

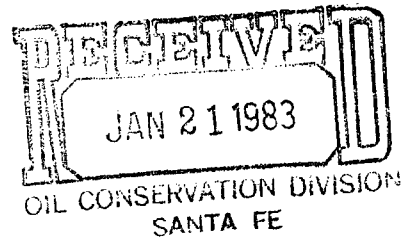


CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562



January 19, 1983

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

Gentlemen:

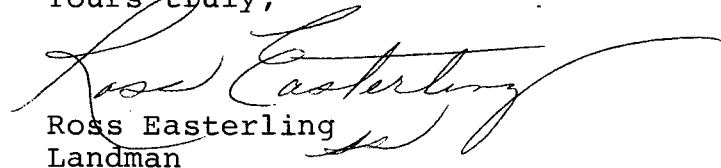
Enclosed are two copies of application for approval of downhole commingling. The applications are for four Chace Oil Company, Inc. Jicarilla tribal wells, which fall in the Chacon Dakota Associated field.

Chace Oil Company has recently been heard by the Oil Conservation Commission, and received Order No. R-7178, which is relative to this issue.

We are awaiting waivers from the offset operators of these wells, and will submit them shortly as supplements to these applications.

It is our hope that the previous Commission order, and the supplements, will help the Commission carry out the administration of rule 303-C.

Yours truly,


Ross Easterling
Landman

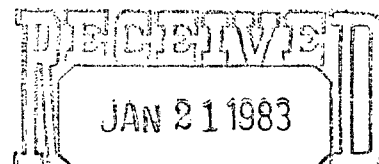
RE/ss

Enclosures: Copies of application for approval to commingle:

Jicarilla Apache 15-3
Jicarilla Apache 47-1
Jicarilla Apache 54-10
Jicarilla Apache 54-11

R

DHC-393



BEFORE THE OIL CONSERVATION COMMISSION OIL CONSERVATION DIVISION
STATE OF NEW MEXICO SANTA FE

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 Apache 54, Well No. 10.

The 54-10 well was completed in the Chacon Dakota Associated field and in an Undesignated Gallup group November 12, 1982.

Applicant requests authority for downhole commingling in the subject well of the Dakota Associated pool with the Gallup Associated 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 - 6897' | 40 |
| Undesignated Gallup - 6725' | 40 |

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

- Each of the zones require artificial lift.
Neither is capable of flowing.
- "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, Paragraphs A-J, 'For approval of downhole commingling':

- (a) Chace Oil Company, Inc.
313 Washington, SE
Albuquerque, New Mexico 87108
- (b) The applicant is the owner and operator of the Chace Oil Company, Inc., Jicarilla Apache 54, Well No. 10.

Location: Unit 'I' - 1850' FSL & 990' FEL
Section 3, Township 22 North, Range 3 West
Sandoval County, New Mexico

Pools to be commingled:

Chacon Dakota

Undesignated Gallup

- (c) Plat indicating location of 54-10 well and off-setting location ownership. Attached p. 4.
- (d) Gas Oil ratio form C-116, dated November 17, 1982. Attached p. 5.
- (e) Production decline curve. Completion Report. Attached p. 6.
- (f) Estimated bottom hole pressure for each artificially lifted zone to be commingled, (PSIA):

Undesignated Gallup 2309

Chacon Dakota 2406

- (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:

	<u>Oil</u>	<u>Gas</u>
Dakota	60%	45%
Gallup	40%	55%

(j) Notification of proposed commingling:

Notice to the Minerals Management Service and waivers from offset operators are attached.

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SUBJECT WELL : Chace Apache 54-10
Unit 'I' - 1850' FSL & 990 FEL
Sec. 3, T22N, R3W Sandoval County NM

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**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator Chace Oil Company, Inc.		Pool Chacon Dakota		County Sandoval	
Address 313 Washington, SE, Albuquerque, NM 87108				TYPE OF TEST - (X) <input checked="" type="checkbox"/> TEST - (X)	
LEASE NAME Chace Apache 54		WELL NO. 10	LOCATION U S T R 'T' 3 22N 3W	DATE OF TEST 1-14-83	CHOKE SIZE 2"
				TBG. PRESS. 137	DAILY ALLOW-ABLE 124
				LENGTH OF TEST 24	PROD. DURING TEST WATER BBL'S. GRAV. OIL BBL'S. GAS M.C.F.
					8 43 45 15
					333

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.

B. C. Williams
(Signature)
President
(Title)

1-14-83

o gas

DATE	TIME	WELL	DEPTH	TEMP.	PRESS.	SURFACE	WIND	CLOUDS	SEA	REMARKS
1982	JUN 01									
1983	JUN 01									
1984	JUN 01									
1985	JUN 01									
1986	JUN 01									
1987	JUN 01									
1988	JUN 01									
1989	JUN 01									
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CHACE APACHE 54-10 PRODUCTION HISTORY

	<u>Bbls/Oil</u>	<u>MCF/Gas</u>
<u>1982:</u>		
January		
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March		
April		
May		
June		
July		
August		
September		
October		
November	1901	0 IP
December	<u>1434</u>	<u>0</u>

<u>1983:</u>		
January		
February		
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October		
November		
December	<u> </u>	<u> </u>

CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562



WELL HISTORY

NAME OF WELL: CHACE APACHE 54-10

LOCATION: Unit "I" - 1850' FSL and 990 FEL
Section 3, T22N,R3W
Sandoval Co., NM

PROJECTED DEPTH: 7100'

ELEVATION: 7124' GL

ESTIMATED
FORMATION TOPS:

Ojo	2170'
Pictured Cliffs	2480'
Chacra	2845'
Cliff House	4015'
Point Lookout	4390'
Gallup	5660'
Greenhorn	6650'
Dakota "A"	6725'
Dakota "D"	6900'
Burro Canyon	7005'

3-30-82:

APD submitted.

7-7-72:

APD approved.

8-25-82:

Road and pad construction commenced.

9-26-82:

Day #1. Present operation: WOC. Depth today: 215'. Mud additives:
50 gel, 2 lime. Deviation record: 1/4° @ 215'. Bit #1, 12 1/4,
OSC. 215' 1 1/2 hours.

9 hours - Move, and rig up.

1 hour - Drill rat and mousehole.

1 1/2 hours - Drill surface

1 hour - Circulate

1/2 hour - Survey and trip.

1 hour - Run 8 5/8 casing and cement.

10 hours - WOC.

9-25-82:

Moved in and rigged up with Arapahoe Drilling Company. Spudded at 4:00 PM on 9-25-82. Ran 5 joints of 8 5/8" casing, 23#, K-55. Total length 215', set at 213' KB. Circulated cement. 200 sxs (360 CF) Class B cement, 3% Calcium Chloride, with 1/4# Flocele per sack. Circulated 5 sxs to surface. Plug down at 8:00 P. M. on 9-25-82.

Chace Apache 54-10:

Page Two

9-27-82:

~~Day #2.~~ Operation: drilling. Depth today: 2130'. 24 hours footage: 1915'. Formation: sand and shale. Rotary RPM: 70. Weight on bit: 20,000#. Drilling rate: 50' per hour. Pressure: 1200#. 58 strokes per minute. Mud vis: 28. Wt.: 8.8. W. L: 8.4. Mud additives: 10 gel, 5 fiber, 17 bnex, 28 starch, 2 1/2 soda ash, 1 caustic soda. Deviation surveys: 1/2° @ 536'; 1/4° @ 837'; 1/2° @ 1113'; 3/4° @ 1392'; 1 1/4° @ 1699'; 1° @ 2005'. Bit #2, 7 7/8", F2. 1915', 19 3/4 hours.
1 hour - WOC
1 hour - Drill plug and cement
1/2 hour - RS Repairs
1 3/4 hours - Surveys
19 3/4 hours - Drilling

9-28-82:

Day #3. Present operation: drilling. Depth today: 2912'. 24 hour footage: 782'. Formation: sand and shale. Rotary RPM: 70. Weight on bit: 10,000#. Present drilling rate: 30' per hour. Pressure: 1200#. 58 strokes per minute. Mud vis: 34. Wt.: 8.6. W. L.: 4.6. Mud additives: 17 gel, 6 fiber, 12 starch, 4 bnex, 1 1/2 soda ash, 2 caustic soda, 3 thinner, 5 preservative, 70 bbls. oil. Bit #2, 7 7/8", F2. 2527', 33 3/4 hours. Bit #3, 7 7/8", J22. 170', 6 hours.
1/4 hour - RS
1 1/2 hours - Survey
2 1/4 hours - Trip
20 hours - Drilling

Deviation record:

3/4° @ 2315'
1° @ 2587'
1° @ 2680'
1° @ 2742'
1° @ 2834'
1° @ 2894'

Day #4. Present operation: drilling. Depth today: 3700'. 24 hour footage: 788'. Formation: sand and shale. Rotary RPM: 65. Weight on bit: 30,000#. Present drilling rate: 40 ft. per hour. Pump - liner size: 5 1/2. Pressure: 1,200#. 58 strokes per minute. Mud vis: 33. Wt.: 8.9. W. L. : 8.6. Mud additives: 22 gel, 8 fiber, 1 1/2 soda ash, 3 thinner, 26 barrels oil, 7 starch, 1 caustic soda, 5 preservative. Deviation record: 1° @ 2987'; 1° @ 3142; 3/4° @ 3572'. Bit #3, 7 7/8, J22. 958', 28 1/2 hours.
1/4 hour - RS
1 hour - Survey
23 3/4 hours - Drilling

9-30-82:

Day # 5. Present operation: drilling. Depth today: 4348'. 24 hour footage: 648'. Formation: sand and shale. Rotary RPM: 65. Weight on bit: 30,000#. Present drilling rate: 28' per hour. Pump - liner size: 5 1/2. Pressure: 1200#. 58 strokes per minute. Mud vis: 39. Wt.: 9.2. W. L.: 5.6. Mud additives: 50 gel, 8 starch, 4 fiber, 3 thinner, 1 soda ash, 5 preservative, 2 caustic soda, 50 barrels of oil. Deviation record: 1 1/4° @ 4092'. 1° @ 4244'. Bit #3, 7 7/8", J22. 1606' 51 1/4 hours.
1/4 hour - RS
1 hour - Surveys
22 3/4 hours - Drilling

10-1-82:

Day #6. Present operation: trip. Depth today: 4838'. 24 hour footage: 490'. Formation: sand and shale. Mud vis: 40. Wt.: 9.2. W. L.: 5.4. Mud additives: 3 starch, 1/2 soda ash, 3 caustic soda, 2 thinner, 70 bbls. oil, 5 gal. preservative. Deviation record: 3/4° @ 4432'. 1/2° @ 4838'. Bit #3, 7 7/8", J22. 2096', 69 hours. Bit #4, 7 7/8", F2.
1/4 hour - RS
3/4 hours - Survey
2 1/4 hours - Pull 5 stands and work on stand pipe.
17 7/8 hours - Drilling
3 hours - trip.

10-2-82:

Day #7. Present operation: drilling. Depth today: 5400'. 24 hour footage: 562'. Formation: sand and shale. Rotary RPM: 65. Weight on bit: 35,000#. Present drilling rate: 25' per hour. Pump - 5 1/2. Pressure: 1,200#. 58 strokes per minute. Mud vis: 41. Wt.: 9.3. W. L.: 8.0. No mud additives available. Deviation record: 1° @ 5317'. Bit #4, 7 7/8", F2. 562', 21 1/4 hours.
2 hours - trip
1/4 hour - RS BOP
1/2 hour - Survey
21 1/4 hours - Drill

10-3-82:

Day #8. Present operation: drilling. Depth today: 5930'. 24 hour footage: 530'. Formation: sand and shale. Rotary RPM: 65. Weight on bit: 35,000#. Present drilling rate: 20' per hour. Pump - liner size: 5½. Pressure: 1200#. 58 strokes per minute. Mud vis: 40. Wt.: 9.4. W. L.: 5.4. No mud additives available. Deviation record: 1° @ 5808'. Bit #4, 7 7/8", F2. 1092', 44 1/2 hours.
23 1/4 hours - drilling
1/4 hours - RS BOP
1/2 hours - Survey

10-4-82:

Day #9. Depth today: 6390'. 24 hour footage: 460'. Formation: sand and shale. Rotary RPM: 65. Weight on bit: 35,000#. Present drilling rate: 16' per hour. Pump - liner size: 5 1/2. Pressure: 1,200#. 58 strokes per minute. Mud vis: 40. Wt.: 9.4. W. L.: 6.0. Mud additives: 75 gel, 7 starch, 4 caustic soda, 1 1/2 soda ash, 2 fiber, 5 thinner, 5 preservative, 50 barrels of oil. Deviation record: 3/4° @ 6300'. Bit #4, 7 7/8", F2. 1552', 67 1/2 hours.
23 hours - Drilling
1/2 hour - RS BOP
1/2 hour - Survey

10-5-82:

Day #10. Depth today: 6795'. 24 hour footage: 405'. Formation: sand and shale. Rotary RPM: 60. Weight on bit: 35,000#. Present drilling rate: 12' per hour. Pump - liner size: 5 1/2. Pressure: 1,200#. 58 strokes per minute. Mud vis: 45. Wt.: 9.4. W. L.: 6.8. Mud additives: 57 gel, 6 starch, 1 soda ash, 2 thinner, 2 caustic soda, 5 preservatives. No deviation record available. Bit #4, 7 7/8", F2. 1957', 91 hours.
23 1/2 hours - Drilling
1/2 hour - RS

10-6-82:

Day #11. Depth today: 6925'. 24 hour footage: 130'. Formation: Dakota. Rotary RPM: 45. Weight on bit: 40,000#. Present drilling rate: 7' an hour. Pump - liner size: 5 1/2. Pressure: 1200#. 58 strokes per minute. Mud vis: 55. Wt.: 9.5. W. L.: 5.2. Mud additives: 32 gel, 2 caustic soda, 1 soda ash, 5 starch, 2 thinner, 6 LCM, 15 bar. Deviation record: 1/2 ° @ 6818'. Bit #4, 7 7/8, F2. 1890', 94 hours. Bit #5, 7 7/8, F4. 107', 17 3/4 hours.
17 3/4 hours - Drilling
6 1/2 hours - RS - Survey - Trip

10-7-82:

Day #12. Present operation: drilling. Depth today: 7055'. 24 hour footage: 130'. Formation: Dakota. Rotary RPM: 45. Weight on bit: 35,000#. Present drilling rate: 4' per hour. Pump - liner size: 5 1/2. Pressure: 1200#. 58 strokes per minute. Mud vis: 55. Wt.: 9.6. W. L.: 5.6. Mud additives: 73 gel, 4 fiber, 5 thinner, 6 starch, 4 caustic soda, 1 1/2 soda ash, 5 preservative, 15 bar. Deviation record: 1 1/4° @ 7027'. Bit #5, 7 7/8", F4. 209', 27 1/2. Bit #6, 7 7/8", F3, 28', 5 1/2 hours.
19 hours - Drilling
4 1/2 hours - Survey and trip
1/2 hour - RS

10-8-82:

Day # 13. Present operation: circulate to lay down drill pipe. Depth today: 7145'. 24 hour footage: 90'. Rotary RPM: 45. Weight on bit: 35,000#. Pressure: 1,200#. 58 strokes per minute. Mud vis: 100. Wt.: 9.6. W. L.: 4.4. Bit #6, 7 7/8", F3. 118', 11 1/4 hours.
5 3/4 hours - Drilling
1/4 hour - RS
4 hours - Circulate
5 3/4 hours - Trip
2 1/4 hours - Tried to log. Bridge @ 1320 and 1215'.
3 3/4 hours - Log with Schlumberger
2 1/4 hours - Trip in

10-9-82:

Day #14. Present operation: rig down. Depth today: 7145' TD.
3 1/2 hours - Circulate and wash to bottom with bit.
4 3/4 hours - Lay down drill pipe
5 hours - Rig up and run 4 1/2" casing
1 1/2 hours - Rig up Halliburton. Wash casing to bottom
1 1/4 hours - Cement 1st stage
1/4 hours - Open DV tool
3 hours - Circulate casing
1/2 hour - Cement second stage. Plug down @ 11:45 A. M.
3 1/4 hours - Nipple down. Set slips. Rig released @ 5:00 A. M.
1 hour - Rig down

10-8-82: Ran 182 jts. 4 1/2" 11.6# N-80 casing to 7143', with guide shoe set @ 7143' KB, float collar @ 7101', and short joint @ 6333'-6353'. DV tool @ 2790'. Centralizers @ 7121', 7061', 6982', 6904', 6826', 6746', 6510', 6353', 2870', and 2751'. Cement baskets @ 6589', 6293', 2870', and 2003'. Cemented 1st stage with 750 sxs, (1350 CF) of 50/50 pozmix, 2% gel, 6 1/4# Gilsonite and 6# salt per sack. Cemented 2nd stage with 270 sxs, (486 CF) of 65/35 pozmix, 12% gel, 6 1/4# Gilsonite per sack, followed by 50 sxs, (90 CF) Class B. Plug down at 1:50 A. M. 10/9/82. Circulated 5 bbls to surface. WORT.

10-18-82:

10:00 A. M.: Move in Bayless rig.
12:00 A. M.: Go in hole with bit and tubing.
2:31 P. M.: Tag cement @ 2760', 30' above D. V. tool.

4:15 P. M.: Drill out cement to 7090', 10' above float collar.

9:00 P. M.: Circulate hole with 2% KCl H₂O.

9:40 P. M.: Pressure test casing to 4500 PSI.
Held for 5 min. without losing any pressure.

9:45 P. M.: Spot 250 gal. 7½% acetic acid from 6897' to 6514'.

10:00 P. M.: COOHWT.

11:40 P. M.: Go in hole with logging tools. Have problem with computer.

10-19-82:

3:59 A. M.: Out of hole with logging tools. Logging complete.

5:01 A. M.: Go in hole with perforating guns to perforate Dakota "B" zone.
Shot holes @ 6863', 6865', 6868', 6870', 6872', 6874', 6876',
6878', 6886', 6890', and 6897'. Total 44 holes. 4 SPF

Dakota "B" Zone break down and ball off

5:28 A. M.: Broke @ 22 BPM 3200 PSI
Establish rate @ 39 BPM 3200 PSI
ISIP = 1800 PSI

5:51 A. M.: Drop balls. 2/bbl in 32 bbls.

5:56 A. M.: All balls in. 10 BPM 2600 PSI

6:02 A. M.: Ball action. Pressure climbing. 2900 PSI 7 BPM
No ball off. Used 190 bbl.

6:29 A. M.: Go in hole with junk basket to recover balls. Recovered 2 balls.
Check ball dropper, and found the remaining 63 balls.
Reload ball dropper. Repair Fracometer.

9:17 A. M.: Try ball off again. 5 balls/bbl for 62 bbl.
14 BPM 2400 PSI. All balls away.
Increase rate. 40 BPM. 3500 PSI.
Slow rate. 20 BPM 2500 PSI. 88 bbls. gone. Balls will hit after 20 bbls.

9:24 A. M.: Balls hit. Reach max. pressure. Shut down
2nd ball off used 127 bbls.

9:35 A. M.: Go in hole with junk basket to recover balls.
Recover 65 balls.

10:26 A. M.: Start pad 40 BPM @ 3600 PSI

10:30 A. M.: 40 BPM @ 3600 PSI

10:32 A. M.: Start 0.5 lb/gal sand 40 BPM @ 3500 PSI

10:35 A. M.: 0.5 lb/gal sand
on formation 40 BPM @ 3450 PSI

10:36 A. M.: Start 1.0 lb/gal sand 41 BPM @ 3400 PSI

10:37 A. M.: 42 BPM @ 3300 PSI

10:37:40 A. M.: 42 BPM @ 3250 PSI

10:38 A. M.: 1.0 lb/gal sand
on formation 42 BPM @ 3200 PSI

10:40 A. M.: Start 1.5 lb/gal sand 42 BPM @ 3200 PSI

10:42 A. M.: 1.5 lb/gal sand
on formation 42 BPM @ 3200 PSI

10:44 A. M.: 1.5 lb/gal sand 41.5 BPM @ 3250 PSI

10:46 A. M.: 1.5 lb/gal sand 41 BPM @ 3350 PSI

10:48 A. M.: Slow rate to 34 BPM @ 3250 PSI

10:51 A. M.: 34 BPM @ 3350 PSI

10:52 A. M.: 33 BPM @ 3400 PSI

10:53 A. M.: Start flush 34 BPM @ 3300 PSI

10:55 A. M.: 33 BPM @ 3350 PSI

10:56 A. M.: Shut down. Flush away. 33 BPM @ 3400 PSI
ISIP = 2200 PSI
5 min. = 1900 PSI
10 min. = 1800 PSI

Total fluid for frac: 1212 bbls.
Total sand: 40,000#

11:15 A. M.: Go in hole with EZ drill bridge plug.

11:55 A. M.: Set bridge plug @ 6830'

12:12 A. M.: Pressure test bridge plug to 4500 PSI.
Held pressure for 2 min.

12:25 A. M.: Go in hole with tubing to spot acid.

2:00 P. M.: Spot 250 gal. 7½% Hcl from 6799' to 6416'.

2:20 P. M.: Come out of hole with tubing.

3:45 P. M.: Go in hole with perforating guns to perforate Dakota "A" and Greenhorn:
Shoot holes from bottom up @ 6799, 6791, 6788', 6786', 6784', 6782',
6780', 6778', 6776', 6772', 6770'. 4 SPF.

3:52 P. M.: Come out of hole to pick up guns for second gun run.

4:15 P. M.: Shoot hole from bottom up @ 6725', 6722', 6720', 6713', 6704', 6697',
6695', 6692', 6690', 6684', 6682'. 4 SPF
Gun didn't shoot @ 6722', 6720', 6713'.
Will not make another gun run to shoot these holes.
76 holes.

Dakota "A" and Greenhorn break down

4:36 P. M.: Start break down.
Broke @ 2700 PSI
Establish rate 42 BPM @ 3800 PSI
ISIP = 2100 PSI

4:39 P. M.: Start balls. 5 balls/bbl in 26 bbl 130 balls total
10 BPM @ 2300 PSI
All balls in casing. Increase rate to 40 BPM @ 3600 PSI

4:43 P. M.: Slow rate to 15 BPM. Balls on perf in 10 bbls.

4:45 P. M.: Ball action. Pressure climbing to 3400 PSI.

4:48 P. M.: All balls should have hit. Shut down.
Used 182 bbls. for break down and ball off.
Go in hole with junk basket.
Recovered 39 balls.

Dakota "A" and Greenhorn frac:

5:35 P. M.:	Start pad.	41 BPM @ 3800 PSI	
5:37 P. M.:		40 BPM @ 3750 PSI	
5:43 P. M.:	Start 0.5 lb/gal sand	40 BPM @ 3775 PSI	333 bbls. away
5:45 P. M.:		40 BPM @ 3700 PSI	
5:46 P. M.:	0.5 lb/gal sd. on formation	40 BPM @ 3600 PSI	
5:47 P. M.:	Start 1.0 lb/gal sand	40 BPM @ 3600 PSI	455 bbls away
5:48 P. M.:		40 BPM @ 3550 PSI	

5:49 P. M.: 1 lb/gal sand
on formation 40.5 BPM @ 3500 PSI

5:51 P. M.: Start 1.5 lb/gal sand 40.5 BPM @ 3500 PSI 642 bbls away

5:53 P. M.: 1.5 lb/gal sand
on formation 41 BPM @ 3400 PSI

6:02 P. M.: 40.5 BPM @ 3500 PSI

6:04 P. M.: 41 BPM @ 3400 PSI

6:07 P. M.: 41 BPM @ 3475 PSI

6:10 P. M.: 41 BPM @ 3500 PSI

6:11 P. M.: Start flush 41 BPM @ 3500 PSI 1490 bbls away

6:14 P. M.: Flush away. Shut down. 1597 bbls away
ISIP = 2200 PSI
5 min. = 1850 PSI
10 min. = 1800 PSI

Total fluid for frac: 1597 bbl
Total sand: 60,000#

6:40 P. M.: Go in hole with retrievable bridge plug.

7:07 P. M.: Set plug @ 6580'.

7:28 P. M.: Pressure test bridge plug to 4500 PSI.
Held for 3 min. with no loss in pressure.

7:39 P. M.: Go in hole with tubing to spot acid.

8:50 P. M.: Spot 250 gal. 7½% HCl from 6496' to 6113'.

10:30 P. M.: Come out of hole with tubing.

10:35 P. M.: Go in hole to perforate Tocito Zone.

10:47 P. M.: Perforate @ 6392', 6395', 6406', 6414', 6416', 6421', 6426', 6428',
6442', 6444', 6446'. 4 SPF.

11:03 P. M.: Go in hole to perforate Tocito zone.

11:15 P. M.: Perforate @ 6460', 6464', 6468', 6471', 6476', 6481', 6487', 6490',
6492', 6494', 6496'. 4 SPF.

Tocito break down and ball off

11:40 P. M.: Start break down.
Broke @ 3000 PSI.
Establish rate 49 BPM @ 3600 PSI
ISIP = 2300 PSI

11:46 P. M.: Start balls. 5 balls/bbl in 26 bbl. 130 balls total.
10 BPM 2400 PSI 26 bbl away All balls away.
Increase rate to 48 BPM

11:51 P. M.: Slow rate to BPM. Balls should be hitting.

11:54 P. M.: Shut down. Reach max. pressure. Have a ball off.

Total fluid for break down and ball off: 328 bbl.

10-20-82:

12:10 A. M.: Go in hole with junk basket to recover balls.

12:38 A. M.: Tag sand @ 6550' with junk basket.

12:55 A. M.: Run tubing in hole with packer and seating nipple to swab
test Tocito.

3:00 A. M.: Swabbed fluid level down to seating nipple. Have show of gas
out flow line.

7:15 A. M.: Come out of hole with tubing and packer.
Rig up Western to frac Tocito.

9:10 A. M.: Start pad 42 BPM @ 3800 PSI

9:16 A. M.: 42 BPM @ 3850 PSI
38 BPM @ 3800 PSI

9:20 A. M.: Start 0.5 lb/gal sand 36 BPM @ 3650 PSI 333 bbl away

9:23 A. M.: 0.5 lb/gal sand
on formation 35.5 BPM @ 3450 PSI

9:25 A. M.: 35.5 BPM @ 3600 PSI

Slow rate @ 3900 PSI.

9:27 A. M.: Go to flush. 566 bbl. 14 BPM @ 3900 PSI

9:35 A. M.: Shut down. Flush away.
ISIP = 2400 PSI
5 min. = 2350 PSI
10 min. = 2300 PSI

Total fluid: 673 bbls.
Total sand: 4830#.

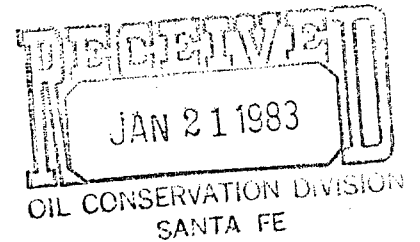
10:05 A. M.: Start in hole with tubing to recover bridge plug.

Landed 213 joints of 2 3/8" tubing at 6918'.



CHACE OIL COMPANY, INC.

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



January 10, 1982

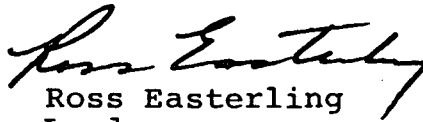
Aztec Energy Corporation
P. O. Box 2637
Farmington, NM 87401

Attention: Mr. Ron Allen

Gentlemen:

This is to notify Aztec Energy Corporation, as offset operator to the Chace Oil Company wells Chace Apache 54-10 and 54-11, in units 'I' and 'K' respectively, of Section 3, T22N, R3W, that Chace Oil Company has applied under Oil Conservation Rule 303-C for authority to commingle the Gallup Associated pool with the Dakota Associated pool in said wells.

Yours truly,


Ross Easterling
Landman

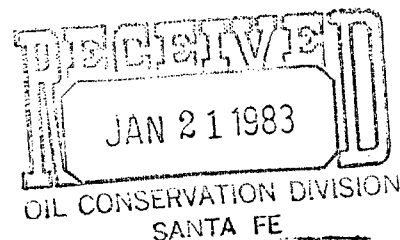
RE/ss

CHACE OIL COMPANY, INC.

313 Washington S.E.

Albuquerque, New Mexico 87108

(505) 266-5562




January 10, 1983

Merrion Oil and Gas
108 West Apache
Farmington, NM 87401

Gentlemen:

This is to notify Merrion Oil and Gas, as offset operator to the Chace Oil Company Chace Apache 54-10 in Unit 'I' of Section 3, T22N, R3W, that Chace Oil Company has applied under Oil Conservation Commission Rule 303-C for authority to commingle the Gallup Associated pool with the Chacon Dakota in said well.

Yours truly,

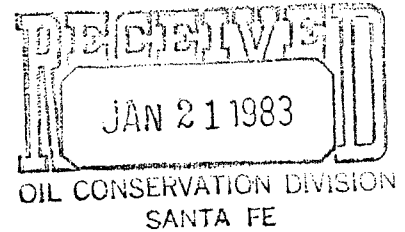

Ross Easterling
Landman

RE/ss



CHACE OIL COMPANY, INC.

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



January 11, 1983

Mr. Jack A. Cole
415 West Main
Farmington, NM 87401

Dear Mr. Cole:

This is to notify you as offset operator to the Chace Apache 54-10 well in unit 'I' in section 3, T22N,R3W that Chace Oil Company, has applied under Oil Conservation Rule 303-C for authority to commingle the Gallup Associated pool with the Dakota Associated pool is said Well.

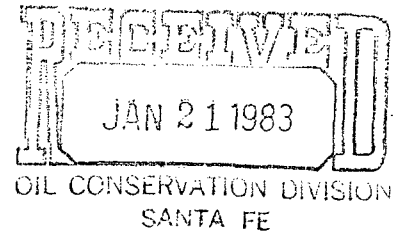
Yours truly,

Ross Easterling
Landman



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 54-10 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. 54-10 Well in Unit 'I', of Section 3, T22N,R3W, Sandoval County, New Mexico.

Very truly yours,

Ross Easterling
Landman

RE/ss

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



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;

<u>WELL</u>	<u>ORDER NO.</u>	<u>GALLUP</u>	<u>DAKOTA</u>
#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.

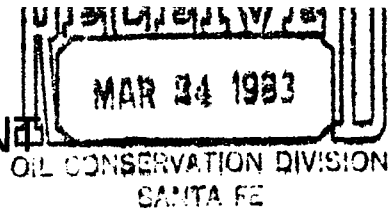
cc: Aztec District Office
DHC-388,389,393,394, and
R-7178

DHC-393



TONY ANAYA
GOVERNOR

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



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,

A handwritten signature in cursive script, appearing to read "Frank T. Chavez".

Frank T. Chavez
District Supervisor

FTC:gc

Enc.

Mr. Gilbert Quintana
Mr. Frank T. Chavez


Page Two

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

<u>Well:</u>		<u>Gallup:</u>	<u>Dakota:</u>
✓ #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

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 588 MCF \approx 56%

Gallup Test 469 MCF \approx 44%

1069 MCF

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

Gilbert Quintana
3/10/83

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ALLOCATION OF PRODUCTION STUDY

Letter of Introduction

Production History of Subject Wells (Oil and Gas)

Estimate of Oil Reserves of Subject Wells

Production History of Offset Wells

Test Data from Nearby Well



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:

<u>Well:</u>	<u>Description:</u>	<u>Order No.:</u>
#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	R- 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.

Mr. Gilbert Quintana
Mr. Frank T. Chavez

Page Two

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

<u>Well:</u>	<u>Gallup:</u>	<u>Dakota:</u>
#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

PRODUCTION HISTORY

Field: Chacon
Well: Chace Apache 15-2
Initial Production: 8/1977
Zones Completed: Dakota
Previous Year, (1982), by Month:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
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	
<u>Total:</u>	173	513

Historical by Year:

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

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

PRODUCTION HISTORY

Field: Chacon
Well: Chace Apache 15-3
Initial Production: 9/1977
Zones Completed: Dakota
Previous Year, (1982), by month:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
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	
<u>Total:</u>	1109	2291

Historical By Year:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
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:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
December	133	393

PRODUCTION HISTORY

Field: Chacon
Well: Chace Apache 47-1-JV
Initial Production: 2/1982
Zones Completed: Greenhorn, Dakota
Production History:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
<u>1982</u>		
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	
<u>Total:</u>	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:

	<u>Oil/Bbls.</u>	<u>Gas/MCF</u>
December	1056	0

PRODUCTION HISTORY

Field: Chacon
Well: Chace Apache 54-10
Initial Production: 11/1982
Zones Completed: Dakota, Greenhorn, Tocito
Production History:

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

PRODUCTION HISTORY

Field: Chacon
Well: Chace Apache 54-11
Initial Production: 7/1982
Zones Completed: Dakota, Tocito
Production History:

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

AREA	Chacon '15' area	COUNTY	Sandoval
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STATE New Mexico

Reserves as of
DATE 1-1-83

Gallup Assoc. 15-2

Dakota 15-2

Call Assoc. 15-3

Dakota 15-3

Limiting Contact

No. Wells Producing

Productive Area, Acres

Average Net Sand, Feet

Reservoir Volume, Ac. Ft.

Average Porosity, %

Average Connate Water, %

Liquid Specific Gravity, API

Formation Volume Factor

Orig. Oil in Place, Bbl./Ac. Ft.

Orig. Oil in Place Reservoir, Bbls.

Oil Recovery Factor, %

Orig. Recoverable Oil, Bbls.

Cum. Oil Production, Bbls.

Remaining Rec. Oil, Bbls.

% of O.R.R. attributable to each formation

Gallup Assoc. 15-2	Dakota 15-2	Gall. Assoc. 15-3	Dakota 15-3		
40	160	40	160		
48	49	55	56		
1920	7840	2200	8960		
6.0	8.0	6.0	8.0		
60	50	60	50		
1.160	2.105	1.160	2.105		
160	147	160	147		
307200	1152480	352000	1317120		
5	5	5	5		
15360	57624	17600	65856		
187	16966	28	12346		
15173	40658	17572	53510		
218	798	218	798		

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

AREA Chacon '54' area COUNTY Sandoval
STATE New Mexico DATE 1-1-83
Reserves as of

Geological Age	Reservoir Name						
Average Depth							
Limiting Contact							
No. Wells Producing							
Productive Area, Acres							
Average Net Sand, Feet							
Reservoir Volume, Ac. Ft.							
Average Porosity, %							
Average Connate Water, %							
Liquid Specific Gravity, API							
Formation Volume Factor							
Orig. Oil in Place, Bbl./Ac. Ft.							
Orig. Oil in Place Reservoir, Bbls.							
Oil Recovery Factor, %							
Orig. Recoverable Oil, Bbls.							
Cum. Oil Production, Bbls.							
Remaining Rec. Oil, Bbls.							
% of O.R.R. attributable to each formation							

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

PRODUCTION - OFFSETTING WELLS

Commingleing Study

<u>Chace Well</u>	<u>Offsetting Well</u>	<u>Location</u>	<u>Date I. P.</u>	<u>Cum. Prod.</u> 1-1-83	<u>Zones Completed</u>
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

<u>Date</u>	<u>Choke</u>	<u>FTP</u>	<u>Oil Rate Bbls/Day</u>	<u>Gas Rate MCFD</u>
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	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 - Pressure @ 7400' 2010 PSIA

<u>Date</u>	<u>Choke</u>	<u>FTP</u>	<u>Oil Rate Bbls/Day</u>	<u>Gas Rate MCFD</u>
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	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