spud well at 10:30 p.m.

12/26/81 Waiting on cement for surface casing - started drilling at 10:30 p.m. - ran 263' of 8 5/8" surface casing - deviation survey at 275' at ¼° - plug down at 4:40 a.m. Shut down until 12/26/81.

12/26/81 Waiting on cement

12/27/81 Depth at 2600' Operation - drilling 8 hours - MW 9lbs. Vis. 38 WL 6, Oil Content 10% Deviation survey at 760' at ¼°, 1159' at ¼°, 1604' at ¼° - 2040' at ½°. 25;0' at 3/4°.

12/28/81 Depth at 3400' Operation - drilling MW 8.9 Vis. 38 WL 4.8 Oil content 8% Deviation survey - 2890' at 1 3/4°, 3355' at 1 3/4°.

12/29/81 Depth at 4043' Operation-drilling MW 9.0 Vis. 38 WL 5.0 Oil content 8% Deviation Survey 3825' at 2°

12/30/81 Depth at 4728' Bit 5 & 7 7/8ths type F-2 incomplete 40,000 weight on bit RPM 70 Pump pressure 1900 MW 9 Vis. 37 WL 4.6 Deviation Survey 4352' at 2¼° drilling 23 hours

12/31/81 Depth at 5335' Operation - drilling MW 8.9 Vis. 8.9 WL 5% Oil content 5% Deviation survey 4840' at 1½° and 5320' at 1¼°

1/02/8 Depth at 6470' Operation - drilling Bit #6 MW 9.0 Vis. 40 WL 4.6 LCM 3% Deviation survey 6430' at ½°

1/03/82 Depth at 7028' Operation - drilling Bit #6 MW 9.2 Vis. 40 WL 4 Trace LCM Deviation survey 6926' at 3/4°

1/04/82 Depth at 7460' Operation - drilling Bit #7 hole incomplete 40,000 weight on bit RPM 70 MW 9.1 Vis. 45 WL 4.4 Loss of circulation no survey 200 barrels of mud loss at 7280' regained circulation at 11:00 p.m.

1/05/82 Schlumberger well services on location at 6:00 a.m. Circulating and coming out of hole logging at 2:00 p.m. with FDC/CNL Induction Cyberlook out of hole at 6:30 p.m. 4 Corners back in hole at 8:00 p.m. to lay pipe

1/06/82 First stage at approximately 4200' Ran 7753' of 4½" 11.6# casing casing shoe at 7758' float collar at 7715' cement basket at 6970', 6175', 5132' 24' short joint at 6155' to 75' Deviation tool at 4000' pumped 1000 gals mud flush cemented with 750 sacks of 50-50 pos-mix cement with 2% cc and 6¼# gilsonite per sack plug down at 8:00 a.m. 1/6/82 opened Deviation tool flushed with 1000 gals of mud acid pumped 250 sacks class B cement with 12% gel followed by 500 sacks of class B cement plug down at 7:30 p.m. cement designed to come within 600' of surface WOCT

1/07/82 Waiting on cement

1/08/82 Bluejet and Western Company on location Bluejet ran Gamma Ray correlation log. Porforated Dakota 7725-7488 O.A. Spotted acid over perfs; broke down formation at 2000 PSI balled off fracked with 80,000 lbs. of 20-40 sand and 71,000 gallons of KOL water 15,000 gallon pad 5000½ # sand per gallon.

1/09/82 10,000 gallons 1# sand per gallon 45,000 1½# per gallon 5796 gallons flush- treating pressure - min. 2600 - max. 3000 48 BPM injection rate at 2700 PSI 50 BPM on flush instant shut down pressure to 1500 PSI after 30 minutes pressure was 1200 PSI set drillable bridge plug at 5195' ran cement bond log from 3800-5158 no cement behind pipe at this interval decided not to attempt test of these upper zones released Bluejet and Western.

1/10/82 Shut In

1/11/82 Shut In

1/12/82 Shut In

1/13/82 Sparton Well Service drilled out bridge plug and cleaned out hole ran tubing and landed at 7483' flowed well into pit waiting on swabbing rig.

1/14/82 Swabbing unit on location Swabbing well well flowing water, oil and gas in pit EST flow 500 bbls liquid well died at 3:00 p.m.

1/15/82 Set swabbing rig on well swabbed water, oil and gas total fluid swabbed estimated at 150 bbls ordered stock tank and seperator

1/16/82 Still swabbing tight joint in tubing at 4300' swab cup would not go below will ream out Monday swabbed approximately 160 barrels liquid Oil and gas recovery improved casing pressure 200#

1/17/82 Shut In

1/18/82 200# casing and 200# on tubing

1/19/82 Shut In changed swabbing units from Action to Silver Star will start reaming tight spot at 4300' today

1/20/82 Swabbing at 1000' fluid level swab will not go down tubing can only swab to 4300'

1/21/82 Shut In

1/22/82 Shut In

1/23/82 Pulled string of tubing set new tubing landed at 7496' laid down defective 241 jts. tubing ran new tubing in hole tally on tubing is 7518.23' seating nipple at 7529.23' KB

1/24/82 Shut In

1/25/82 Moved Silver Star Unit in to start swabbing Seperator is on location and we are moving storage tank in tomorrow

1/26/82 75# casing 25# tbg. fluid level 2000'

1/27/82 50# casing 150# tubing fluid level 3000 operation-swabbing

1/28/82 Silver Star swabbing fluid fluid level 3500' from surface 120# casing 80# tubing

1/29/82 40 T-pressure 175 casing 4000' fluid level 23 bbls. oil and 120 bbls. water

1/30/82 Operation - Swabbing

1/31/82 Operation - Swabbing

2/01/82 Operation - Swabbing

2/02/82 Operation - Swabbing

2/03/82 Operation - Swabbing

2/04/82 Operation - Shut In

2/05/82 Operation - Shut In

2/06/82 Operation - Shut In

2/07/82 Operation - Shut In

2/08/82 Operation - Shut In

2/09/82 Operation - Shut In

2/10/82 Operation - Shut In

2/11/82 Operation - Shut In

2/12/82 Operation - Shut In

2/13/82 Operation - Shut In

2/14/82 Operation - Shut In

2/15/82 Operation - Shut In

2/16/82 Operation - Shut In

2/17/82 Operation - Waiting for rig, rods are there, going to connect pump jack

2/18/82 Operation - Waiting to set up rig to run rods for pump jack

2/19/82 Operation - Waiting to set up rig to run rods for pump jack

2/20/82 Operation - Waiting for pump jack

2/21/82 Operation - Ran rods for pump jack

2/22/82 Operation - Pumped 27½ barrels of oil

2/23/82 Operation - Waiting on pump

2/24/82 Pumped 22 barrels of oil closed, waiting for roads to dry

2/25/82 Waiting for roads to dry, can not get through.

2/26/82 Waiting for roads to dry, can not get through.

2/27/82 Waiting for roads to dry, can not get through.

2/28/82 Waiting for roads to dry.

3/01/82 Waiting for roads to dry.

3/02/82 Waiting for roads to dry.

3/03/82 Waiting for roads to dry.

3/04/82 Waiting for roads to dry.

3/05/82 Waiting for roads to dry.

3/06/82 Waiting for roads to dry.

3/07/82 Waiting for roads to dry.

3/08/82 Waiting for roads to dry. ½ barrel of liquid, pumping.

3/09/82 Pumping - Pumped 60 barrels of liquid

47-I RECOMPLETION REPORT

11-11-82:

Pull rods and circulate hole with 2% Kcl H_2O.

11-12-82:

9:07 A. M. Circulate hole with 2% Kcl H_2O to get oil and gas out of well bore.

10:19 A. M. Spot 250 gal 7½% Hcl from 7486' to 7103'.

10:40 A. M. Start out of hole with tubing.

12:35 P. M. Out of hole with tubing.

12:45 P. M. Go in hole with logging tools.
Logger tagged bottom @ 7578'.
Run cement bond log and gamma ray log from 7578-6200'. CBL showed ±100% bond over this interval

3:10 P. M. Go in hole with gas spectrum tool.

3:22 P. M. Gas spectrum tool malfunction. Come out of hole.

3:48 P. M. Repaired tool. Start back in hole.
Log from 7578-6200'.

5:47 P. M. Go in hole with perforating guns.

6:04 P. M. Perforate Dakota zone @ 7323', 7326', 7329', 7216', 7221', 7223', 7231', 7235', 7238', 7243', 7249'

6:32 P. M. Perforate Dakota zone @ 7386', 7388', 7390', 7392', 7474', 7476', 7478', 7480', 7481', 7483', 7486'.

7:46 P. M. Break down. Broke @ 3500 PSI.
Establish rate 38.0 BPM @ 3370 PSI
ISIP = 1500 PSI.

7:57 P. M. Start balls. Drop 45 balls 20 bbls.
Run 20 bbl spacer.
Drop 2 balls/bbl in 68 bbls. @ 30 BPM
1 ball /bbl in 20 bbls. Total: 200 balls.
Reached 3600 PSI. Backed off. Pumped on it again @ 2400 PSI. Shut down.

8:16 P. M. Go in hole with junk basket to recover balls. Recover 120 balls.

DAKOTA FRAC:

9:54 P. M. Start pad. 38.4 BPM @ 3340 PSI

10:05 P. M. On pad 38.8 BPM @ 3280 PSI

10:10 P. M.	Start 1/2 lb/gal sand	38.7 BPM @ 3270 PSI
10:14 P. M.	1/2 lb/gal sand on formation	39.0 BPM @ 3220 PSI
10:15 P. M.	Start 1 lb/gal sand	39.3 BPM @ 3240 PSI
10:18 P. M.	1 lb/gal sand on formation	39.3 BPM @ 3240 PSI
10:22 P. M.	Start 1 1/2 lb/gal sand	39.4 BPM @ 3230 PSI
10:25 P. M.	1 1/2 lb/gal sand on formation	39.5 BPM @ 3210 PSI
10:27 P. M.		39.2 BPM @ 3320 PSI
10:31 P. M.	Go back to 1 lb/gal sand 1400 bbls. gone 397 bbl. of 1 1/2 lb/gal	38.8 BPM @ 3360 PSI
10:35 P. M.	1 lb/gal sand on formation	37.8 BPM @ 3400 PSI
10:38 P. M.	1 lb/gal sand	37.0 BPM @ 3480 PSI
10:45 P. M.	1 lb/gal sand	37.5 BPM @ 3480 PSI
10:58 P. M.	1 lb/gal sand	36.8 BPM @ 3500 PSI
11:07 P. M.	1 lb/gal sand	36.8 BPM @ 3470 PSI
11:11 P. M.	1 lb/gal sand	36.2 BPM @ 3490 PSI
11:13 P. M.	Start flush 1520 bbl @ 1 lb/gal	38.3 BPM @ 3400 PSI

Shut down. Flush away.
ISIP = 1600 PSI
5 min = 1500 PSI
10 min = 1500 PSI
Total fluid = 3039 bbl slurry
Total sand = 102,000 lbs.

11:40 P. M. Go in hole with bridge plug.

12:25 A. M. Set drillable bridge plug @ 7100'.

12:44 A. M. Pressure test bridge plug to 4000 PSI
Held pressure.

1:22 A. M. Perforate Tocito formation @ 6953', 6957', 6967', 6984', 6994', 6996', 7006', 7008', 7010', 7012', 7014' - 4 SPF.

2:15 A. M. Perforate Tocito formation @ 6907', 6911', 6914', 6920', 6922', 6927', 6929', 6935', 6937', 6943', 6950'. Total: 88 holes

2:55 A. M. Go in hole with tubing. Spot 250 gal. 7½% Hcl from 7014' to 6631'.
Spot tubing @ 6407' for breakdown and frac.

11/13/82:

6:16 A. M. Breakdown Tocito formation.
Establish rate. 15 BPM @ 3400 PSI.
Shut down. ISIP = 1500 PSI.

6:27 A. M. Start balls down tubing 34 balls in 10 bbls.
15 bbl spacer
Start balls @ 2 balls/bbl

6:44 A. M. Have ball off 3800 PSI. Shut down.

7:15 A. M. Wait for Nowsco's N_2 trucks.

TOCITO FRAC

12:52 P. M. Pressure test N_2 line to 7000 PSI.

1:02 P. M. Start pad. 22 BPM over all.
90% N_2 down tubing. (4630 PSI)
10% N_2 down casing + (fluid 6 BPM) 3000 PSI.

1:16 P. M. Start sand @ 1/2 lb/gal

1:20 P. M. Flow meter went down on fluid side.

1:21 P. M. Flow meter back working.

1:24 P. M. Flow meter down again.
Run job by time.

1:25 P. M. 1/2 lb/gal sand on formation
Casing pressure 2940 PSI
Tubing 4820 PSI

1:28 P. M. Start 1 lb/gal sand 2940 PSI casing
4830 PSI tubing

1:33 P. M. Slow rate to 18 BPM. N_2 pump went down.

1:37 P. M. 1 lb/gal sand on formation casing pressure = 3020
tubing pressure = 4500

1:51 P. M. Start 1 1/2 lb/gal sand. Pick rate up to 22 BPM.
Casing pressure = 3200 PSI
Tubing pressure = 4790 PSI

1:57 P. M. Shut down. Reach max. pressure. Sand off.
casing = 3900 PSI
tubing = 5740 PSI

23,637 lbs. sand in formation

3:00 P. M. Flow well back. Well making a lot of sand.

3:30 P. M. Pump H_2O down tubing. Try to kill well.
Casing flowing pressure 2230 PSI.
Tubing pressure 3260 PSI

4:00 P. M. 95 bbl. fluid pumped down tubing. Shut down.

11/14/82:

Kill well. Start out of hole with tubing.

4:55 A. M. Out of hole with tubing.

5:00 A. M. Go in hole with retrievable bridge plug.

5:20 A. M. Set plug @ 6570'.

5:49 A. M. Pressure test bridge plug to 3800 PSI.
Used 67 bbl. to load hole for pressure test.

6:10 A. M. Start in hole with perforating guns.

1st run: Shoot holes @ 6318', 6322', 6325', 6327', 6329', 6341', 6455', 6359', 6364', 6420', 6427'

2nd run: Shoot holes @ 6431', 6436', 6444', 6446', 6448', 6477', 6485', 6490'
4 SPF. 76 holes.

8:14 A. M. Breakdown Gallup formation.
Broke @ 2000 PSI.
Establish rate @ 49 BPM 3400 PSI
ISIP = 400 PSI

8:16 A. M. Start balls. 20 BPM 1500 PSI
See ball action. 20 BPM @ 2080 PSI

8:25 A. M. Have ball off. 3800 PSI

GALLUP FRAC

9:06 A. M.	Start pad.	53.6 BPM @ 3220 PSI
9:08 A. M.		54.0 BPM @ 3250 PSI
9:10 A. M.	Start 1/2 lb/gal sand	54.4 BPM @ 3200 PSI
9:12 A. M.	1/2 lb/gal sand on formation	53.9 BPM @ 3210 PSI
9:13 A. M.		53.7 BPM @ 3280 PSI
9:14 A. M.	Start 1 lb/gal sand	54.1 BPM @ 3240 PSI
9:15 A. M.	1 lb/gal sand on formation	54.0 BPM @ 3250 PSI

9:19 A. M.	Start 1 1/2 lb/gal sand	46.9 BPM @ 2520 PSI (Lost a pump - lose rate)
9:21 A. M.	1 1/2 lb/gal sand on formation	46.5 BPM @ 2560 PSI
9:24 A. M.		44.5 BPM @ 2680 PSI

330 bbl slurry gone. Go to 1 lb/gal sand, due to high pressure.

9:26 A. M. 1 lb/gal sand
70 bbl 1 lb/gal sand. Reach more pressure. Go to flush.
Reach max. pressure. Shut down.
1092 bbls. slurry total
34,120 lbs. in formation
ISIP = 500 PSI
5 min = 425 PSI
10 min = 310 PSI

10:30 A. M. Go in hole with tubing and retrieving head for retrievable bridge plug.

1:15 P. M. Come out of hole with bridge plug.

2:30 P. M. Go in hole with tubing and mill to mill out bridge plug @ 7100'.
Clean out to bottom - 7578'.
Landed 2 3/8" tubing @ 7466'.

CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562

January 10, 1983

Mr. John S. Keller
U. S. Dept of the Interior
Bureau of Land Management
P. O Drawer 600
Farmington, NM 87401

Re: Commingling of Well 47-1, Chacon Dakota Associated Pool

Dear Mr. Keller:

This is to notify the Bureau of Land Management that Chace Oil Company, Inc. has applied under the Oil Conservation Commission rule 303-C for authority to commingle the Gallup, Tocito, Greenhorn, and Dakota production.

The application is submitted for the Chace Oil Company, Inc. 47-1 Well in Unit 'I', of Section 12, T23N,R4W, Rio Arriba County, New Mexico.

Very truly yours,

Ross Easterling
Landman

RE/ss

CHACE OIL COMPANY, INC.
313 Washington S.E.
Albuquerque, New Mexico 87108
(505) 266-5562

January 13, 1983

Amoco Production Company
Amoco Building
Denver, Colorado 80202

Attention: Laura H. Greeley

Re: Chace Oil Company #1-47-JV Well
Unit 'I' - 1850' FSL & 790' FEL
Section 12, T23N,R4W
Rio Arriba County, New Mexico

Gentlemen:

By executing this Waiver in the space provided below, Amoco Production Company, as offset operator, will indicate that they are not adverse to downhole commingling of Gallup production with the Chacon Dakota in the above referenced well.

Very truly yours,

Ross Easterling

Ross Easterling
Landman

RE/ss

WAIVER APPROVED

_____
AMOCO PRODUCTION COMPANY

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 7754
Order No. R-7178

APPLICATION OF CHACE OIL COMPANY,
INC. FOR DOWNHOLE COMMINGLING,
SANDOVAL COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on December 16, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 5th day of January, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Chace Oil Company, Inc., is the owner and operator of the Chace Apache 15 Well No. 2, located in Unit I of Section 20, Township 23 North, Range 3 West, NMPM, Sandoval County, New Mexico.

(3) That the applicant seeks authority to commingle Gallup and Dakota production within the wellbore of the above-described well.

(4) That from the Gallup zone, the subject well is capable of low marginal production only.

(5) That from the Dakota zone, the subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Chace Oil Company, Inc., is hereby authorized to commingle Gallup and Dakota production within the wellbore of the Chace Apache 15 Well No. 2, located in Unit I of Section 20, Township 23 North, Range 3 West, NMPM, Sandoval County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

S E A L

Memo

From
Gilbert P. Quintana
Petroleum Engineer

To File; Order No's; DHC-388, 389, 393, 394, and R-7178

Allocation Formula Calculations

Sufficient producing trends to establish a consistent and/or reliable allocation formula were not yet available. Therefore allocation of liquid production was based on volumetric reserves estimates. Gas allocation was based on data from Amoco's offset well in the NE/4/NE/4 Section 8, T23N, R3W, Sandoval County.

Dakota Test 598 MCF ≃ 56%
Gallup Test 469 MCF ≃ 44%
1069 MCF

Under the circumstances of inconclusive data this was the simplest and most reliable method.

Gilbert Quintana
3/10/83

Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

TABLE OF CONTENTS

ALLOCATION OF PRODUCTION STUDY

CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562

February 17, 1983

Mr. Gilbert Quintana
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Mr. Frank T. Chavez
Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

Gentlemen:

The following report is submitted to document and present an allocation of production formula for five (5) commingled wells owned and operated by Chace Oil Company, Inc.

The subject wells are completed in the Chacon Dakota Associated Pool, as well as an Undesignated Gallup Member or Members. Descriptions of the well locations and Conservation Division Order Numbers are listed below:

Well:	Description:	Order No.:
#1-47-JV	I-12-23N-04W	DHC-388
Chace Apache 15-2	I-20-23N-04W	R-7178
Chace Apache 15-3	F-20-23N-03W	DHC-389
Chace Apache 54-10	I- 3-22N-03W	DHC-393
Chace Apache 54-11	K- 3-22N-03W	DHC-394

Evaluation of the production histories of the offset wells and the subject wells, nearby test data, and our (in house) reserves study of the producing zones has enabled us to conclude that the Gallup and Dakota zones are capable of low to marginal production only, and that allocation of production attributable to each zone has been derived by reserve determination for oil and test data for gas.

The allocation of production formula for the two zones is presented below for each well:

Well:		Gallup:	Dakota:
#1-47-JV			
	Oil	25%	75%
	Gas	TSTM 50% DHC (Arbitrary Allocation)	TSTM 50% DHC
Chace Apache 15-2			
	Oil	21%	79%
	Gas	44%	56%
Chace Apache 15-3			
	Oil	21%	79%
	Gas	44%	56%
Chace Apache 54-10			
	Oil	27%	73%
	Gas	44%	56%
Chace Apache 54-11			
	Oil	18%	82%
	Gas	44%	56%

This report is submitted in compliance with the conditions set forth in the Oil Conservation Commission Orders, (referenced above), which grant Chace Oil Company, Inc. approval for downhole commingling in the subject wells.

Very truly yours,

Ron Gordon
Geologist

Ross Easterling
Landman

RE/ss

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 15-2

Initial Production: 8/1977

Zones Completed: Dakota

Previous Year, (1982), by Month:

	Oil/Bbls.	Gas/MCF
January	8	304
February	23	171
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	129	12
October	13	26
November	See other sheet	
December	See other sheet	
Total:	173	513

Historical by Year:

	Oil/Bbls.	Gas/MCF
1981	1612	3614
1980	1706	5392
1979	2583	10190
1978	5582	8299
1977	4608	4212
Total Cumulative Prod.:	16264 Bbls.	32220 MCF

Remarks: This is production prior to workover of 11/1982.

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 15-2

Date of Workover: 11/8/82

Zones Recompleted: Dakota, Greenhorn, Tocito, Gallup

Production, (by month), since workover:

	Oil/Bbls.	Gas/MCF
November	623	318
December	266	33
Total:	889	351

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 15-3

Initial Production: 9/1977

Zones Completed: Dakota

Previous Year, (1982), by month:

	Oil/Bbls.	Gas/MCF
January	112	51
February	51	17
March	40	370
April	118	437
May	110	24
June	88	0
July	116	10
August	92	245
September	165	419
October	135	391
November	82	327
December	See other sheet	
Total:	1109	2291

Historical By Year:

	Oil/Bbls.	Gas/MCF
1981	1359	4015
1980	1616	4686
1979	2158	4908
1978	3575	2761
1977	2424	0
Total Cumulative Prod.:	12241 Bbls.	18661 MCF

Remarks: This is production prior to workover of 12/1982.

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 15-3

Date of Workover: 12/6/82

Zones Recompleted: Dakota, Greenhorn, Tocito, Gallup

Production, (by month), since workover:

	Oil/Bbls.	Gas/MCF
December	133	393

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 47-1-JV

Initial Production: 2/1982

Zones Completed: Greenhorn, Dakota

Production History:

	Oil/Bbls.	Gas/MCF
1982		
January		0
February	163	0
March	105	0
April	434	0
May	184	0
June	146	0
July	126	0
August	108	0
September	0	0
October	0	0
November	0	0
December	See other sheet	
Total:	1266	0

Remarks: This is production prior to workover of 12/1982.

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 41-1-JV

Date of Workover: 12/11/82

Zones Recompleted: Dakota, Greenhorn, Tocito, Gallup

Production History, (by month), since workover:

	Oil/Bbls.	Gas/MCF
December	1056	0

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 54-10

Initial Production: 11/1982

Zones Completed: Dakota, Greenhorn, Tocito

Production History:

	Oil/Bbls.	Gas/MCF
November	1901	0
December	1424	0
Total:	3325	0

PRODUCTION HISTORY

Field: Chacon

Well: Chace Apache 54-11

Initial Production: 7/1982

Zones Completed: Dakota, Tocito

Production History:

	Oil/Bbls.	Gas/MCF
July	234	0
August	1106	0
September	581	0
October	620	1787
November	627	463
December	536	161
Total:	3704	2411

CHACE OIL COMPANY
RESERVE DATA & OIL RESERVES
VOLUMES @ 14.73 PSIA & 60° F.

AREA Chacon '15' area COUNTY Sandoval

STATE New Mexico DATE Reserves as of 1-1-83

Geological Age						
Reservoir Name	Gallup Assoc. 15-2	Dakota 15-2	Gall.Assoc. 15-3	Dakota 15-3		
Average Depth						
Limiting Contact						
No. Wells Producing						
Productive Area, Acres	40	160	40	160		
Average Net Sand, Feet	48	49	55	56		
Reservoir Volume, Ac. Ft.	1920	7840	2200	8960		
Average Porosity, %	6.0	8.0	6.0	8.0		
Average Connate Water, %	60	50	60	50		
Liquid Specific Gravity, API						
Formation Volume Factor	1.160	2.105	1.160	2.105		
Orig. Oil in Place, Bbl./Ac. Ft.	160	147	160	147		
Orig. Oil in Place Reservoir, Bbls.	307200	1152480	352000	1317120		
Oil Recovery Factor, %	5	5	5	5		
Orig. Recoverable Oil, Bbls.	15360	57624	17600	65856		
Cum. Oil Production, Bbls.	187	16966	28	12346		
Remaining Rec. Oil, Bbls.	15173	40658	17572	53510		
% of O.R.R. attributable to each formation	21%	79%	21%	79%		

CHACE OIL COMPANY
RESERVE DATA & OIL RESERVES
VOLUMES @ 14.73 PSIA & 60° F.

AREA Chacon 47-1 area COUNTY Rio Arriba

STATE New Mexico DATE Reserves of 1-1-83

Geological Age						
Reservoir Name	Gallup Assoc. 47-1-JV	Dakota 47-1-JV				
Average Depth						
Limiting Contact						
No. Wells Producing						
Productive Area, Acres	40	160				
Average Net Sand, Feet	52	24				
Reservoir Volume, Ac. Ft.	2080	3840				
Average Porosity, %	6.0	8.0				
Average Connate Water, %	60	50				
Liquid Specific Gravity, API						
Formation Volume Factor	1.000	1.000				
Orig. Oil in Place, Bbl./Ac. Ft.	186	310				
Orig. Oil in Place Reservoir, Bbls.	386880	1190400				
Oil Recovery Factor, %	6	6				
Orig. Recoverable Oil, Bbls.	23213	71424				
Cum. Oil Production, Bbls.	264	2058				
Remaining Rec. Oil, Bbls.	22949	69366				
% of O.R.R. attributable to each formation	25%	75%				

CHACE OIL COMPANY
RESERVE DATA & OIL RESERVES
VOLUMES @ 14.73 PSIA & 60° F.

AREA Chacon '54' area COUNTY Sandoval

STATE New Mexico DATE Reserves as of 1-1-83

Geological Age						
Reservoir Name	Gallup Assoc. 54-10	Dakota 54-10	Gal.Assoc. 54-11	Dakota 54-11		
Average Depth						
Limiting Contact						
No. Wells Producing						
Productive Area, Acres	40	160	40	160		
Average Net Sand, Feet	30	22	11	14		
Reservoir Volume, Ac. Ft.	1200	3520	440	2240		
Average Porosity, %	6.0	8.0	6.0	8.0		
Average Connate Water, %	60	50	60	50		
Liquid Specific Gravity, API						
Formation Volume Factor	1.160	2.105	1.160	2.105		
Orig. Oil in Place, Bbl./Ac. Ft.	160	147	160	147		
Orig. Oil in Place Reservoir, Bbls.	192000	517440	70400	329280		
Oil Recovery Factor, %	10	10	10	10		
Orig. Recoverable Oil, Bbls.	19200	51744	7040	32928		
Cum. Oil Production, Bbls.	898	2427	667	3037		
Remaining Rec. Oil, Bbls.	18302	49317	6373	29891		
% of O.R.R. attributable to each formation	27%	73%	18%	82%		

Chace Oil Company, Inc.
313 Washington, S. E.
Albuquerque, NM 87108

Commingling Study

PRODUCTION - OFFSETTING WELLS

Chace Well	Offsetting Well	Location	Date I. P.	1-1-83 Cum. Prod.	Zones Completed
47-1-JV	None				
15-2	Chace 15-1	NE,NE Sec. 20 T23N,R4W	4/1977	17,931 B. O. 106,980 MCF	Dakota
15-3	As above				
54-10	Chace 54-1	NE,NE Sec. 3 T22N,R3W	11/1978	9,558 B. O. 84,276 MCF	Dakota
54-11	Chace 54-9	NE,NW Sec. 3 T22N,R3W	8/1981	9,009 B. O. 4,854 MCF	Dakota

Chace Oil Company, Inc.
313 Washington, SE
Albuquerque, NM 87108

Commingling Study

TEST DATA

Well: Amoco Production Company
#2-396 Jicarilla

Location: SE/4, Section 8, T23N,R3W
Rio Arriba County, New Mexico

Dakota Zone - Pressure @ 7600' 2094 PSIA

Date	Choke	FTP	Oil Rate Bbls/Day	Gas Rate MCFD
8-14-82	20/64	220	22	663
8-15-82	20/64	220	20	606
8-16-82	20/64	200	15	630
8-17-82	20/64	200	16 .53	583
8-21-82	20/64	210	13	591
8-22-82	20/64	210	13	591
8-23-82	20/64	210	14	548
8-24-82	20/64	210	20	571

Gallup Zone - Bressure @ 7400' 2010 PSIA

Date	Choke	FTP	Oil Rate Bbls/Day	Gas Rate MCFD
9-3-82	20/64	240	22	539
9-4-82	20/64	225	15	447
9-5-82	20/64	210	15	427
9-6-82	20/64	210	18 .47	478
9-7-82	20/64	190	13	427
9-8-82	20/64	240	22	539
9-9-82	20/64	200	11	427

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONEY ANAYA
GOVERNOR

March 11, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Ron Gordon, Geologist
Ross Easterling, Landman
Chace Oil Company, Inc.
313 Washington, S.E.
Albuquerque, New Mexico 87108

RE: Allocation of Production Study for R-Order No's: DHC-388, 389, 393, 394, and R-7178

Gentlemen:

Your "Allocation of Production Study" for the above referenced orders, has been reviewed and has been found satisfactory with this office. Production is therefore allocated, as found in your study, according to the following formula;

WELL		ORDER NO.	GALLUP	DAKOTA
#1-47-JV		DHC-388		
	Oil		25%	75%
	Gas		44%	56%
Chace Apache 15-2		R-7178		
	Oil		21%	79%
	Gas		44%	56%
Chace Apache 54-3		DHC-389		
	Oil		21%	79%
	Gas		44%	56%
Chace Apache 54-10		DHC-393		
	Oil		27%	73%
	Gas		44%	56%
Chace Apache 54-11		DHC-394		
	Oil		18%	82%
	Gas		44%	56%

If you have any questions concerning this matter, contact Gilbert P. Quintana at 827-5807.

Sincerely,

JOE D. RAMEY,
Director

JDR/GPQ/dv

Enc.

cc: Aztec District Office
DHC-388,389,393,394, and
R-7178

DHC - 388

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

TONEY ANAYA
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

March 22, 1983

Mr. Gilbert Quintana
Oil Conservation Division
P. O. Box 2088
Santa Fe NM 87501

Re: Chace Oil Company--Downhole Commingled Wells

Dear Gilbert;

After reviewing the recommended allocations for the referenced wells from the letter of February 17, 1983, I think that they are acceptable as shown on page two of that letter.

If you have any questions please call this office.

Yours truly,

Frank T. Chavez
District Supervisor

FTC:gc

Enc.

The allocation of production formula for the two zones is presented below for each well:

Well:		Gallup:	Dakota:
#1-47-JV			
	Oil	25%	75%
	Gas	TSTM	TSTM
Chace Apache 15-2			
	Oil	21%	79%
	Gas	44%	56%
Chace Apache 15-3			
	Oil	21%	79%
	Gas	44%	56%
Chace Apache 54-10			
	Oil	27%	73%
	Gas	44%	56%
Chace Apache 54-11			
	Oil	18%	82%
	Gas	44%	56%

This report is submitted in compliance with the conditions set forth in the Oil Conservation Commission Orders, (referenced above), which grant Chace Oil Company, Inc. approval for downhole commingling in the subject wells.

Very truly yours,

Ron Gordon
Geologist

Ross Easterling
Landman

RE/ss