



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

GARREY CARRUTHERS
GOVERNOR

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

Date: 7/7/83

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

Re: Proposed MC _____
Proposed DHC X _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 7/3/83
for the Union Texas Petroleum Corp. Angel Park B #22E
Operator Lease & Well No.

F-13-28A-11W and my recommendations are as follows:
Unit, S-T-R

Oppose

Yours truly,

[Signature]



Union Texas Petroleum

375 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Mr. Frank Chavez
District Supervisor
N. M. Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RECEIVED

JUL 03 1989

OIL CON. DIV./
DIST. 3

Re: Proposed Commingling
Angel Peak B #22E
Section 13, T28N-R11W
San Juan County, NM
Basin Dakota and Armenta Gallup

Dear Frank,

A rig will be moved on this well and the two zone commingled as soon as approval is received. We recommend production allocation as follows:

| | | |
|------|--------|-----|
| Gas: | Gallup | 42% |
| | Dakota | 58% |
| Oil: | Gallup | 50% |
| | Dakota | 50% |

This allocation is based on recent production of approximately 18 MCFD and a trace of oil from the Gallup, and an estimated 25 MCFD and a trace of oil from the Dakota when line pressure drops. Historical decline curves also suggest the same allocation percentages.

If there are any questions, please contact me.

Yours truly,

Stergie Katirgis

Stergie Katirgis
Production Engineer

cc: W. K. Cooper
S. J. Hunter
B. A. Norman



Union Texas Petroleum

Wellsfile

275 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 29, 1989

Mr. W. J. LeMay
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501-2088

Re: Angel Peak B #22E (SF 046017-A)
1750' FNL & 1650' FWL
Section 13, T28N-R11W
San Juan County, New Mexico

RECEIVED
JUL 03 1989
OIL CON. DIV.
DIST 3

Dear Mr. LeMay:

Union Texas Petroleum is applying for a downhole commingling order for the referenced well in the Basin Dakota/Armenta Gallup fields. Ownership of the two zones to be commingled is common. The Bureau of Land Management and the offset operators indicted in the attached plats will receive notification of this proposed downhole commingling.

The subject well was drilled during December 1982 and completed during March 1983 in the Dakota and Gallup formations. The Dakota formation was fracture stimulated with 87,000# 20/40 sand in 135,417 gallons water and nitrogen. The Gallup formation was fracture stimulated with 303,500# 20/40 sand in 231,000 gallons nitrogen foam in three stages. CAOF of the Dakota zone (4/20/83) was 371 MCFD. Initial production test of the Gallup formation (5/3/83) was 145 MCFD and 10 BOPD. The Gallup zone is currently produced with a plunger lift system, and the Dakota is produced from below a packer. Two tubing strings are utilized. Most recent production from the Gallup formation is 18 MCFD and a trace of oil. The Dakota is not capable of sustained production due to high line pressure, but will produce 25 MCFD at lower line pressure.

This is a very marginal well which can no longer be produced economically. It is proposed to remove the Gallup tubing and Dakota packer and produce both zones using one tubing string only. The proposed commingling will result in recovery of additional hydrocarbons from both the Gallup and Dakota formation, thereby preventing waste, and will not violate correlative rights. Commingling of the two zones will result in a more efficient operation by helping to lift the very small amount of produced liquids from each zone. The Dakota will now be produced into the low pressure Union Texas Petroleum operated gathering system, and the plunger lift system currently used to produce the Gallup zone will be eliminated.

The attached fluid analysis is from the Gallup and Dakota zones of the Angel Peak B #24E, an offset well in the same section approximately half mile to the southeast. The Gallup and Dakota zones were similarly commingled in this wellbore during October 1986, per Administrative Order No. DHC-602. Also, similarly commingled during May 1989, as per Administrative Order No. DHC-703, is the Congress Lachman #4E, one mile to the east of the subject well. The trace amounts of liquids produced in the subject well will be similar to these two offsets. The analysis indicates the total value of crude will not be reduced by the commingling. The reservoir characteristics of each zone are such that underground waste would not be caused by the proposed downhole commingling. The calculated static bottom hole pressure, based on surface pressure and fluid measurements, is 310 psi in the Gallup and 430 psi in the Dakota in the Congress Lachman #4E; 238 psi in the Gallup and 472 psi in the Dakota in the Angel Peak B #24E; within the limits of Rule 303-C, Section 1(b), Part (6). The small amount of liquids from each zone are compatible and no precipitates will be formed as a result of commingling to damage either reservoir. Current flow tests indicate the daily liquid production will not exceed the limit of Rule 303-C, Section 1(a), parts (1) and (3).

The Division Aztec District Office will be notified any time the commingled well is shut-in for seven consecutive days. To allocate the commingled production to each zone, historical production curves and current production volumes have been reviewed and submitted. See attached.

Included with this letter are two plats showing ownership of offsetting leases, a production curve of each zone, Form C-116 (GOR test), a Fluid Analysis Report, and a wellbore diagram showing the proposed downhole configuration after commingling.

Sincerely,



S. G. Katirgis
Production Engineer

attachments

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

| Union Texas Petroleum Corp. | | Armenta Gallup/Basin Dakota | | San Juan | | | | | | | | | | |
|--|----------|-----------------------------|----|----------------|--------------|------------|--------------|-----------------|----------------------|-------------------|--------------|-----------|----------------------------|------------|
| 375 US Highway 64 Farmington, NM 87401 | | TYPE OF TEST - (X) | | Completion [] | | | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | DATE OF TEST | CHOKE SIZE | T.B.G. PRESS | DAILY ALLOWABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | | GAS - OIL RATIO CU. FT. BE | |
| | | U | S | T | | | | | | R | WATER BBL.S. | GRAV. OIL | | OIL BBL.S. |
| Angel Peak B (Gallup) | 22E | F | 13 | 28N | 11W | 2/22/89 | | 76 | | 24 | 0 | T | 22 | N/A |
| Angel Peak B (Dakota) | 22E | F | 13 | 28N | 11W | 2/22/89 | | 220 | | 24 | 0 | T | 25 | N/A |

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.

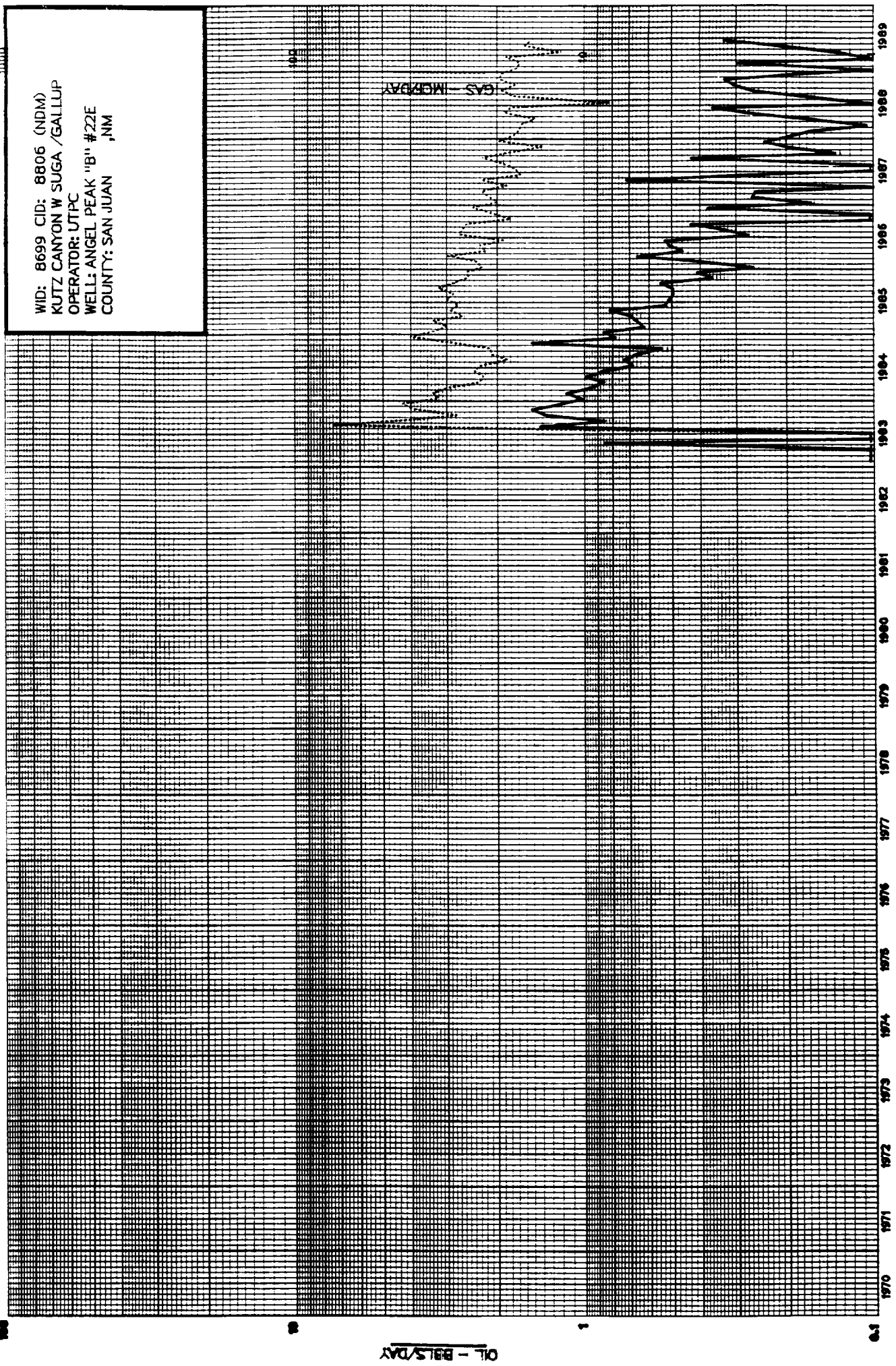
Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 101 and appropriate pool rules.

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

Production Engineer

10.00

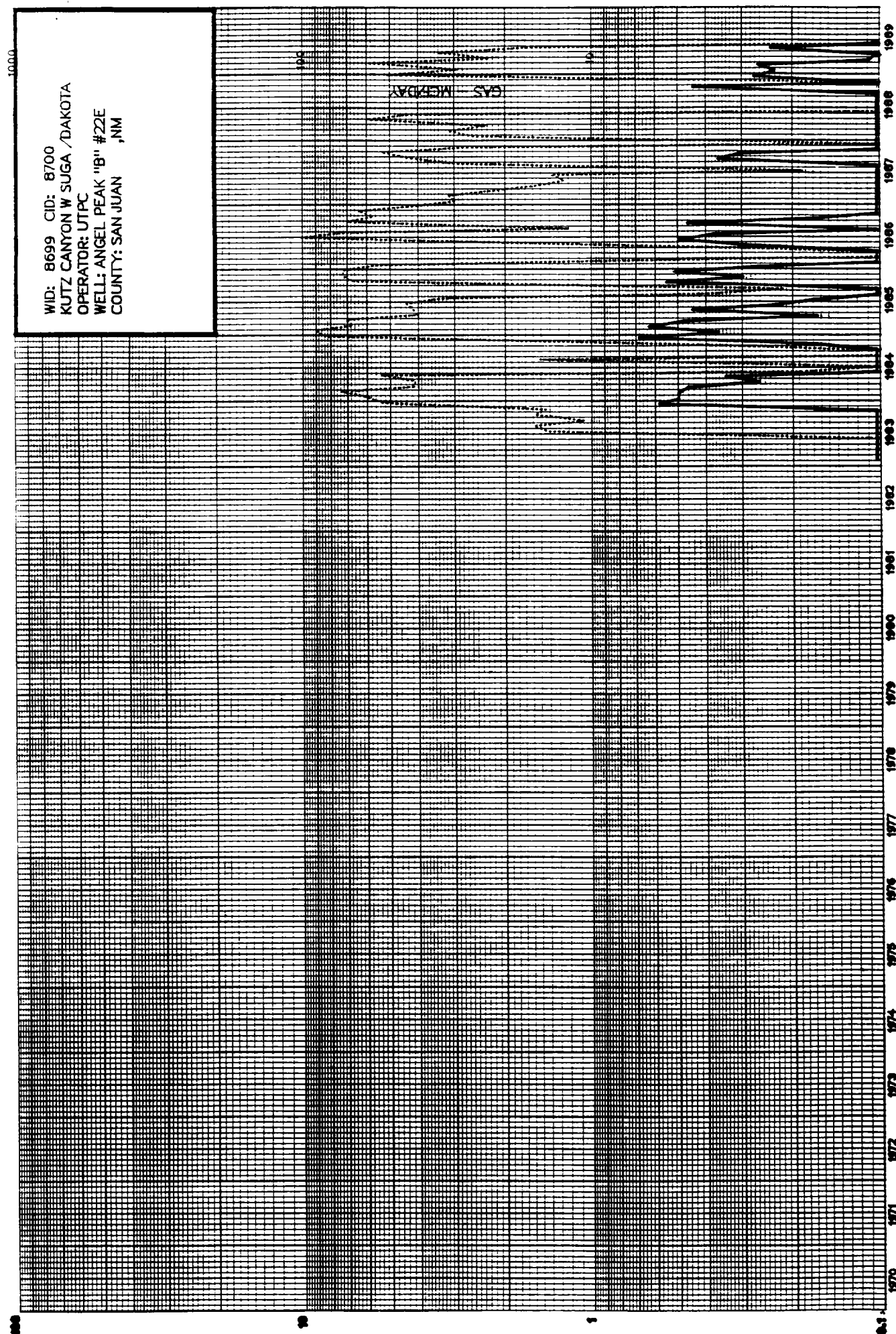
WID: 8699 CID: 8806 (NDM)
KUTZ CANYON W SUGA /GALLUP
OPERATOR: UTPC
WELL: ANGEL PEAK "B" #22E
COUNTY: SAN JUAN ,NM



OIL - BBL/DAY

WID: 8699 CID: 8700
KUTZ CANYON W SUGA / DAKOTA
OPERATOR: UTPC
WELL: ANGEL PEAK 'B" #22E
COUNTY: SAN JUAN , NM

OL - 585/DK





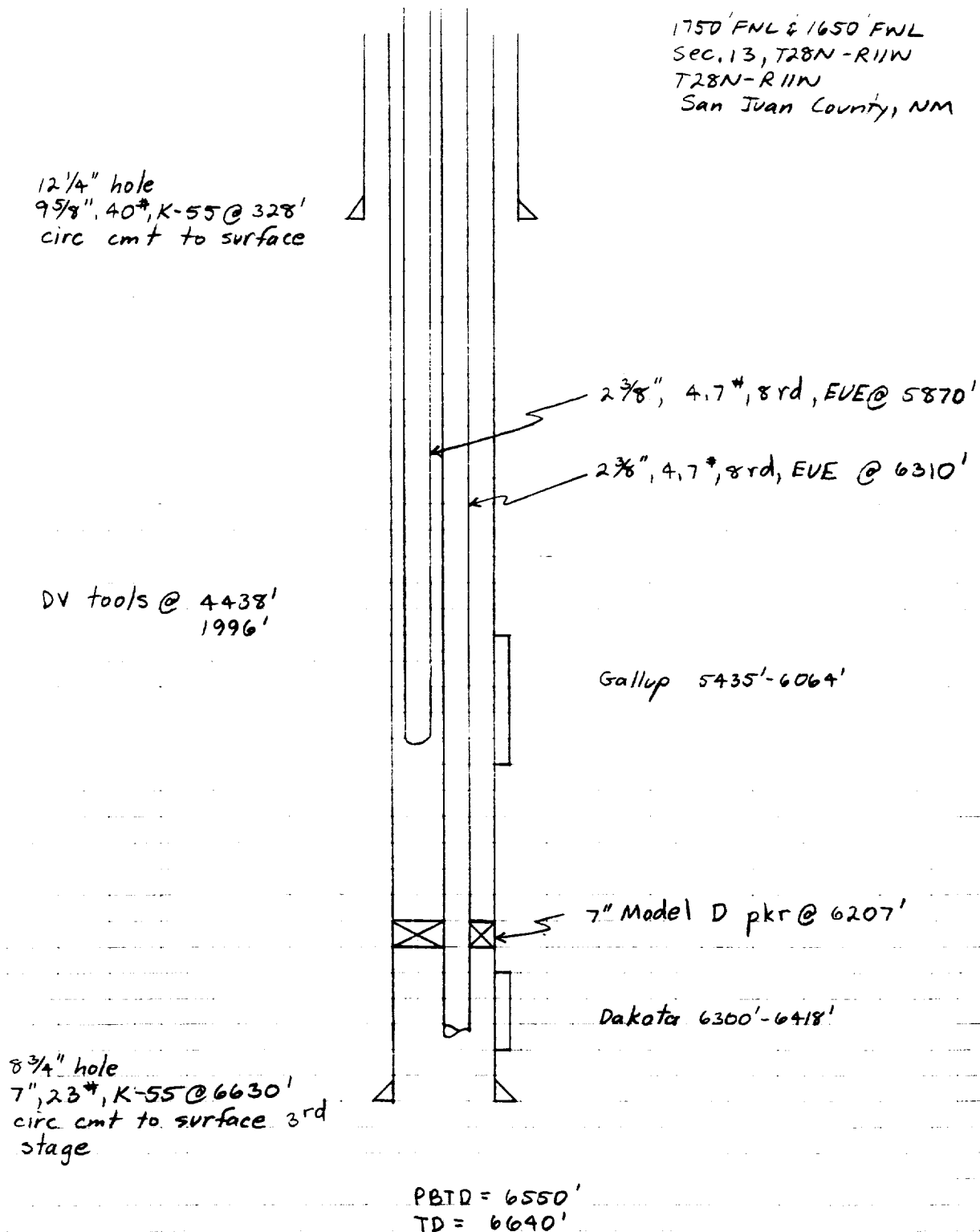
Union Texas Petroleum

SUBJECT: ANGEL PEAK B #22E

Existing Wellbore Diagram

BY: SGK DATE: 6/30/89

PAGE OF





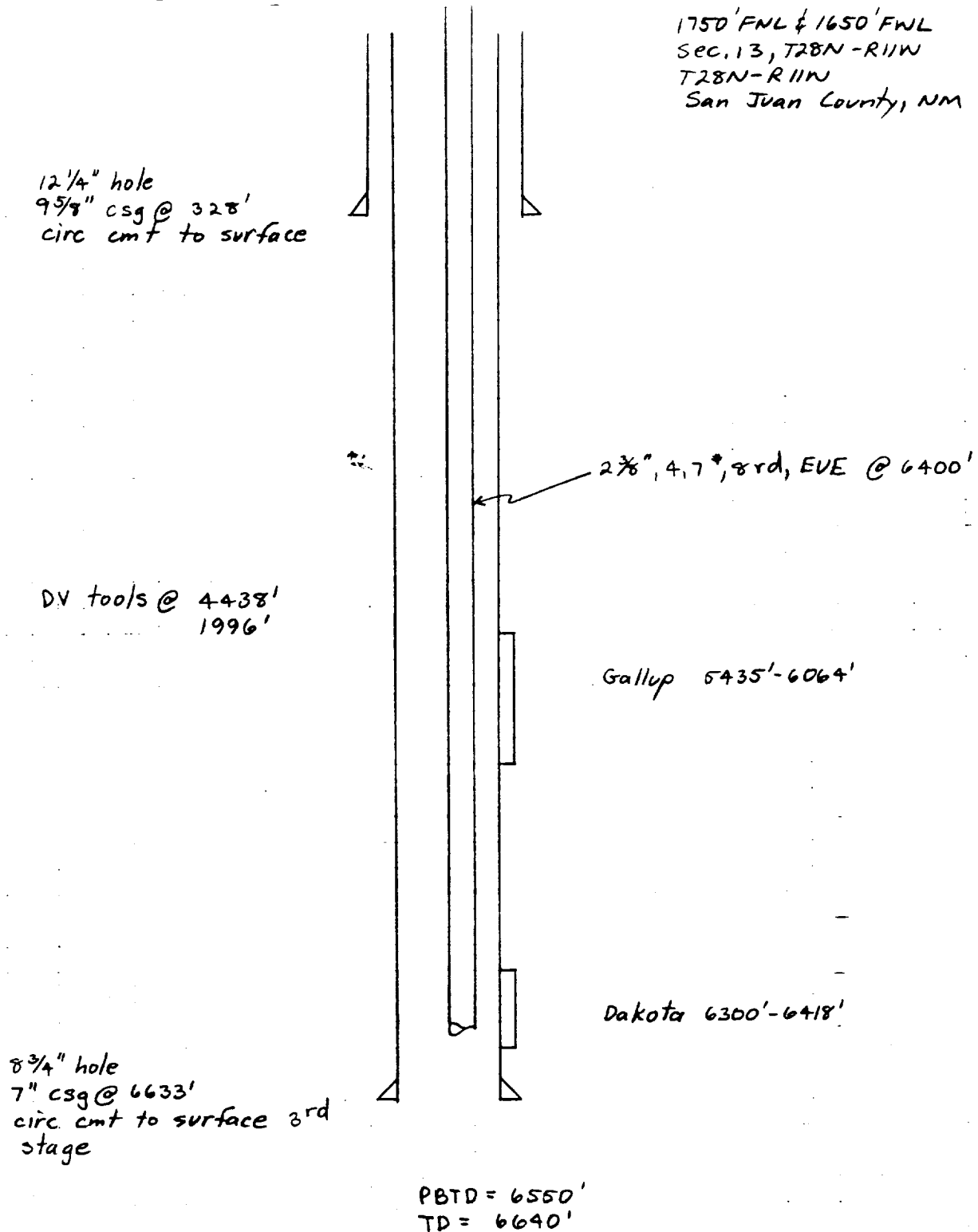
Union Texas Petroleum

SUBJECT: ANGEL PEAK B #22E

Proposed Wellbore Diagram

BY: SGK DATE: 6/30/89

PAGE OF



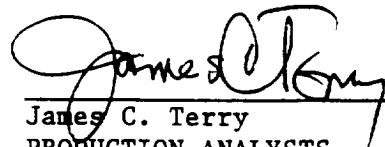
UNION TEXAS PETROLEUM
ANGEL PEAK B24E
LEASE FLUIDS

LABORATORY INVESTIGATION
OF
ANGEL PEAK GALLUP AND DAKOTA FLUIDS COMPATABILITY
JANUARY 22, 1986

PREPARED FOR:

UNION TEXAS PETROLEUM
Serg Katirgis
Petroleum Engineer


PREPARED BY:


James C. Terry
PRODUCTION ANALYSTS

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

SUMMARY OF RESULTS

1. No precipitation of materials was observed from either admixture of fluids.
2. Emulsion testing was performed. There is no concern over emulsion effects.
3. The cloud point of oil mixtures dropped or remained the same upon mixing of fluids.
4. According to calculations not enough cool down from gas expansion will occur to alter paraffin deposition significantly.



JAMES C. TERRY
PRODUCTION ANALYSTS
Farmington, New Mexico

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

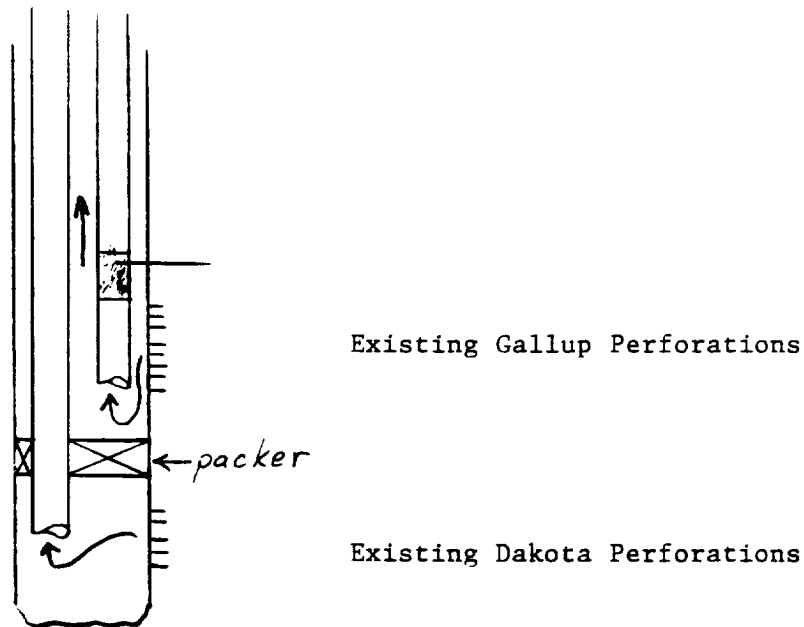
On Monday, January 13, 1986, a request for laboratory work was place by Sterg Katirgis, Petroleum Engineer of Union Texas Petroleum Corporation.

PURPOSE

Two oil samples were received of Mr. Katirgis with the request we investigate the concern of potentially detrimental effects due to comingling of Gallup and Dakota fluids in the Angel Peak B24E.

INVESTIGATION

1. Background Information- *Current Wellbore*
 - a)



- b) BHST Gradient: 1.375° F/100 ft. depth.
 - c) Current production problems are primarily due to paraffin deposition from surface down to \approx 1000' depth.

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

d) Commingling Order Mixture Requirements:

The commingling requests present the mixing of Angel Peak B24E Dakota oil with Angel Peak B24E Gallup fluids (oil/water).

The tests performed simulated the mixture of fluids that may result from this commingling action. Each oil component was analyzed for API gravity, paraffin, pour point, and cloud point. Each water component was analyzed for dissolved solids, pH, specific gravity and resistivity. The mixture of oils addressed the potential increase in precipitation of materials and the potential increase in paraffin content by a synergistic effect of mixing oils of different constitution. Emulsion tests simulated the mixing environment of the wellbore where the water component of a fluid could be tied up in a resulting emulsion without the ability to break out and allow separation of the oil and water constituents. The emulsion test results present the number of ml (% of mixture) of water breakout at listed time intervals. The volume of test sample (mixture) used in the emulsion tests is 100 ml.

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

2. Concerns to address in analysis.

- a) The precipitation of materials produced by the admixture of oils of potentially different constitution.
- b) The creation of emulsions due to the admixture of different fluids.
- c) Increased paraffin deposition by additive properties of oils.
- d) Increased paraffin deposition due to the reduction of temperature accompanying gas expansion.

3. Steps taken in analysis

- a) API Analysis of oils including: API Gravity
Pour Point
Cloud Point
Paraffin Content
B S & W
- b) Discussion with Mr. Katirgis regarding the well bore production environment; e.g., mode of hydrocarbon production, pump type and operation, water components of production fluids, current paraffin problems, etc.
- c) Mixing of oils in appropriate cases with additional cloud point testing to determine resulting fluid characteristics.
- d) API Water Analysis
- e) Emulsion tendency testing via mixing of fluids in appropriate cases.

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

DATA

Sample #1

| | |
|--------------------|----------------|
| Zone: | Dakota |
| API Gravity @ 60°F | 53.0 |
| Cloud Point | 22°F |
| Pour Point | -1°F |
| Paraffin Content | 7.98% (weight) |

Sample #2

| | |
|--------------------|-----------------|
| Zone: | Gallup |
| API Gravity @ 60°F | 44.1 |
| Cloud Point | 2°F |
| Pour Point | <-12°F |
| Paraffin Content | 14.19% (weight) |

Sample #3

| | |
|---------------------|-----------------|
| Zone: | 50/50 Mix |
| API Gravity @ 60° F | 48.9 |
| Cloud Point | 24°F |
| Pour Point | <-10°F |
| Paraffin Content | 11.89% (weight) |

Analysis No. 1Date 1-22-86

PRODUCTION ANALYSTS

Oil Analysis

Operator Union Texas Petroleum Date Sampled 1-10-86
Well Angel Peak B24E Date Received 1-13-86
Field - Submitted By Sterg Katirgis
Formation Dakota Worked By Clay Terry
Depth - Sample Description Brownish, clear oil
County San Juan sample. No water phase or emulsion.
State New Mexico Small bottom solids component.

API Gravity 53.0 ° at 60°FParaffin Content 7.98 % by weightAsphaltene Content n/a % by weightPour Point -1 °FCloud Point 22 °FSAMPLE COMPOSITION:

| | |
|------------------|--------|
| H ₂ O | 0 |
| Emulsion | 0 |
| Oil | 780 |
| Total | 780 ml |

Comments:B S & W Test Results:

| | |
|----------|------|
| Oil | 99.9 |
| Water | 0 |
| Solids | <0.1 |
| Emulsion | 0 |

Analyst Clay Terry

Analysis No. 2Date 1-22-86

PRODUCTION ANALYSTS

Oil Analysis

Operator Union Texas Petroleum Date Sampled 1-10-86
Well Angel Peak B24E Date Received 1-13-86
Field - Submitted By Sterg Katirgis
Formation Gallup Worked By Clay Terry
Depth - Sample Description Oil/Water/Emulsion sample.
County San Juan Oil phase is yellowish-brown, opaque.
State New Mexico Emulsion phase not serious.

API Gravity 44.1 ° at 60°FSample Composition:Paraffin Content 14.19 % by weightH₂O 103Asphaltene Content N/A % by weight

Emulsion 16

Pour Point <-12 °F

Oil 807

Cloud Point 2 °F

Total 926ml

Comments:B S & W Test Results:

Oil 95.5%
Water 0.8%
Solids <0.1%
Emulsion 3.7%

Analyst Clay Terry

Analysis No. 3

Date 1-22-86

PRODUCTION ANALYSTS

Oil Analysis

Operator Union Texas Petroleum Date Sampled 1-10-86
Well Angel Peak B24E Date Received 1-13-86
Field - Submitted By Sterg Katirgis
Formation Gallup/Dakota Worked By Clay Terry
Depth - Sample Description 50/50 mix of oils from
County San Juan Gallup and Dakota intervals.
State New Mexico

API Gravity 48.9 ° at 60°F

Paraffin Content 11.89 % by weight

Asphaltene Content n/a % by weight

Pour Point <-10 °F

Cloud Point 24 °F

Comments:

B S & W Test Results:

| | |
|----------|-------|
| Oil | 96.0% |
| Water | 0.4% |
| Solids | <0.1% |
| Emulsion | 3.6% |

Analyst Clay Terry

API WATER ANALYSIS REPORT FORM

| | | | | | |
|--|--|------------------------|-----------------------------|--------------------------------|------------------|
| Company Union Texas Petroleum | | Sample No. 2B | | Date Sampled 1-10-86 | |
| Field Angel Peak Gal/Dak | | Legal Description - | | County or Parish San Juan | |
| Lease or Unit Angel Peak B | | Well 24E | | Depth - | |
| | | Formation Gallup | | Water. B/D H ₂ O | |
| Type of Water (Produced, Supply, etc.) Produced | | | Sampling Point Separator | | Sampled By SK |

DISSOLVED SOLIDS

| CATIONS | mg/l | me/l |
|--------------------|------|------|
| Sodium, Na (calc.) | 218 | 9.5 |
| Calcium, Ca | -0- | -0- |
| Magnesium, Mg | 29 | 2.4 |
| Barium, Ba | | |
| Potassium, K | 180 | 4.6 |

ANIONS

| | | |
|-------------------------------|-----|------|
| Chloride, Cl | 383 | 10.8 |
| Sulfate, SO ₄ | 25 | 0.5 |
| Carbonate, CO ₃ | -0- | -0- |
| Bicarbonate, HCO ₃ | 319 | 5.2 |
| Hydroxide, OH | -0- | -0- |

Total Dissolved Solids (calc.)

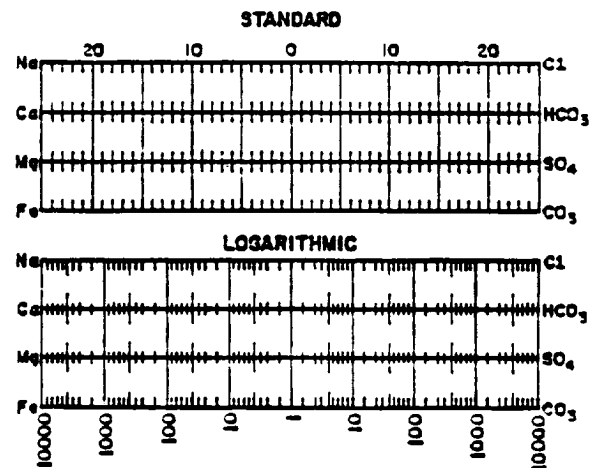
1154

| | |
|------------------------------|-----|
| Iron, Fe (total) | -0- |
| Sulfide, as H ₂ S | -0- |

OTHER PROPERTIES

| | |
|--------------------------------|-------|
| pH | 6.3 |
| Specific Gravity, 60/60 F. | 1.003 |
| Resistivity (ohm-meters) 75 F. | ∞ |
| Total Hardness | 120 |

WATER PATTERNS — me/l



REMARKS & RECOMMENDATIONS:

Fig. 1
EMULSION TESTS DATA SHEET

OPERATOR: UNION TEXAS SUBMITTED BY: S. KATIRGIS TYPE & CONC. OF FLUID: 50/50 MIX OF
 WELL: ANGEL PEAK B24E SOURCE OF SAMPLE: GALLUP/DAKOTA FLUIDS
 FIELD: Angel Peak Gal/B DATE SAMPLED: 1-10-86 TYPE & CONC. OF SOLIDS:
 FORMATION: Gallup/Dakota DATE RECEIVED: 1-13-86 TEST TEMPERATURE: 75°F
 DEPTH: Unknown API GRAVITY OF OIL: 48.9 FLUID RATIO: 50/50
 COUNTY: San Juan ANALYSIS BY: C. Terry

PERCENTAGE OF ORIGINAL H₂O SEPARATED AT VARIOUS TIME INTERVALS AFTER EMULSIFYING

| Test Number | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
|------------------------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| Elapsed Time | Time | Vol | Time | Vol | Time | Vol | Time | Vol | Time | Vol | Time | Vol | Time | Vol | Time | Vol |
| 1 min | 1 | 4 | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| 2 | 2 | 6 | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | |
| 3 | 3 | 7 | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | |
| 4 | 4 | 7 | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | |
| 5 | 5 | 7 | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | |
| 6 | 6 | 7 | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | |
| 7 | 7 | 7 | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | |
| 8 | 8 | 7 | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | |
| 9 | 9 | 7 | 10 | | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | |
| 10 | 10 | 7 | 11 | | 12 | | 13 | | 14 | | 15 | | 16 | | 17 | |
| 20 | 20 | 7 | 21 | | 22 | | 23 | | 24 | | 25 | | 26 | | 27 | |
| 30 | 30 | 7 | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | |
| Total Vol (ml) | | 100 | | | | | | | | | | | | | | |
| Vol. Emulsion / Sludge | | 0 | | | | | | | | | | | | | | |
| Solids* | | | | | | | | | | | | | | | | |
| Interface** | | | | | | | | | | | | | | | | |
| OIL | | 93 | | | | | | | | | | | | | | |

REMARKS:

* Preferential wetting of solids: OB=oil-wet bottom; OO=oil-wet oil phase; WB=water-wet bottom; WO=water-wet oil phase
 OI=oil-wet interface; WI=water-wet interface
 ** Interface: F=Fluid; S=Solid; V=Viscous

**The mixture of fluids was constructed to reflect proper proportions of the various fluids within each sample. Therefore, the mix was 50 ml Dakota oil, 43 ml Gallup oil, 6 ml Gallup H₂O, 1 ml Gallup Emulsion

LABORATORY INVESTIGATION
ANGEL PEAK B24E
LEASE FLUIDS

CALCULATIONS

Cool down effects due to gas expansion:

Reference: Perry's Handbook of Chemical Engineering

RE: Adiabatic Expansion of Ethane, Methane

$$T_s = T_r \left(\frac{P_s}{P_r} \right)^{\left(\frac{K-1}{K} \right)}, \text{ where}$$

T_s = Surface Temperature

T_r = Reservoir Temperature

P_s = Surface Pressure

P_r = Reservoir Pressure

$K = \frac{\text{Specific heat at constant pressure}}{\text{Specific heat at constant volume}}$

Assumed values for maximum cool down due to gas expansion:

T_s = Unknown

T_r = 160° F

P_s = 500 psi

P_r = 2000 psi

K = 1.2

$T_s = 160 \left(\frac{500}{2000} \right)^{0.1667}$

T_s = 127° F

NOTE:

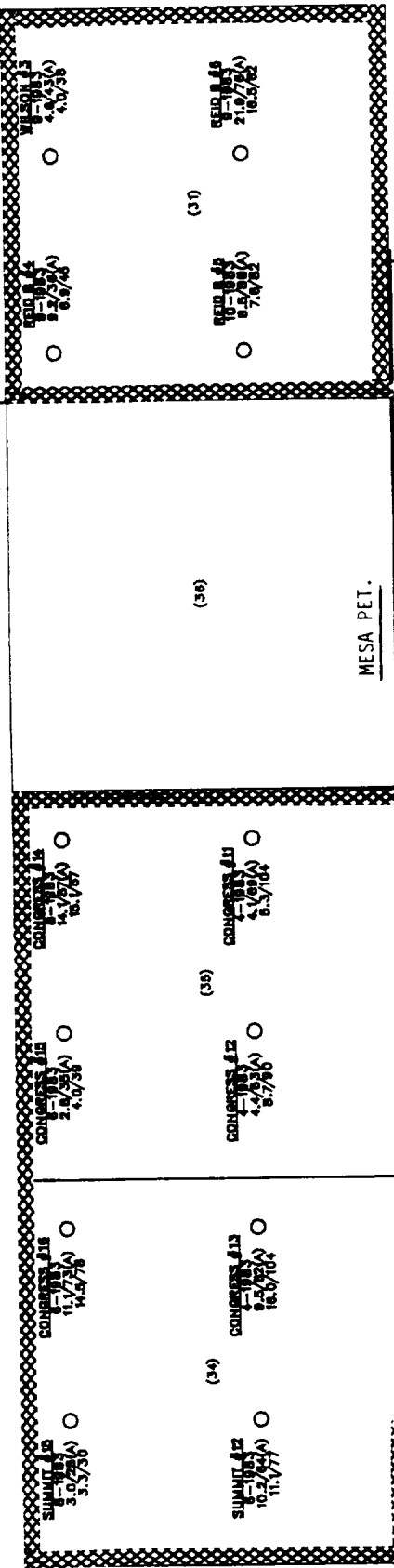
A total cooldown of 33°F would be expected

11W

10W

T-29--N

T-28--N



MESA PET.

AMOCO

DAMSON OIL CORP.

AMOCO

CONGRESS LACHMAN #45

MERIDIAN

ANGEL PEAK #24

ANGEL PEAK #24E

ANGEL PEAK #27

ANGEL PEAK #45

MERIDIAN

MERIDIAN

MERIDIAN

MARATHON

ANGEL PEAK #28

ANGEL PEAK #27

ANGEL PEAK #44

ANGEL PEAK #38

ANGEL PEAK #22E



13

24

23

14

19

LAND PLAT-GALLUP FORMATION

GALLUP PRODUCTION DATA

WELLNAME

FIRST PRODUCTION DATE (YEAR-MONTH-DAY)

85 AVE. OIL(BOPD)/GAS(MCFPD) (STATUS)

CUM OIL(MBO)/GAS(MMCF) - THROUGH 8/30/85

Union Texas Acreage

Subject Well

R-11-W

R-10-W



Union Texas Petroleum

175 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Mr. Charles W. Gleeson
Vice President - Production
Damsen Oil Corporation
P. O. Box 4391
Houston, TX 77210

Gentlemen:

Union Texas Petroleum Corporation is in the process of applying for a downhole commingling order for our Angel Peak B #22E well located 1750' FNL & 1650' FWL, Section 13, T28N-R11W, NMPM, San Juan County, New Mexico, in the Armenta Gallup and Basin Dakota.

This is to notify you of such action as our records indicate you are owner and operator of acreage which adjoins the area in which the downhole commingling is requested. If you have no objections to the proposed downhole commingling order, we would appreciate your signing the attached copy of this letter and returning it to our office.

Your prompt attention to this matter would be appreciated.

Sincerely,

S. G. Katirgis
Production Engineer

The above downhole commingling request is hereby approved:

Date



Union Texas Petroleum

375 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Meridian Oil Corporation
Attn: Land Department
P. O. Box 4289
Farmington, NM 87401

Gentlemen:

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S. G. Katirgis
Production Engineer

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Date



Union Texas Petroleum

375 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Crown Central Petroleum Corp.
Attn: Land Department
4747 Bellaire Boulevard
Bellaire, TX 77401

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S. G. Katirgis
Production Engineer

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Date



Union Texas Petroleum

875 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Amoco Production Company
Attn: Land Department
2325 East 30th
Farmington, NM 87401

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S. G. Katirgis
Production Engineer

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Date



Union Texas Petroleum

375 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Mesa Limited Partnership
Attn: Land Department
P. O. Box 579
Flora Vista, NM 87415

Gentlemen:

Union Texas Petroleum Corporation is in the process of applying for a downhole commingling order for our Angel Peak B #22E well located 1750' FNL & 1650' FWL, Section 13, T28N-R11W, NMPM, San Juan County, New Mexico, in the Armenta Gallup and Basin Dakota.

This is to notify you of such action as our records indicate you are owner and operator of acreage which adjoins the area in which the downhole commingling is requested. If you have no objections to the proposed downhole commingling order, we would appreciate your signing the attached copy of this letter and returning it to our office.

Your prompt attention to this matter would be appreciated.

Sincerely,

S. G. Katirgis
Production Engineer

The above downhole commingling request is hereby approved:

Date



Union Texas Petroleum

175 U.S. Highway 64
Farmington, New Mexico 87401
Telephone (505) 325-3587

January 30, 1989

Marathon Oil Company
Attn: Land Department
P. O. Box 1439
Farmington, NM 87401

Gentlemen:

Union Texas Petroleum Corporation is in the process of applying for a downhole commingling order for our Angel Peak B #22E well located 1750' FNL & 1650' FWL, Section 13, T28N-R11W, NMPM, San Juan County, New Mexico, in the Armenta Gallup and Basin Dakota.

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