



B 150

JFG Ent.  
LG-32309-1-93  
7707394619  
35000

Chas. E. &amp; Mark Smith, S

D/A 12-23-56 DE  
Union UN

27572 38W

## POTASH LEASEHOLD OWNERSHIP

NM-013298-A, IMC GLOBAL OPERATIONS INC.

M-651-9, MISSISSIPPI POTASH INC.

M-19262-1, NEW MEXICO POTASH CORPORATION

LEA COUNTY, N.M.

1" = 2000'

Mitchell Ener.  
01-4-1-95  
83612  
20000Ener., D/R  
Barber Oil  
to 3500'  
HBP  
89889Bass Ent.  
Anasazi-FedPan Amer.  
Little Eddy Unit  
TD 14898  
U.S. D/A 7-1-66Mitchell Ener. et al. 1/2  
(Santa Fe Ener.)  
4-1-95  
83613  
41000Mitchell Ener. D/R  
Barber to 3500'  
HBP  
89889Continental, et al  
Brooks  
TD 4003

"Geronimo-Fed."

Conoco  
5-1-97  
V-400  
30000Mitchell  
Ener.  
67499Stevens  
E. Tull  
10-1-93  
77074  
8500  
6-1-2005  
194852  
4000  
W.K. Byrom  
Fed. 17  
TD 3206  
D/A 7-30-62Santa Fe Ener.  
4-1-95  
83614  
25000Mitchell Ener.  
Santa Fe Ener. 1/2  
10-1-93  
V-271  
871OXY  
H.B.P.  
B-1482Santa Fe  
Ener.  
10-1-82  
16640Mitchell  
Ener.  
10-1-93  
77074  
8500  
4-1-94  
89889Mitchell  
Ener.  
67499Phillips  
Grace Pet.  
HBP  
13280Grace Pet  
2-1-85  
40405H.E. Yates Co.  
11-1-95  
63764Meridian  
Woodbine  
HBP  
29704 TD 3433

Meridian

86557  
110020  
USMitchell Ener.  
10-1-93  
77074  
8500Meridian 1/4  
Cleary Pet 3/4  
H B P  
17238R.C. Hanks  
U.S. Govt.  
TD 3460  
D/A 8-16-66  
3J.H. Trigg  
Fed. 1-60  
TD 3440  
D/A 5-1-59Bass Ent.  
Anasazi-St.Mitchell Ener.  
Scharbauer  
Scharbauer  
Lot Co. et al  
Mark Smith(S)Neste, 1/2  
Santa Fe  
Ener. 1/2  
McGrath  
E. Smith  
Fed. Trigg  
TD 3436  
U.S.BTA  
V-2198  
(P/B)Gem 8705 JV-P  
1-YS  
StaAmin. Oil  
8-1-77  
2844Staitz  
Union Tex  
TD 3554  
D/A 7-25-63Grace Pet.  
HBP  
13280Cleary Pet.  
17439Samson Res  
(Siete OEG)  
Tonto Fed.  
TD 10,706  
P/B 3740Grace Pet.  
KGS  
2-1-82  
152332  
40405Grace Pet. Anadarko  
KGS  
8-1-72  
KGS 5125  
West. Dng  
And. Prich.  
TD 3410Samson Res  
Smith  
Pct Fed.  
(P/B)Grace Pet.  
Anadarko  
S/R  
1 AB  
Tr. 13  
2 wiGrace Pet.  
Anadarko  
S/R  
1 AB  
Tr. 13  
2 wiMitchell  
Ener.  
67499Mitchell  
Ener. et al  
1/2Santa Fe Ener.  
4-1-95  
83614  
25000Mitchell Ener.  
Santa Fe Ener. 1/2  
10-1-93  
V-271  
871OXY  
H.B.P.  
B-1482Santa Fe  
Ener.  
10-1-82  
16640Mitchell  
Ener.  
10-1-93  
77074  
8500  
4-1-94  
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Ener.  
67499Phillips  
Grace Pet.  
HBP  
13280Grace Pet  
2-1-85  
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11-1-95  
63764Meridian  
Woodbine  
HBP  
29704 TD 3433

Meridian

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USMitchell Ener.  
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8500Meridian 1/4  
Cleary Pet 3/4  
H B P  
17238R.C. Hanks  
U.S. Govt.  
TD 3460  
D/A 8-16-66  
3J.H. Trigg  
Fed. 1-60  
TD 3440  
D/A 5-1-59Bass Ent.  
Anasazi-St.Mitchell Ener.  
Scharbauer  
Scharbauer  
Lot Co. et al  
Mark Smith(S)Neste, 1/2  
Santa Fe  
Ener. 1/2  
McGrath  
E. Smith  
Fed. Trigg  
TD 3436  
U.S.BTA  
V-2198  
(P/B)Gem 8705 JV-P  
1-YS  
StaAmin. Oil  
8-1-77  
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Tonto Fed.  
TD 10,706  
P/B 3740Grace Pet.  
KGS  
2-1-82  
152332  
40405Grace Pet. Anadarko  
KGS  
8-1-72  
KGS 5125  
West. Dng  
And. Prich.  
TD 3410Samson Res  
Smith  
Pct Fed.  
(P/B)Grace Pet.  
Anadarko  
S/R  
1 AB  
Tr. 13  
2 wiGrace Pet.  
Anadarko  
S/R  
1 AB  
Tr. 13  
2 wiMitchell  
Ener.  
67499Mitchell  
Ener. et al  
1/2Santa Fe Ener.  
4-1-95  
83614  
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Santa Fe Ener. 1/2  
10-1-93  
V-271  
871OXY  
H.B.P.  
B-1482Santa Fe  
Ener.  
10-1-82  
16640Mitchell  
Ener.  
10-1-93  
77074  
8500  
4-1-94  
89889Mitchell  
Ener.  
67499Phillips  
Grace Pet.  
HBP  
13280Grace Pet  
2-1-85  
40405H.E. Yates Co.  
11-1-95  
63764Meridian  
Woodbine  
HBP  
29704 TD 3433



P. O. Box 11005

STEVENS & TULL, INC.

MIDLAND, TEXAS 79702

915/699-1410

May 3, 1995

Noranda Exploration, Inc.  
P. O. Box 15638  
Denver, Colorado 80215

(Inc)  
RE: Federal 9 #7 Well  
2310' FSL & 990' FEL, Sec. 9,  
T-20-S, R-33-E, N.M.P.M.  
Lea County, New Mexico  
Indian Hill Prospect

Gentlemen:

Please be advised that Stevens & Tull, Inc. proposes to drill the captioned well without a Potash string. As required under Order No. R-111-P, we are hereby furnishing you with a copy of our APD and plat for said well.

Please return the attached waiver to the Oil Conservation Division at 2040 South Pacheco, Santa Fe, New Mexico 87505 at your earliest convenience. Should you have any questions, please contact our office.

Yours very truly,

STEVENS & TULL, INC.

\lt\jw0503.07t

Is your RETURN ADDRESS completed on the reverse side?	<b>SENDER:</b> <ul style="list-style-type: none"><li>• Complete items 1 and/or 2 for additional services.</li><li>• Complete items 3, and 4a &amp; b.</li><li>• Print your name and address on the reverse of this form so that we can return this card to you.</li><li>• Attach this form to the front of the mailpiece, or on the back if space does not permit.</li><li>• Write "Return Receipt Requested" on the mailpiece below the article number.</li><li>• The Return Receipt will show to whom the article was delivered and the date delivered.</li></ul>		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
	3. Article Addressed to: Noranda Exploration, Inc. P. O. Box 15638 Denver, Colorado 80215		4a. Article Number Z 110 919 138	
	5. Signature (Addressee) <i>Ray Sandlin</i>		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
			7. Date of Delivery MAY 10 1995 DENVER CO	
	6. Signature (Agent)		8. Addressee's Address (Only if requested and fee is paid)	

PS Form 3811, December 1991 \*U.S. GPO: 1993-352-714 DOMESTIC RETURN RECEIPT

# STEVENS & TULL, INC.

P. O. Box 11005

MIDLAND, TEXAS 79702

915/699-1410

May 3, 1995

Mississippi Potash Inc.  
P. O. Box 1914  
Yazoo, Mississippi 39194

RE: Federal 9 #7 Well  
2310' FSL & 990' FEL, Sec. 9,  
T-20-S, R-33-E, N.M.P.M.  
Lea County, New Mexico  
Indian Hill Prospect

Gentlemen:

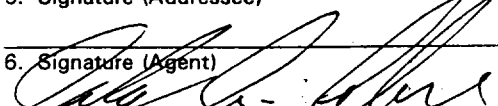
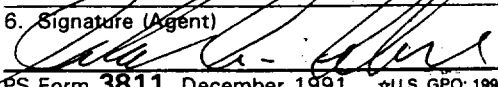
Please be advised that Stevens & Tull, Inc. proposes to drill the captioned well without a Potash string. As required under Order No. R-111-P, we are hereby furnishing you with a copy of our APD and plat for said well.

Please return the attached waiver to the Oil Conservation Division at 2040 South Pacheco, Santa Fe, New Mexico 87505 at your earliest convenience. Should you have any questions, please contact our office.

Yours very truly,

STEVENS & TULL, INC.

\lt\jw0503.06t

<b>SENDER:</b> • Complete items 1 and/or 2 for additional services. • Complete items 3, and 4a & b. • Print your name and address on the reverse of this form so that we can return this card to you. • Attach this form to the front of the mailpiece, or on the back if space does not permit. • Write "Return Receipt Requested" on the mailpiece below the article number. • The Return Receipt will show to whom the article was delivered and the date delivered.		I also wish to receive the following services (for an extra fee): 1. <input type="checkbox"/> Addressee's Address 2. <input type="checkbox"/> Restricted Delivery Consult postmaster for fee.	
		3. Article Addressed to: Mississippi Potash Inc. P.O. Box 1914 Yazoo, Mississippi 39194	
4a. Article Number 7 110 919 139		4b. Service Type <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail <input checked="" type="checkbox"/> Return Receipt for Merchandise	
5. Signature (Addressee) 		7. Date of Delivery 5/6/95	
6. Signature (Agent) 		8. Addressee's Address (Only if requested and fee is paid)	



# STEVENS & TULL, INC.

P. O. Box 11005

MIDLAND, TEXAS 79702

915/699-1410

May 3, 1995

New Mexico Potash Corporation  
P. O. Box 610  
Hobbs, New Mexico 88240

RE: Federal 9 #7 Well  
2310' FSL & 990' FEL, Sec. 9,  
T-20-S, R-33-E, N.M.P.M.  
Lea County, New Mexico  
Indian Hill Prospect

Gentlemen:

Please be advised that Stevens & Tull, Inc. proposes to drill the captioned well without a Potash string. As required under Order No. R-111-P, we are hereby furnishing you with a copy of our APD and plat for said well.

Please return the attached waiver to the Oil Conservation Division at 2040 South Pacheco, Santa Fe, New Mexico 87505 at your earliest convenience. Should you have any questions, please contact our office.

Yours very truly,

STEVENS & TULL, INC.

Is your RETURN ADDRESS completed on the reverse side?

## SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
  2. ☐ Restricted Delivery
- Consult postmaster for fee.

## 3. Article Addressed to:

New Mexico Potash Corporation  
P. O. Box 610  
Hobbs, New Mexico 88240

## 4a. Article Number

Z 110 919 140

## 4b. Service Type

- ☐ Registered ☐ Insured  
☒ Certified ☐ COD  
☐ Express Mail ☒ Return Receipt for Merchandise

## 7. Date of Delivery

5/5

## 5. Signature (Addressee)

## 6. Signature (Agent)

## 8. Addressee's Address (Only if requested and fee is paid)

\1t\jw0503.05t





May 5, 1995

Mr. Jerry Weant  
Stevens & Tull, Inc.  
PO Box 11005  
Midland, Texas 79702

RE: Federal 9 #7 Well  
2310' FSL and 990'FEL, SEC 9,  
T-20-S, R-33-E, N.M.P.M.  
Lea County, New Mexico  
Indian Hill Prospect

Dear Mr. Weant:

We have received the referenced application, dated May 3, 1995. At this time, Mississippi Potash, Inc. does not offer objections to the location stated above.

However, this location resides within the Secretary's Potash Area, as defined in the 1986 Secretary's Order, and we feel all wells should comply with the requirement of a "salt protection string" of casing.

We do object to this well being drilled without the "salt protection string".

Sincerely,

MISSISSIPPI POTASH, INC.

A handwritten signature in black ink, appearing to read "Randy Fouts", is written over the printed name.

Randy Fouts  
General Manager

cc: Oil Conservation Division  
Allen Bridgeforth





**IMC Global**

June 7, 1995

Mr. Jerry A. Weant  
Stevens & Tull, Inc.  
P.O. Box 11005  
Midland, TX 79702

RE: Federal 9 #7 Well  
2310'FSL, 990'FEL, Section 9, T20S-R33E  
Lea County, New Mexico  
Indian Hill Prospect

IMC Global Operations Inc.  
1361 Potash Mines Rd.  
Carlsbad, New Mexico 88221-0071  
505.887.2871  
505.887.9589 Fax

Dear Mr. Weant:

IMC Global, Inc. has received your notification that Stevens & Tull, Inc. intends to drill the above referenced well without a salt protection string. IMC objects to this well being drilled without the salt string because it lies within the Potash Area as defined by Order No. R-111-P. R-111-P requires a salt protection string for wells located within the potash area, however, IMC would not object to the well should it be drilled with the potash string as it is greater than 1/4 mile from IMC's LMR and buffer zone.

The location is approximately 1 mile from IMC's LMR. We do not feel comfortable with holes drilled without the salt string this close to potential mining areas.

The current LMR and buffer zone are determined from the best available information. As more information becomes available, the LMR can change and may be modified and adjusted. This is reflected in the yearly update of the LMR. The relationship of any well location relative to the LMR can change. Therefore, please consider the "objection offered" or "no objection offered" to a well location to be valid for only one year. If you are still considering a well location that a potash operator has or has not objected to more than one year prior, notify us again at that time so we can make the decision on information current at that time. Do not consider a "no objection offered" or an "objection offered" decision to be permanent.

IMC Global, Inc. protests drilling this well without a potash protection string.

Sincerely,

Peter N. Livingstone  
Senior Mine Engineer

*Box 71  
Carlsbad, N.M. 88221*

cc: Dick Manus    Walt Thayer    Charlie High    Leslie Cone  
William Calkins    Tim O'Brien    Joan Florez

PNL/pnl/o&g2



STEVENS & TULL, INC.  
WEST TEAS FIELD GEOLOGICAL SUMMARY

Stevens & Tull, Inc. is attempting to expand production from the upper Yates formation in the West Teas oil pool located in Section 16, T-20-S, R-33-E, Lea County, New Mexico. We feel that commercial production can be extended throughout Section 9 and 16, T-20-S, R-33-E. Stevens & Tull, Inc. has drilled and completed five (5) wells in Section 9 and one (1) well in Section 16 in the West Teas pool.

Several wells located in Section 16 have produced in excess of 100,000 barrels of oil from the lower or basal sand of the Yates formation and the upper section of the Seven Rivers formation, which is sand and dolomite. Each of these zones is structurally controlled and have a strong water drive. The wells that produce from these formations are located on the highest point of the structural feature.

However, the wells in Section 9 produce primarily from the upper section of the Yates formation and are structurally low to the wells in Section 16. The lower Yates and upper Seven Rivers appear to be wet off the crest of the structural feature where most of the wells in Section 9 are located.

Although it appears that commercial production can be extended in the Upper Yates formation, drilling costs must be restricted because reserve potential in wells located off the structural crest apparently will not be as high as the production from well located on the crest in Section 16. There is very little gas produced with the oil in the upper Yates sand; therefore, Stevens & Tull, Inc. is hoping of recover only one-half of the reserves as produced from the wells located in Section 16, being approximately 50,000 barrels per well.

\lt\wteas.geo

Internality  
Tonto - St.

TEVENS & TULL, INC.'S STRUCTURAL MAP ON THE  
TOP OF THE YATES FORMATION

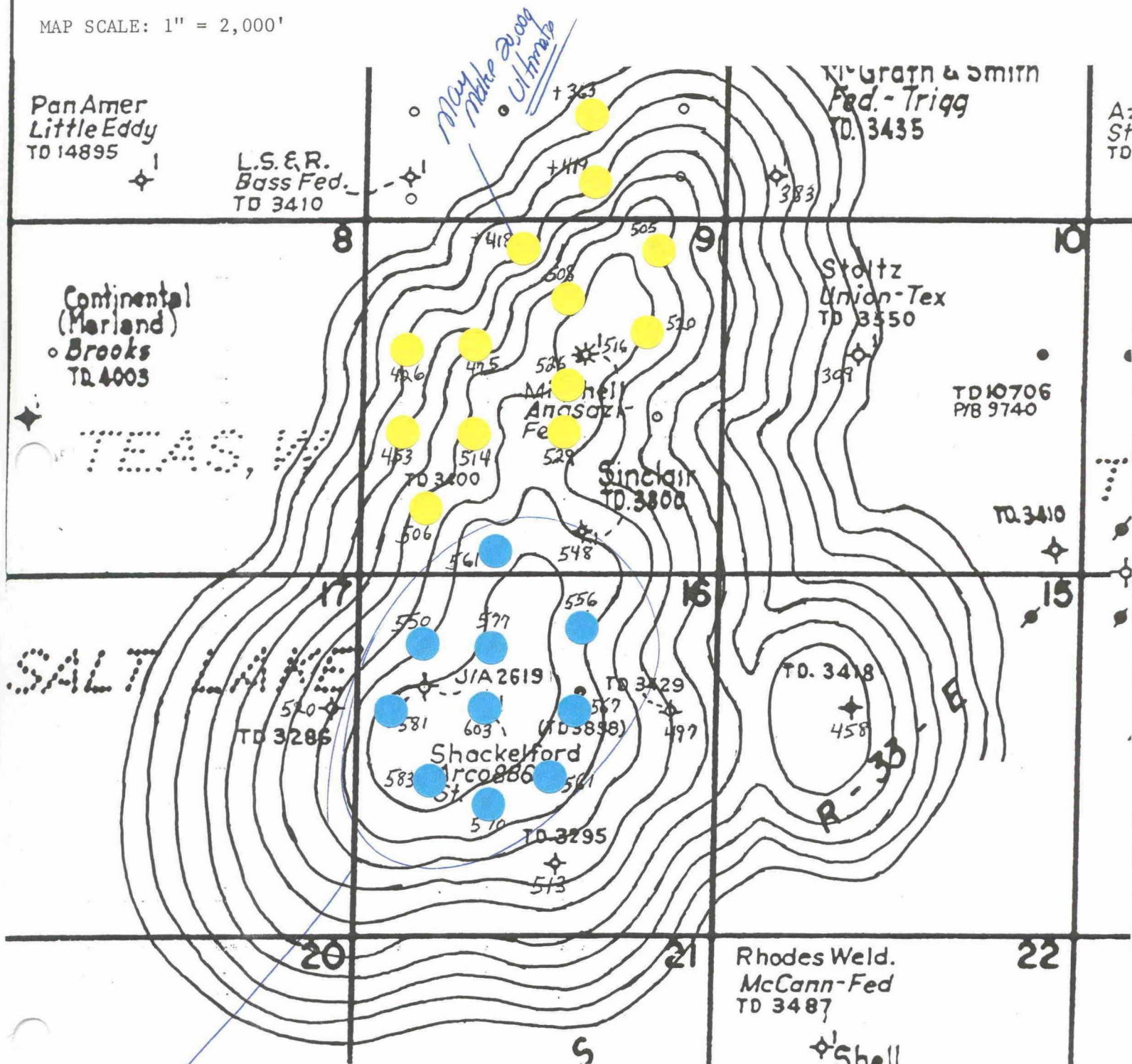
CONTOUR INTERVALS - 25'

T-20-S, R-33-E, N.M.P.M., LEA COUNTY, N.M.

MAP SCALE: 1" = 2,000'

● UPPER YATES COMPLETION

● LOWER YATES AND SEVEN RIVERS COMPLETION





# MCNEESE

## Logging Service Inc.



COMPANY STEVENS AND TULL  
 WELL FEDERAL 9 NO. 2  
 FIELD WILDCAT  
 COUNTY LEA STATE NEW MEXICO  
 LOCATION 20S 33E SEC 9 950 FNL 2110 FEL  
 ELEVATION 3550GL  
 DEPTH LOGGED 1800 TO 3340 3559 KB  
 DATE LOGGED 10-09-92 TO 10-12-92 UNIT NO 12F-71  
 CREW CHIEF C. MCNEESE - M. CRAIG  
 DRG. FLUID BRINE WATER

### LITHOLOGY

SALT	ANHYDRITE OR GYPSUM	COLONITE	SHALE	SAND
CHERT	SILTSTONE	LIMESTONE	CONG.	COAL

### ABBREVIATIONS

NB = NEW BIT  
 CO = CIRCULATED OUT  
 DST = DRILL STEM TEST  
 LAT = LOGGED AFTER TRIP  
 TG = TRIP GAS  
 NR = NO RETURNS  
 DS = DIRECTIONAL SURVEY  
 DC = DEPTH CORRECTION  
 W = WEIGHT  
 V = VISCOSITY API SECONDS  
 F = FILTRATE API CC'S  
 P = PH  
 C = CAKE THICKNESS 32nds  
 S = SALINITY, ppm Cl

### FORMATION DESCRIPTION, REMARKS, ETC.

HYDROCARBON ANALYSIS	
CHROMATOGRAPH	LEACH
METHANE - C1 1.0	T F G
ETHANE - C2 1.0	FLUOR
PROPANE - C3 1.0	20 90 75
BUTANE - C4 1.0	
PENTANE - C5 1.0	
CUTTINGS	MUD
Units/Div.	Units/Div.
10	10

DRILLING RATE	MIN/FT	FT/HR
	5	

% VIS. PORO.	G F T
75 90 25	

LITHO	DEPTH

DRILLING RATE

MIN/FT ☒

FT/HR ☐

% VIS.  
PORO.

G F T

75 50 25

LITHO

DEPTH

CHROMATOGRAPH

METHANE - C1 1.0  
ETHANE - C2 1.0  
PROPANE - C3 1.0  
BUTANE - C4 1.0  
PENTANE - C5 1.0

FORM

LEACH

T F G

FLUOR

25 50 75

HYDROCARBON ANALYSIS

HOT WIRE

CUTTING GAS

MUD GAS

CUTTINGS

MUD

10

Units/Div.

FORMATION DESCRIPTION,  
REMARKS, ETC.

ANHY CLR XLN

SH RD SFT-FIRM  
SLTY SDY

SS RD CLR VF-FG  
PRED CON FRI  
SHLY

ANHY CLR M-CX

SS RD LT GY VF-F  
G CON FRI  
SHLY

SH RD SFT SLTY

ANHY CRM BF-TN  
VFX-MASSIVE

SALT TR CLRE

ANHY CLR WH XLN

SALT CLR

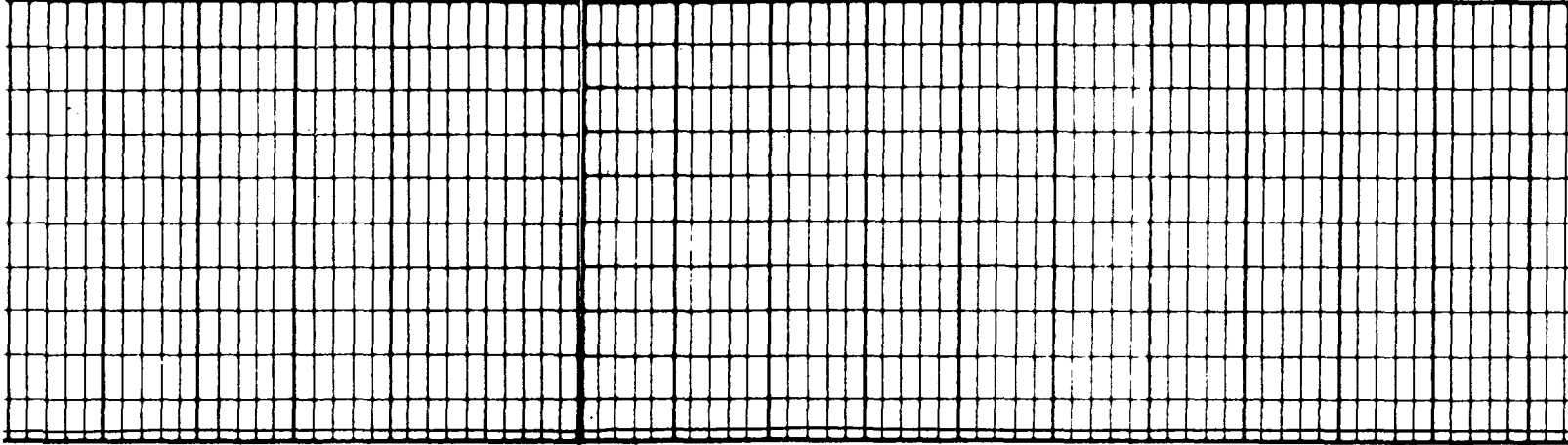
CARBIDE LAG 15 MIN

50

1900

50

DS 20



SALT CLR

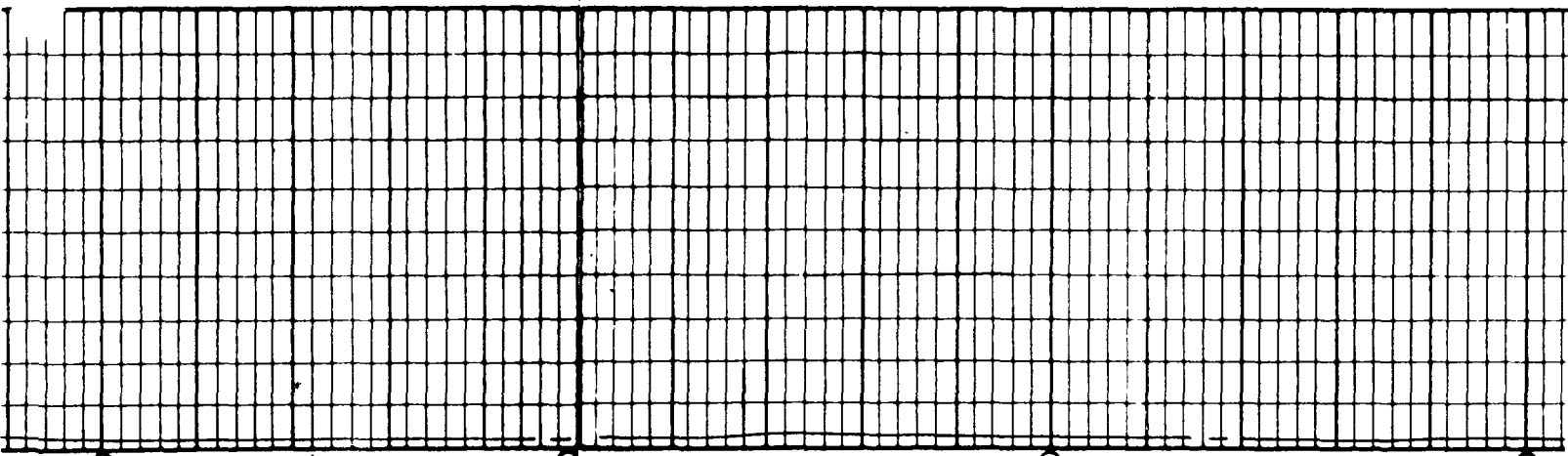
ANHY CLR XLN

SALT CLR-FRST  
CLN

SALT CLR-FRST  
CLN

SALT CLR-FRST  
CLN

ANHY CLR XLN

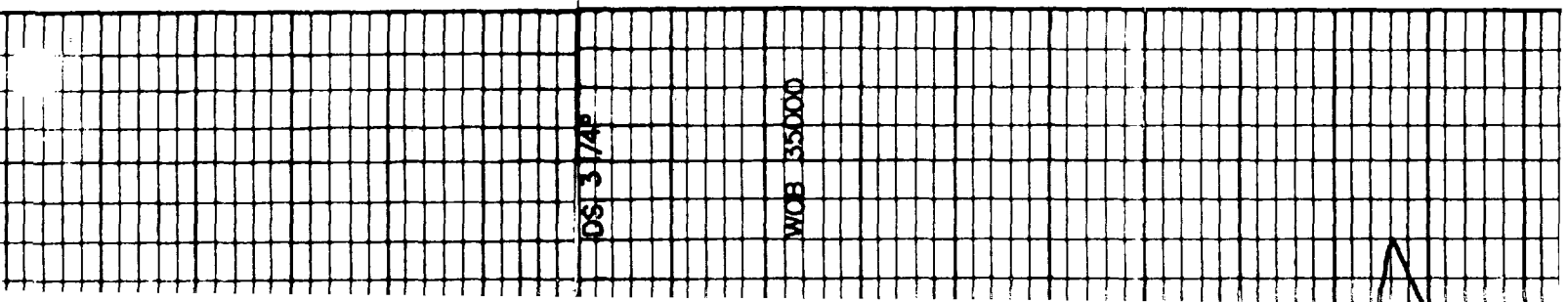
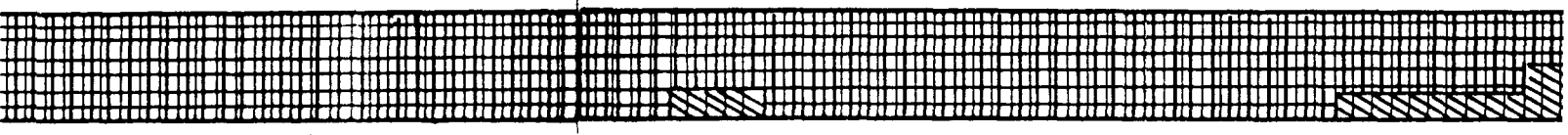


50

2600

50

2700



OS 3 1/4"

WOB 35000





SALT CLR-FRS"  
CLN

ANHY CLR XLN

ANHY CLR M-CX  
SM WH SFT

SH LT RD-DK RD-  
LTGY V/SFT  
GMY SNDY

SALT CLR-FRST  
CLN

SALT CLR-FRST  
CLN

SALT CLR-FRST  
CLN

SALT CLR-FRST  
CLN

SH YELL ORNG-  
ORNG LTRD ORN  
SFT EARTHY

LAG 27 MIN

W 10  
V 30  
F 14  
C film  
P 10  
S 2000000

CARBIDE

3

400

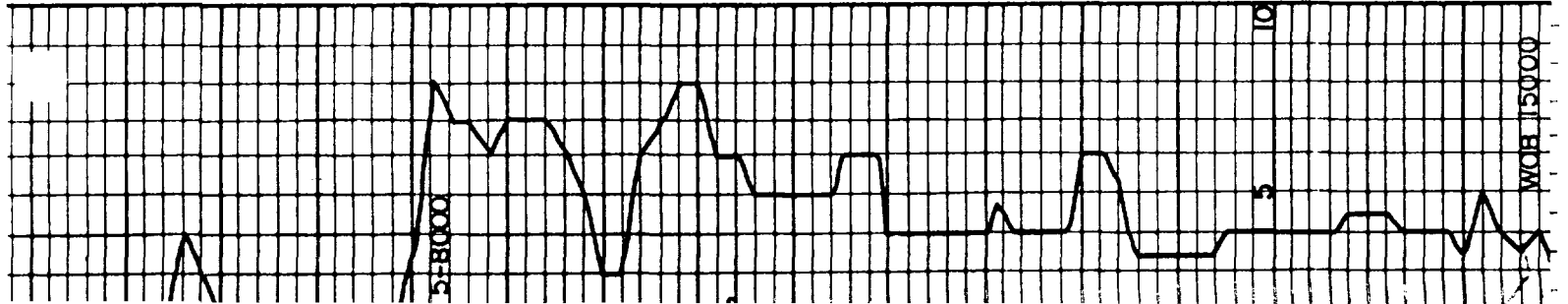
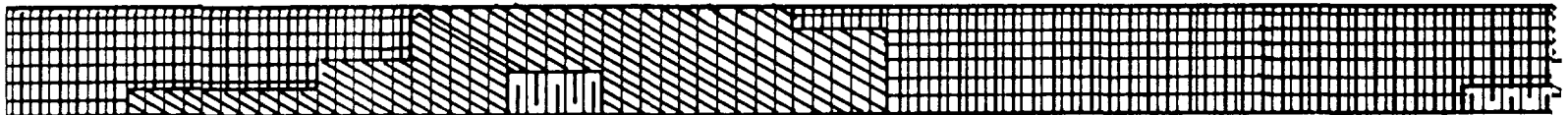
2700

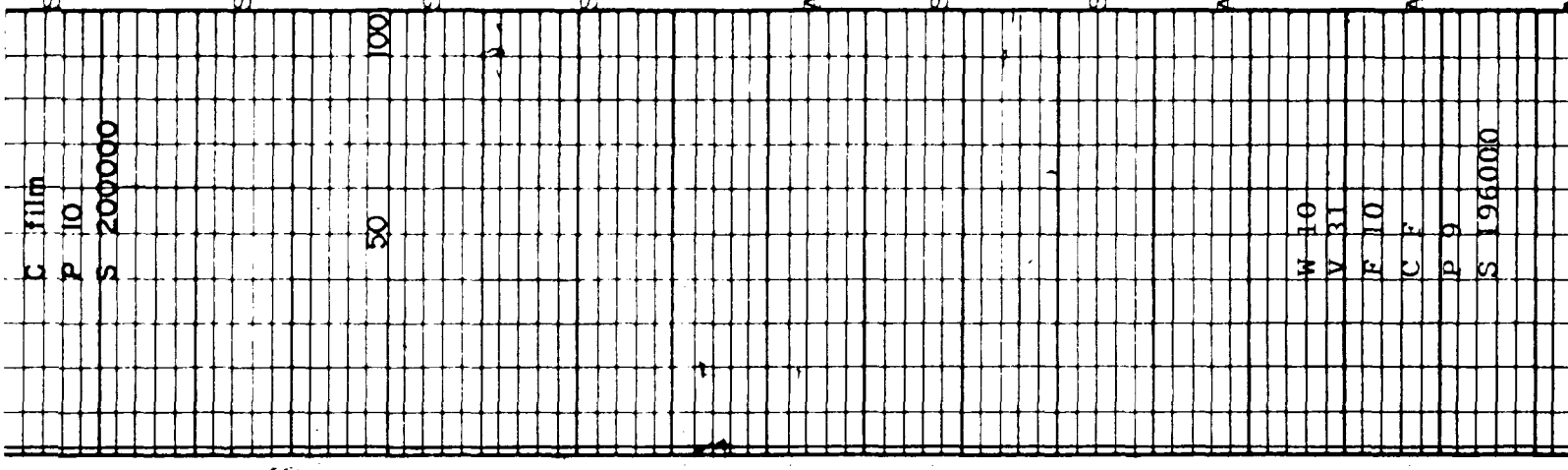
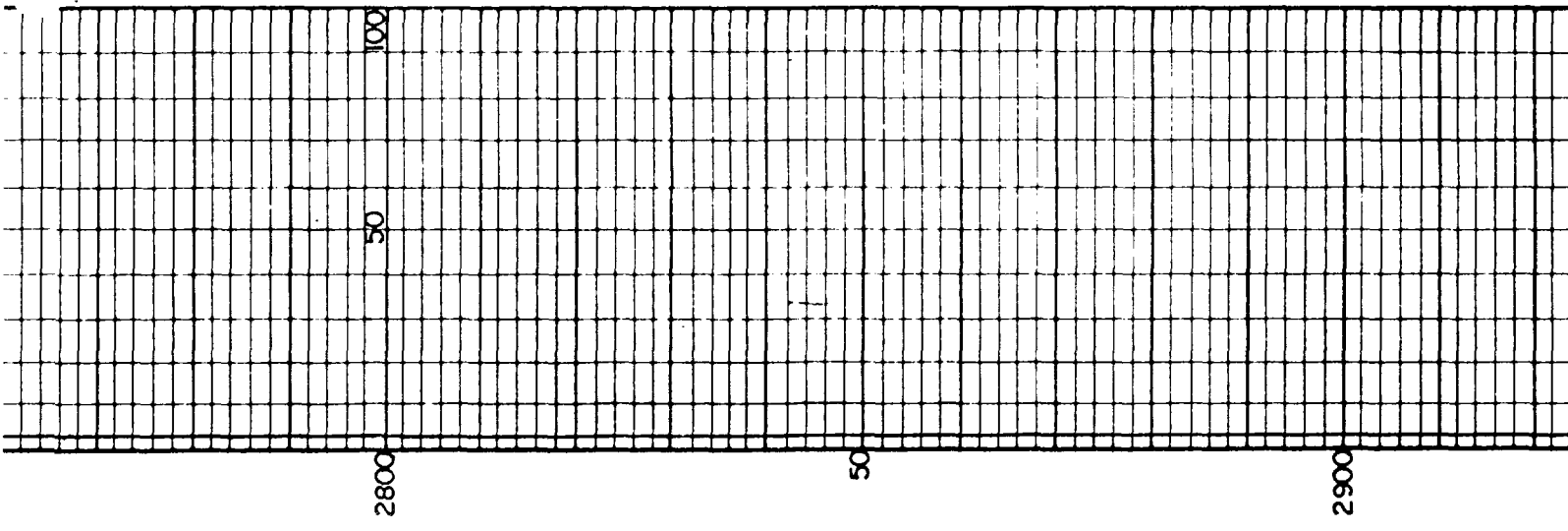
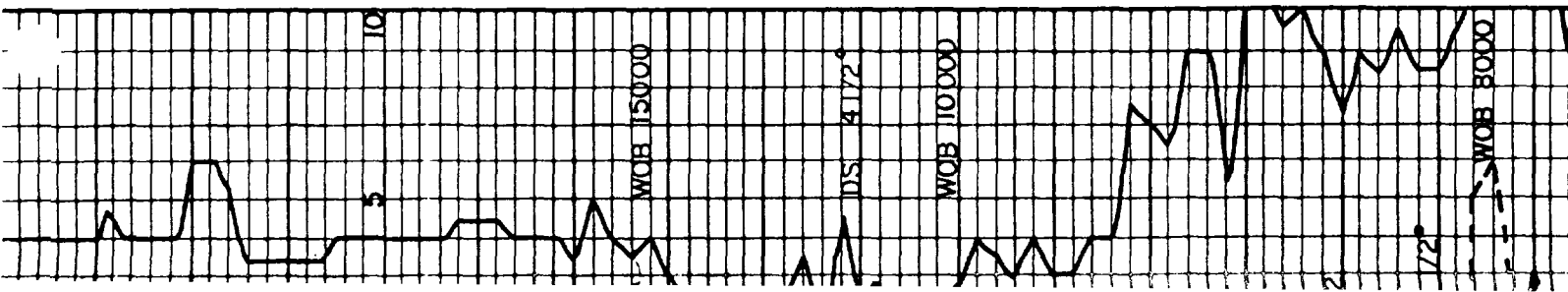
50

2800

50

100





SALT CLR-FRST CLN

SALT CLR-FRST CLN

SALT CLR-FRST CLN

SH YELL ORNG-ORNG LTRD ORN SFT EARTHY ABB W/SALT INCL

ANHY OFFWH-CRM MASS CLN

SH ORNG RD-DULL RD SFT SLTY EARTHY

SALT CLR-FRST CLN

ANHY OFFWH-CRM SM LTGY MASS CLN TR PALE YELL

ANHY CRM-OFFWH-BF-LTGY MASS FMP SM XLN

ANHY-OFFWH-LTGN

C 311m

P 10

S 200000

W 10

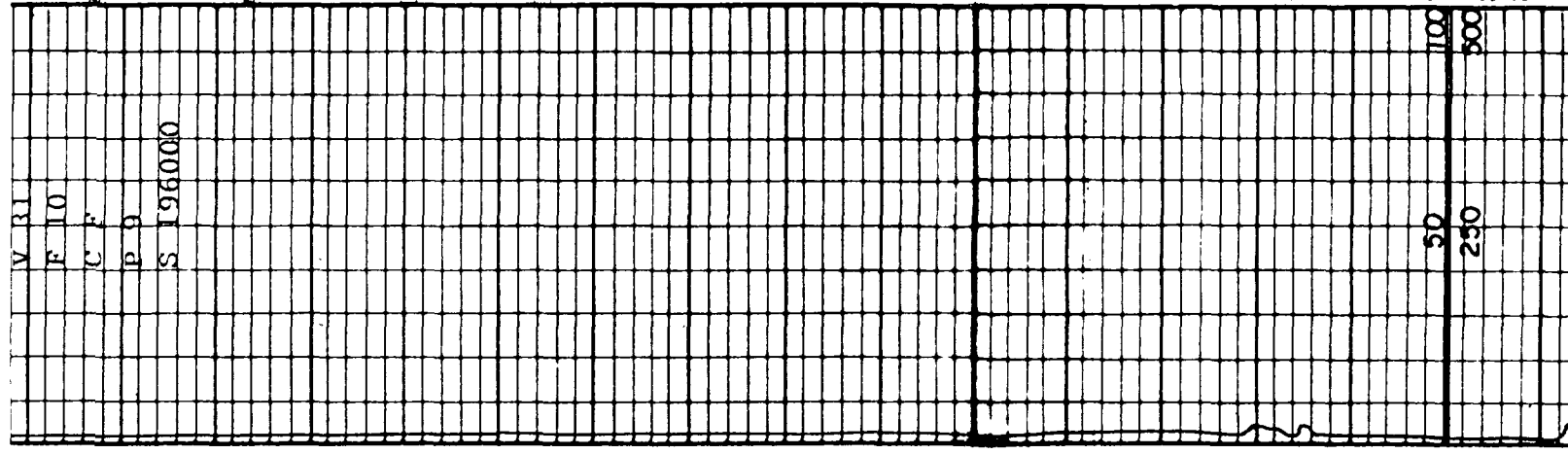
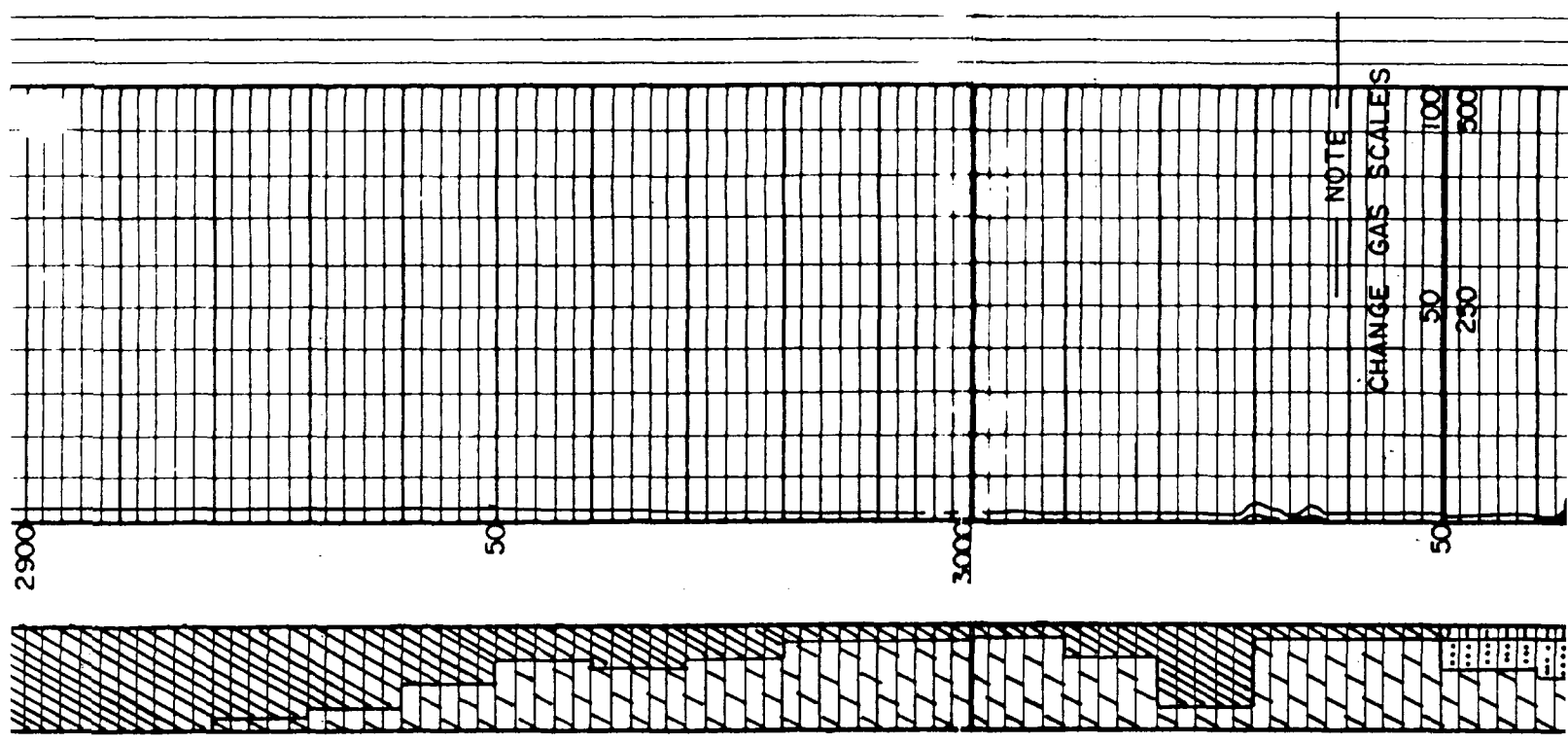
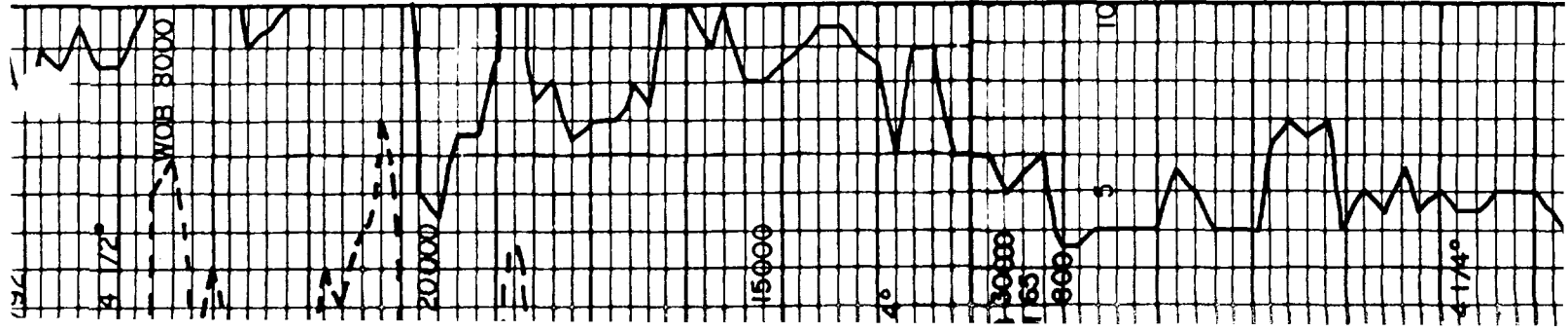
V 31

F 10

C F

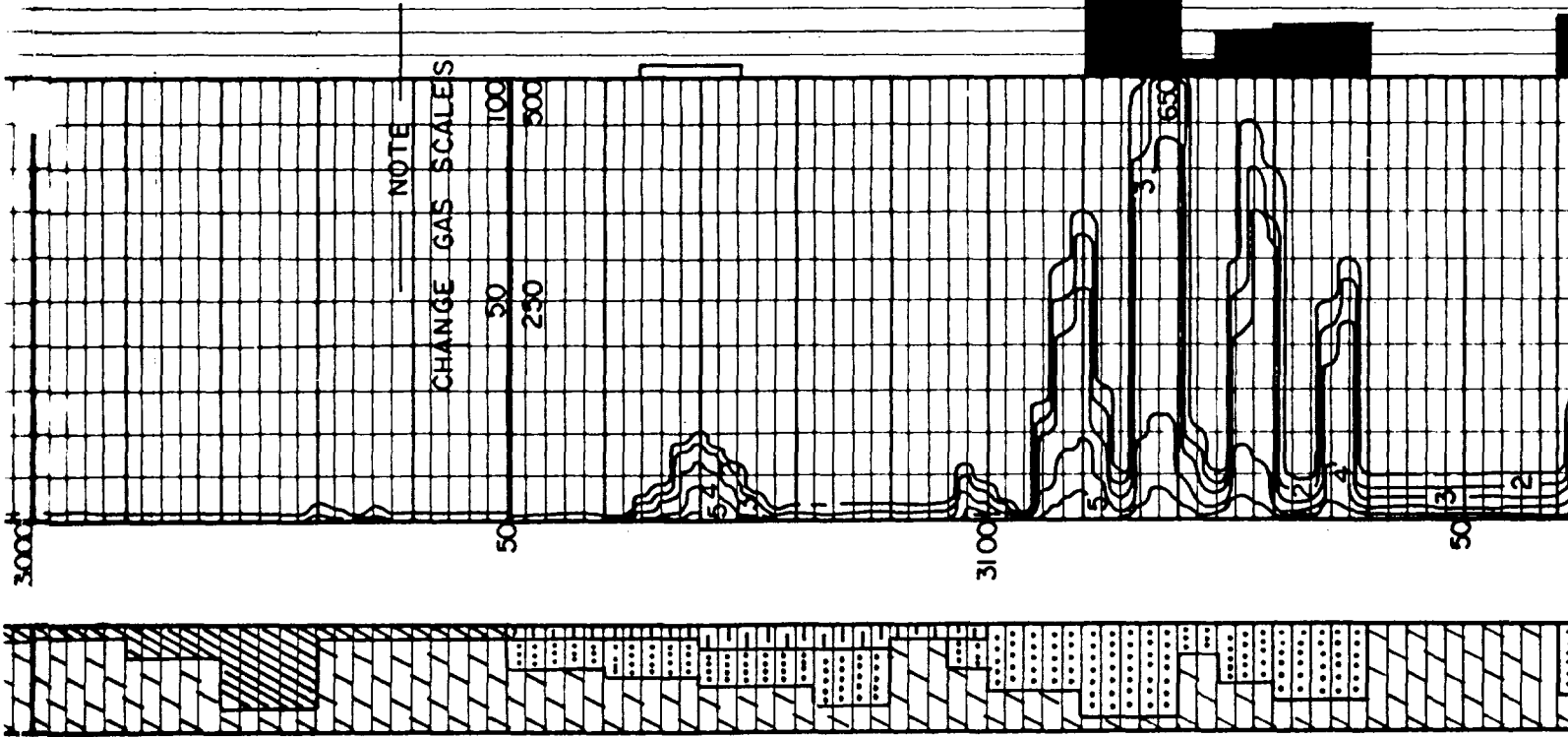
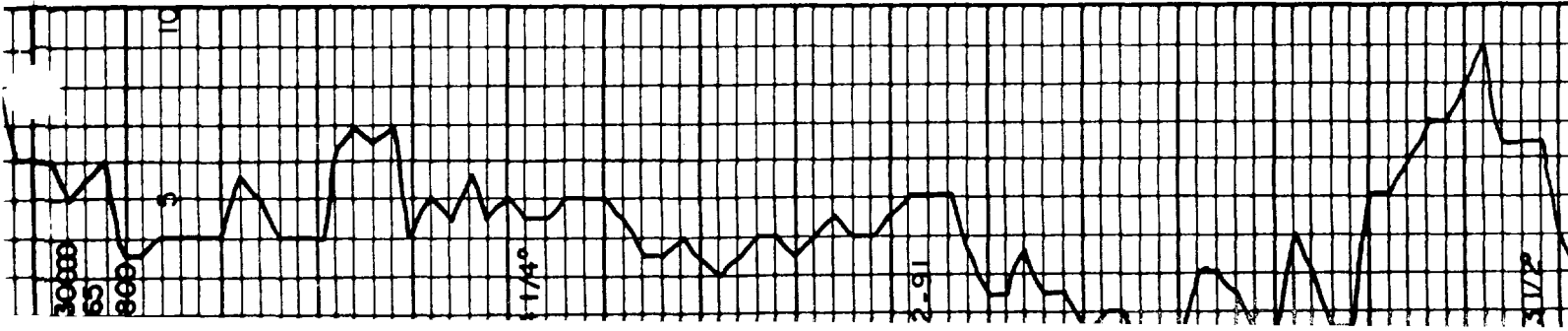
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ANY CRM-OFFWH-  
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 FMP SM XLN  
  
 ANY-OFFWH-LTTN  
 MASS FMP XLN  
 IP SL DOLC  
  
 DOL CRM-LTTN-OFF  
 WH N/DNS ANY  
  
 DOL BF CRM OFF  
 WH MICR XLN  
 ANY  
  
 any clr xln  
  
 DOL BF TN LT GY  
 VF-FX DNS SL  
 PYR ANY'C  
  
 SS TR BF TN VEG  
  
 SH LT GY V/SFT  
 SS LT GY BF VEG  
 CON FRI IP





anhy clr xln

DOL BF TN LT GY  
VF-EX DNS SL  
PYR ANHY'C

SS TR BF TN VFG

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SHLY

SS BF TN LT GY  
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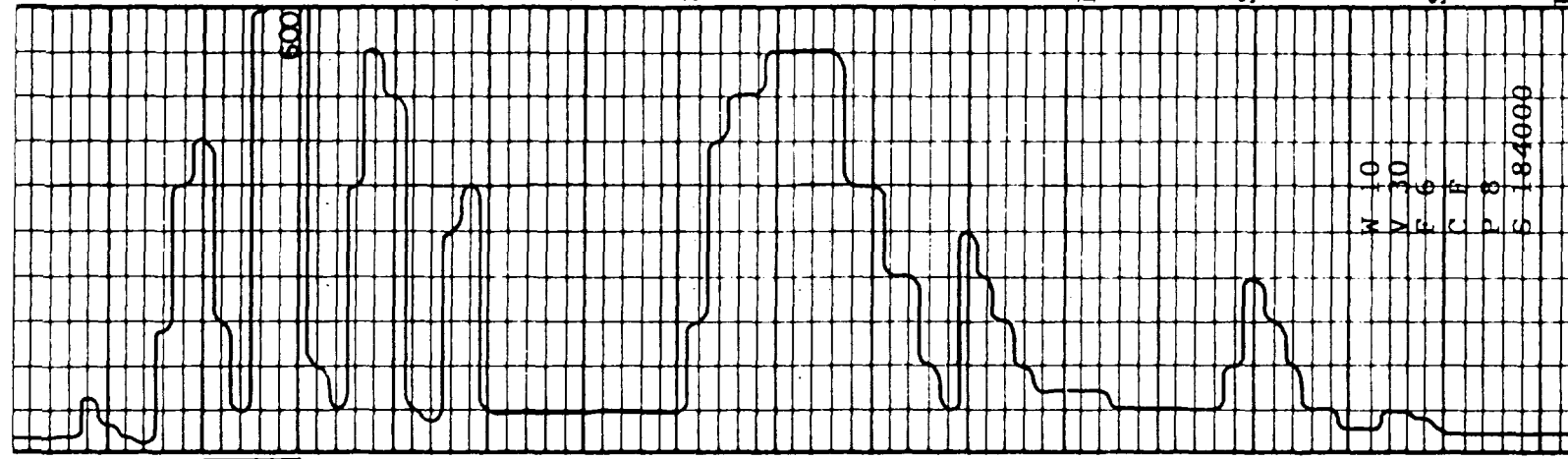
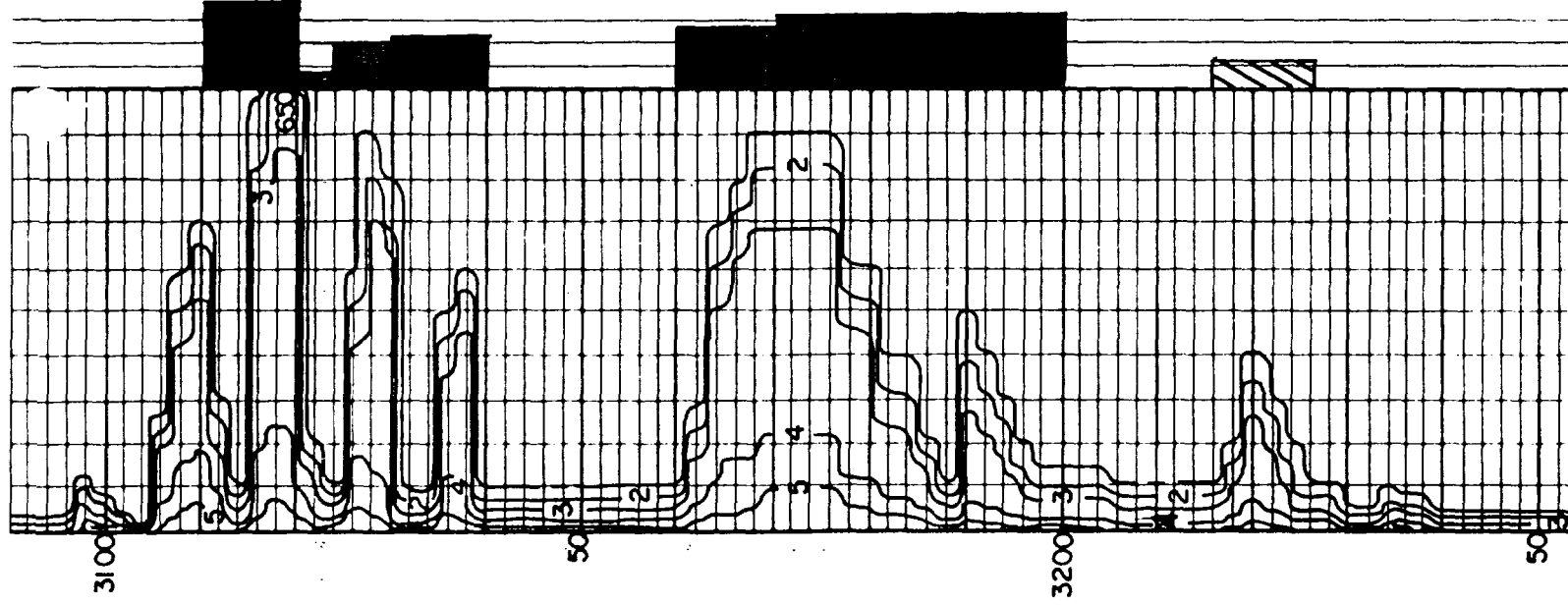
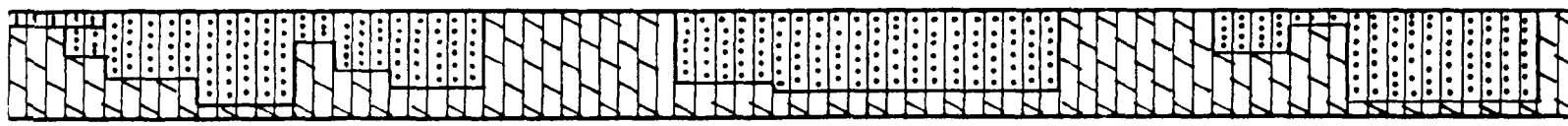
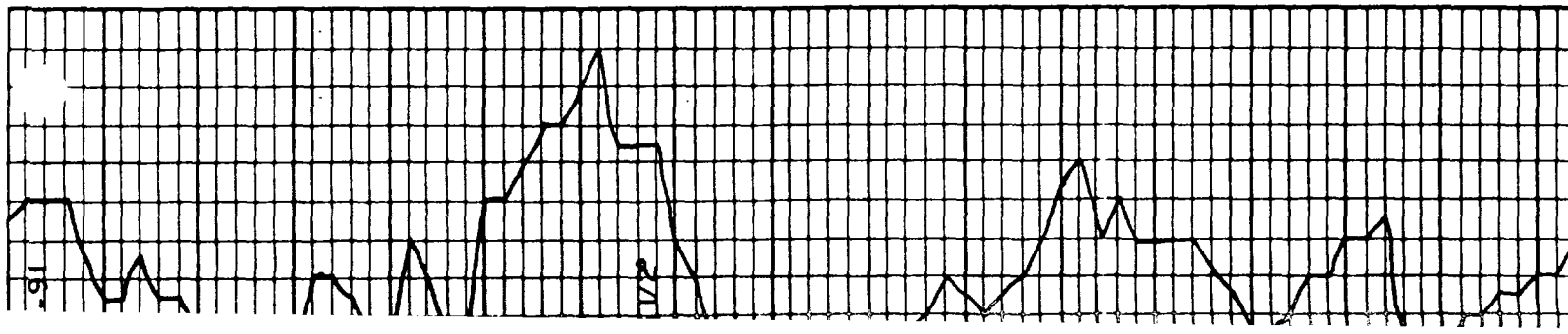
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GOOD CUT

DOL RD BF TN DNS  
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STN W/ GOLD  
FLU & GD CUT

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DOOR VALVE  
PIT

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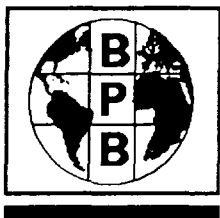
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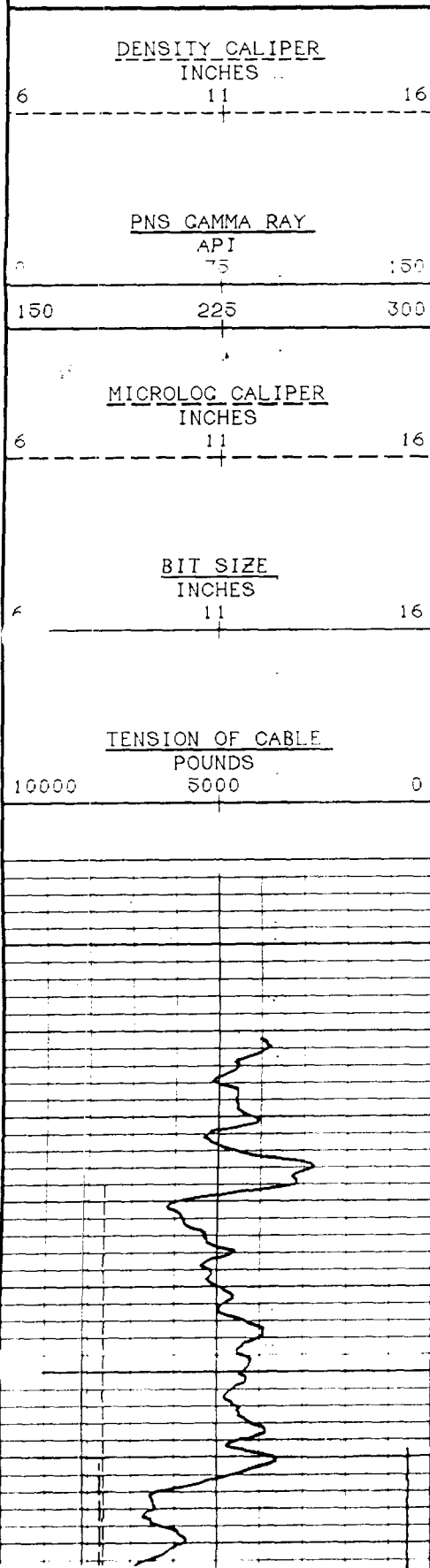
# COMPENSATED PHOTO DENSITY COMPENSATED NEUTRON

LOCATION 990' FNL & 2110' FEL PRVNC/CO. LEA FIELD WEST TEAS WELL: FEDERAL 9 NO. 2 COMPANY: STEVENS & TULL INC	COMPANY STEVENS & TULL INC WELL FEDERAL 9 NO. 2 FIELD WEST TEAS PROVINCE/COUNTY LEA COUNTRY/STATE U.S.A. / NEW MEXICO			
	LOCATION 990' FNL & 2110' FEL			OTHER SERVICES DLS M.S
	LSD	SEC 9	TWP 20S	RGE 33E
	PERMANENT DATUM GROUND LEVEL ELEVATION 3550 FT LOG MEASURED FROM K.B. 9 FT ABOVE PERMANENT DATUM DRILLING MEASURED FROM K.B.			
ELEVATIONS KB 3559 FT DF 3558 FT GL 3550 FT				
DATE	13-OCT-92			
RUN NUMBER	ONE			
DEPTH-DRILLER	3340 FT			
DEPTH-LOGGER	3337 FT			
FIRST READING	3335 FT			
LAST READING	100 FT			
CASING-DRILLER	1300 FT			
CASING-LOGGER	1300 FT			
BIT SIZE	7 7/8 INCH			
HOLE FLUID TYPE	STARCH			
DENS./VISC.	10.0	30		
PH/FLUID LOSS	0.0	6.0		
SAMPLE SOURCE	PIT			
RM @ MEAS TEMP	0.051 @ 75 F			
RMF @ MEAS TEMP	0.051 @ 75 F			
RMC @ MEAS TEMP				
SOURCE: RMF/RMC	MEAS			
RM @ BHT	0.034 @ 106F			
TIME SINCE CIRC	5.0 HRS.			
MAX REC TEMP	106 DEG F			
EQUIPMENT/BASE	V1029	MDD		
RECORDED BY	CHILDERS			
WITNESSED BY	MR. MOONEY			

# 2 INCH MAIN LOG

## 5 INCH MAIN LOG

DEPTH BASED DATA - MAXIMUM SAMPLING INCREMENT 10.0 CMS. RECORDED @ 13-OCT-92 02:50:39  
 PLOTTED ON 13-OCT-92. FILE # 2. ID: 5 INCH MAIN LOG TAPE ID: PDL



DEPTH IN FEET  
1:240

HVI EVERY 10 CU FT

60 SEC TIMING MARKS ON LHS

ANNULAR INTEGRAL EVERY 10 CU FT

50

100

LIMEST. DENSITY POROSITY PERCENT

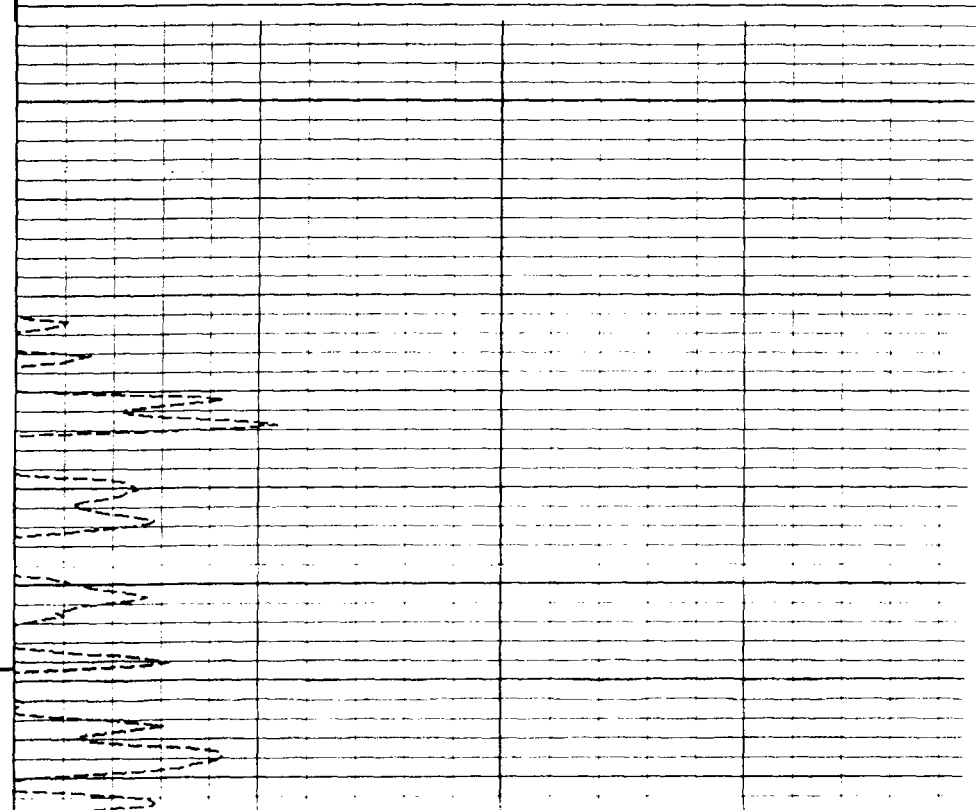
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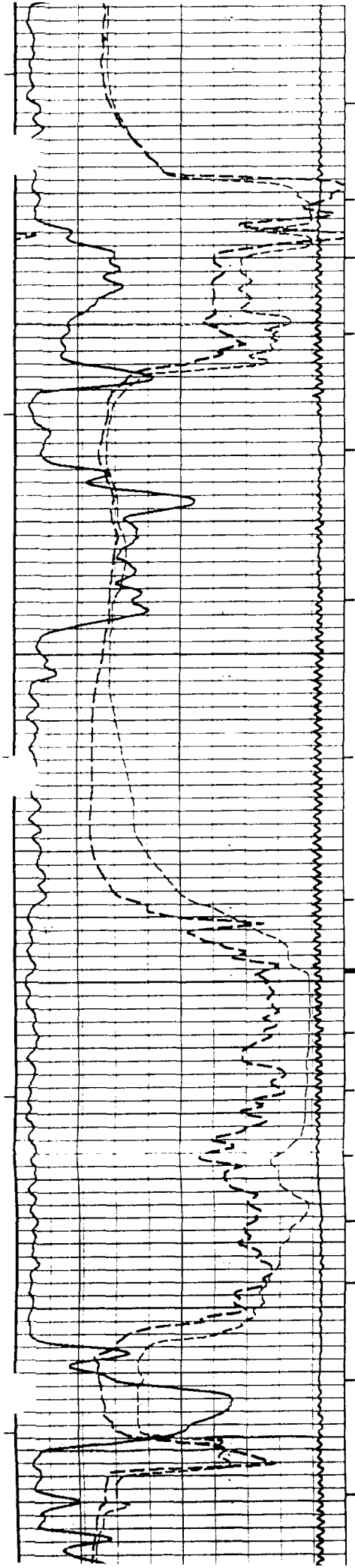
LIMEST. NEUTRON POROSITY PERCENT

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DENSITY CORRECTION GRAMS PER CC

-0.1 0.40 0.9



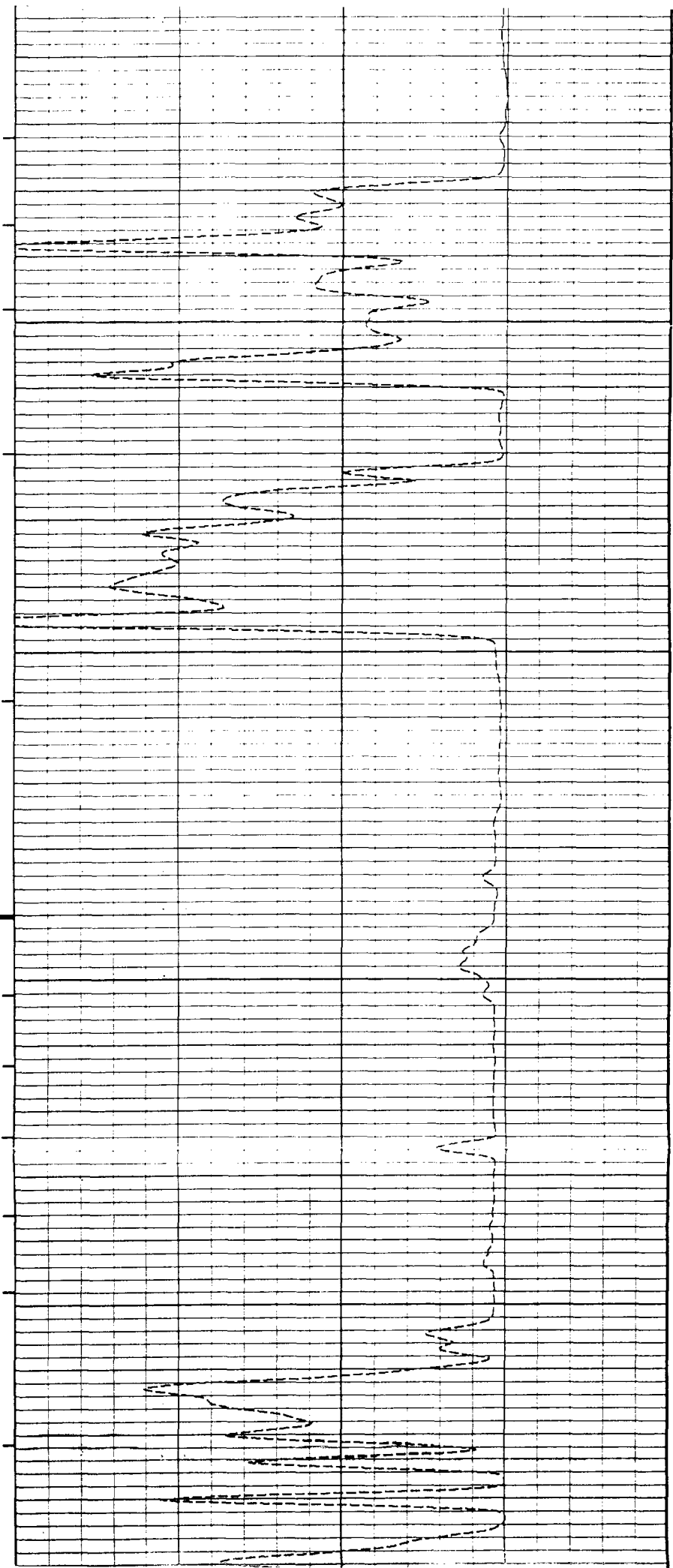


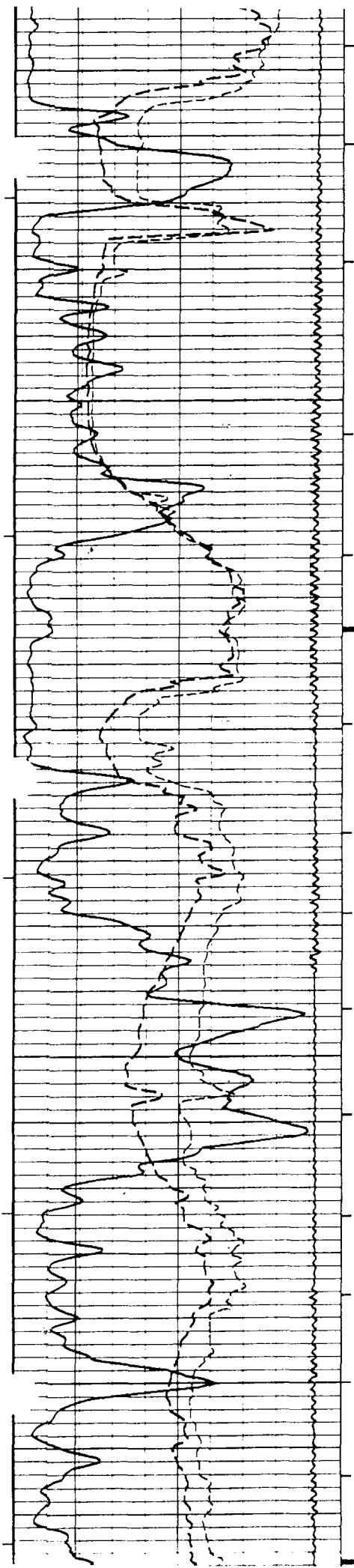
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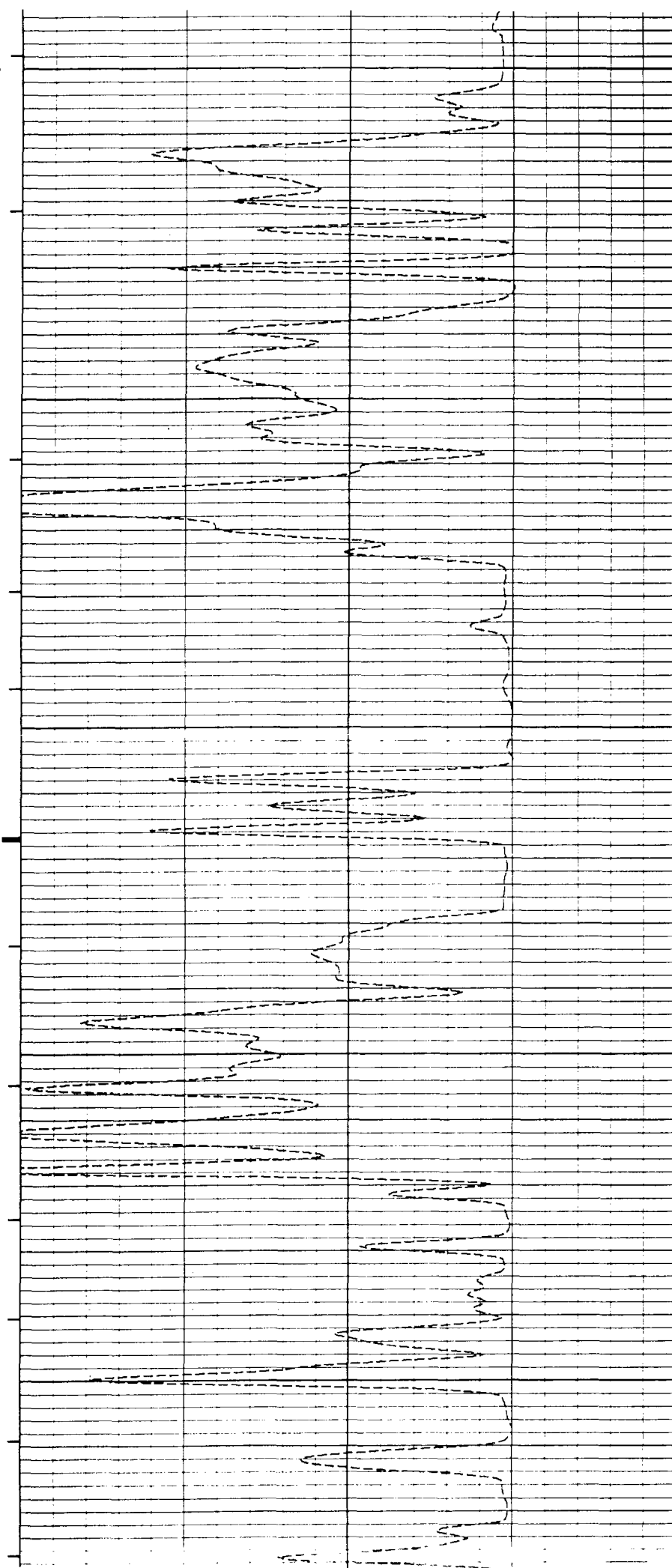
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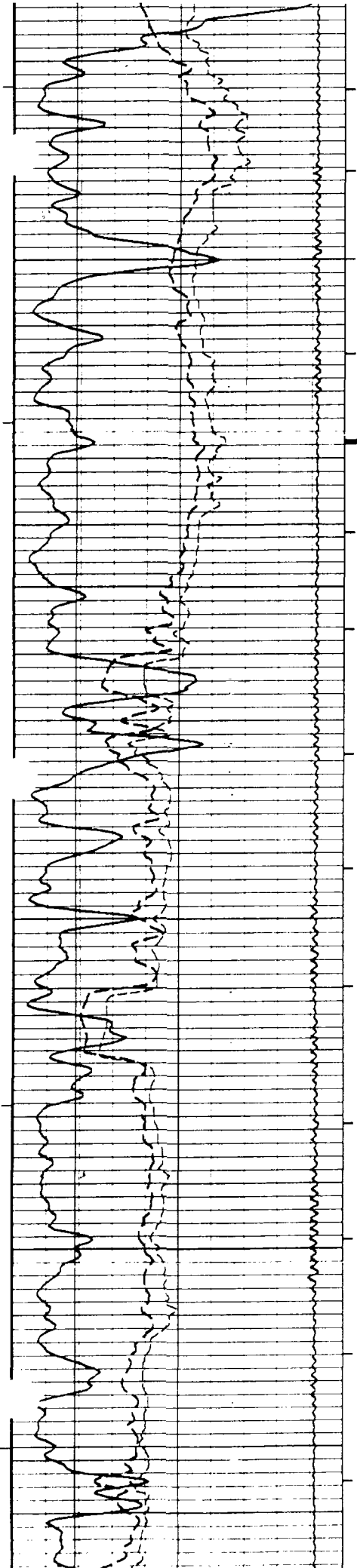
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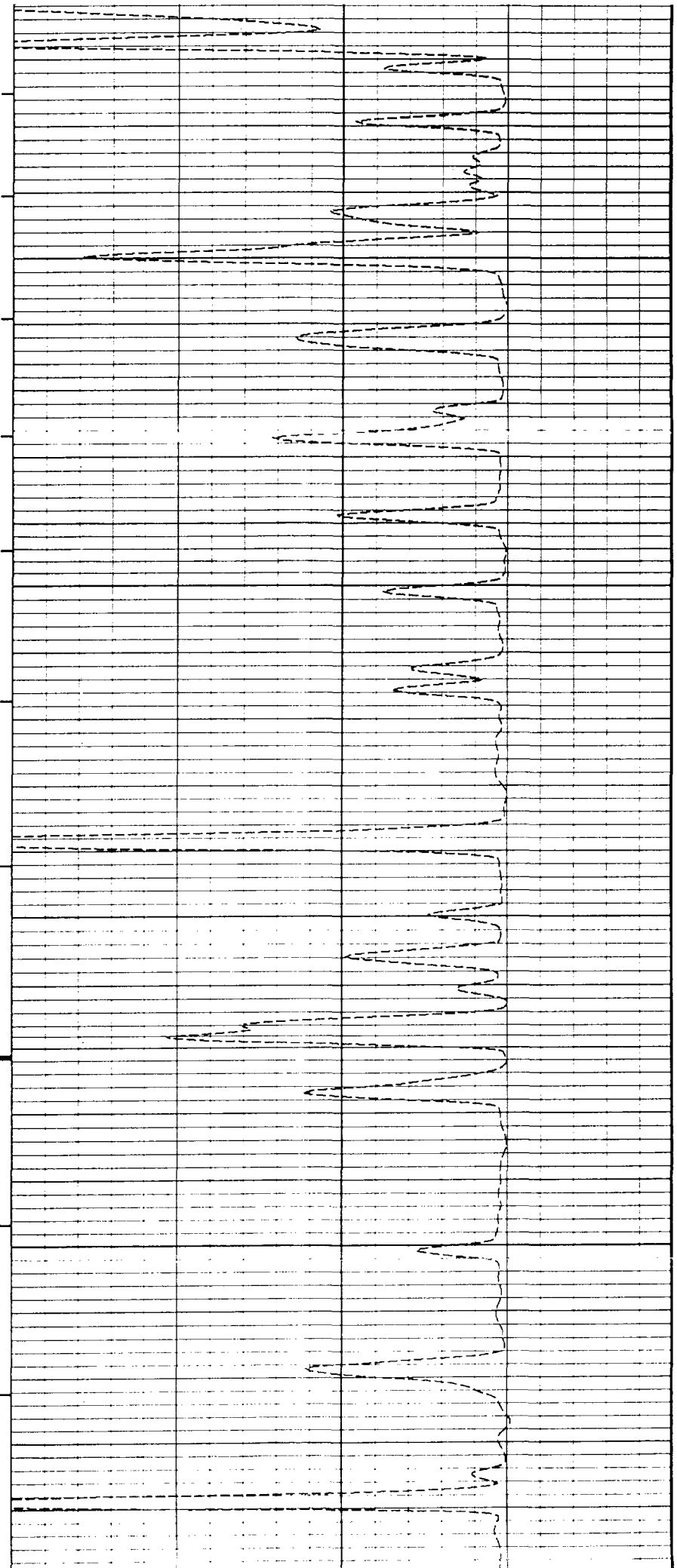


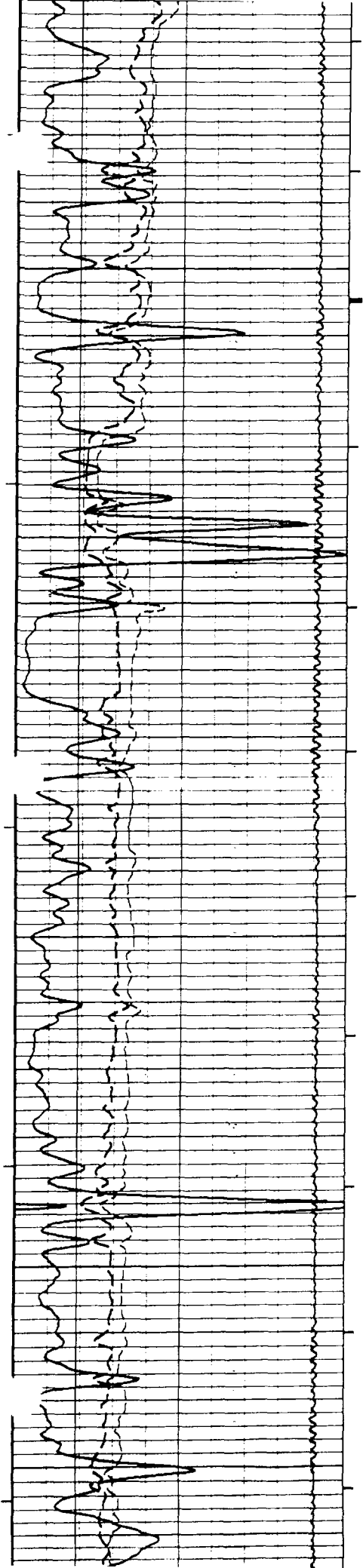
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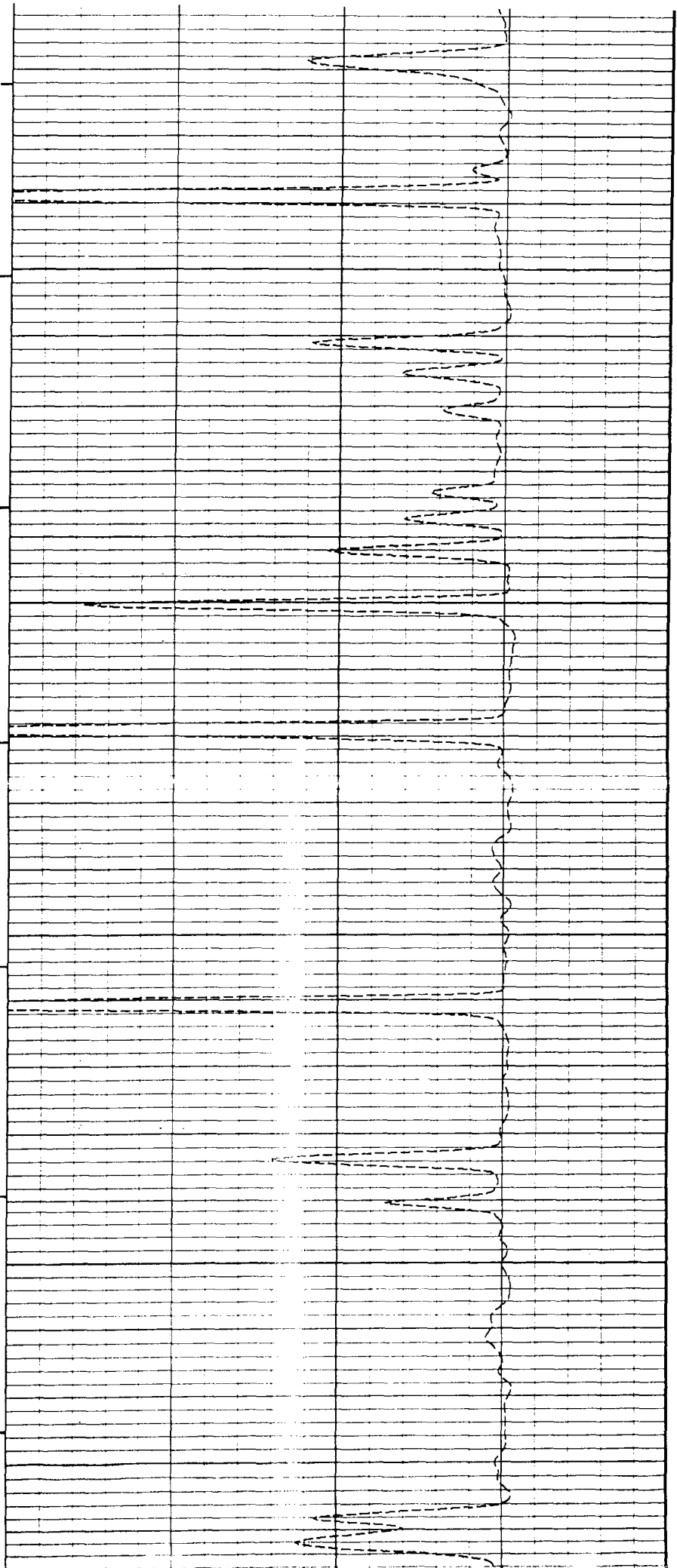


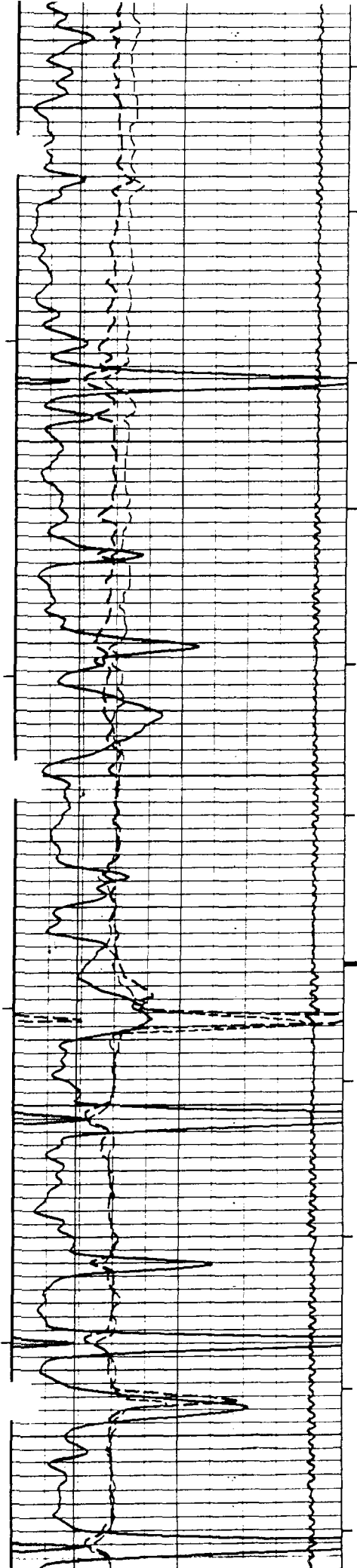
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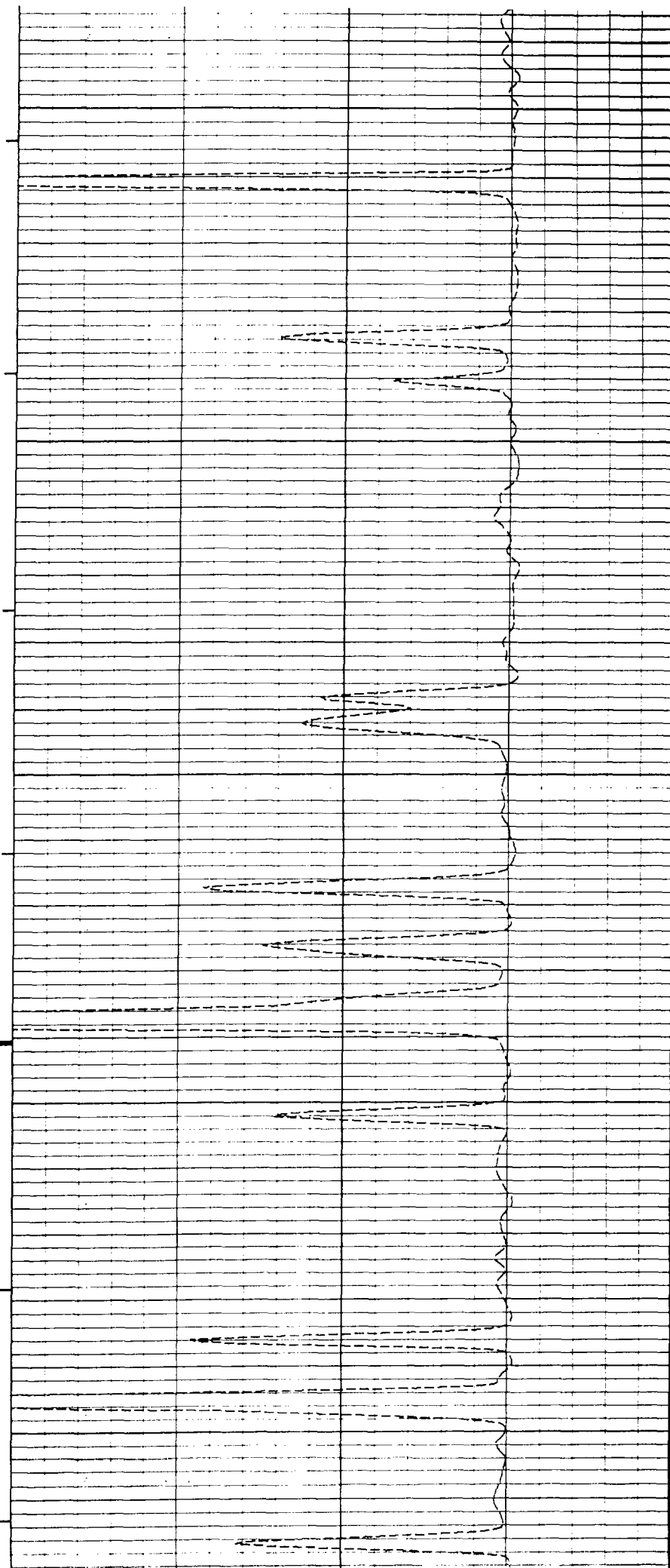
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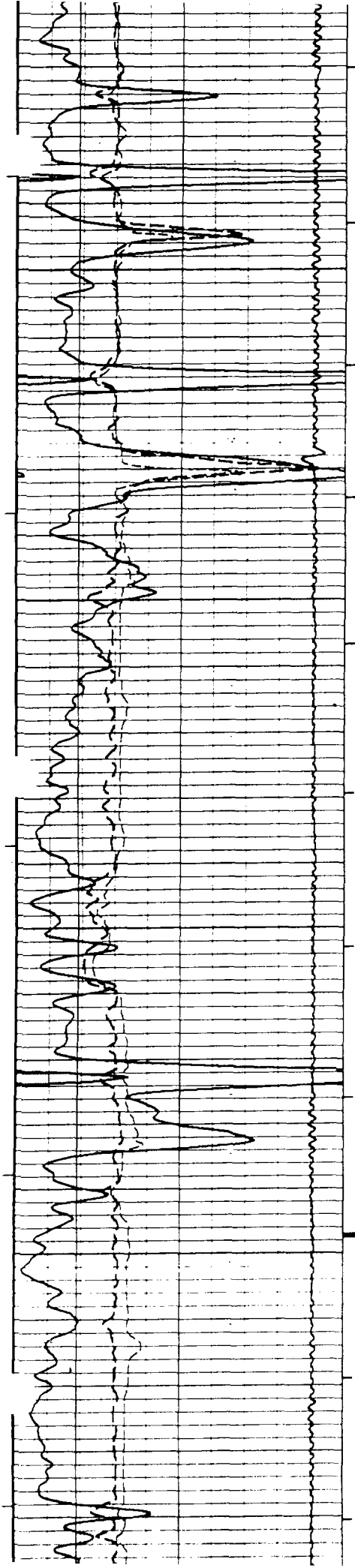
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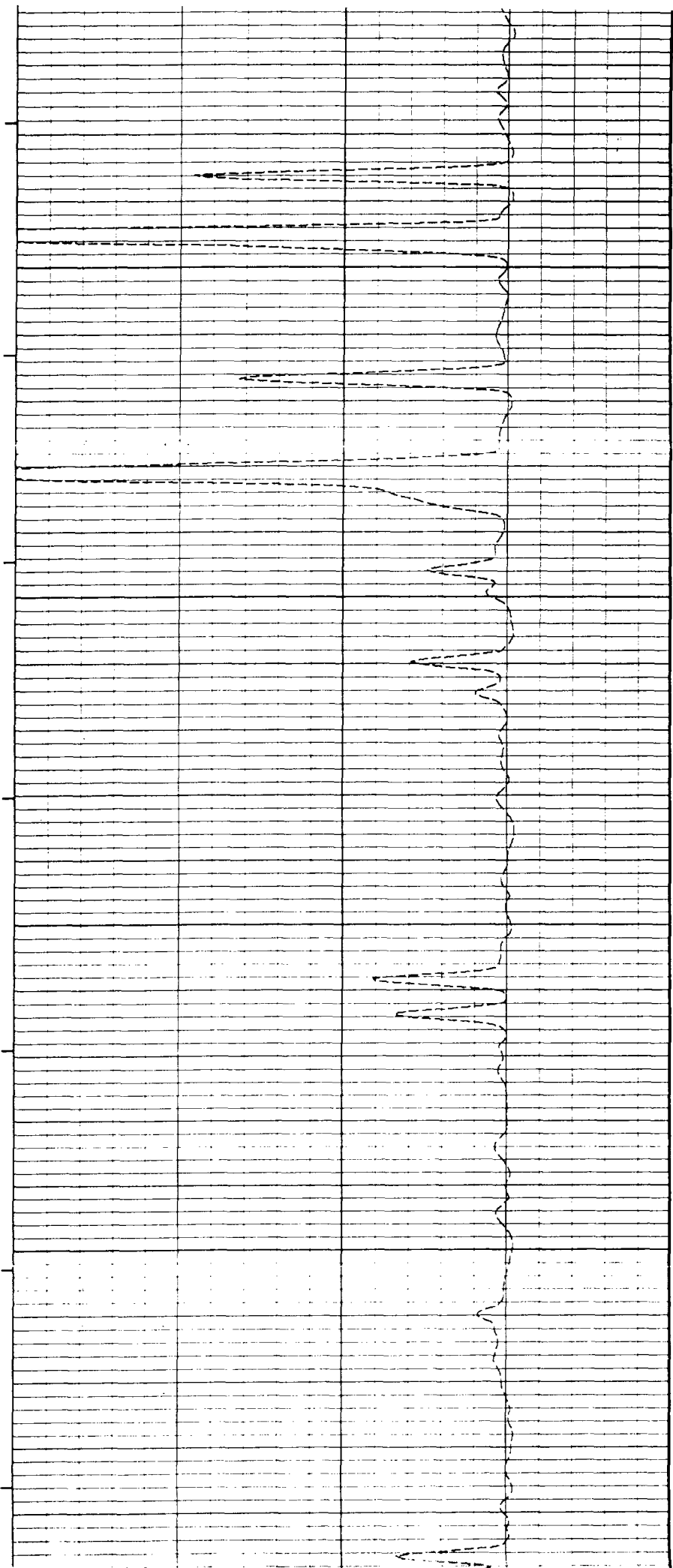


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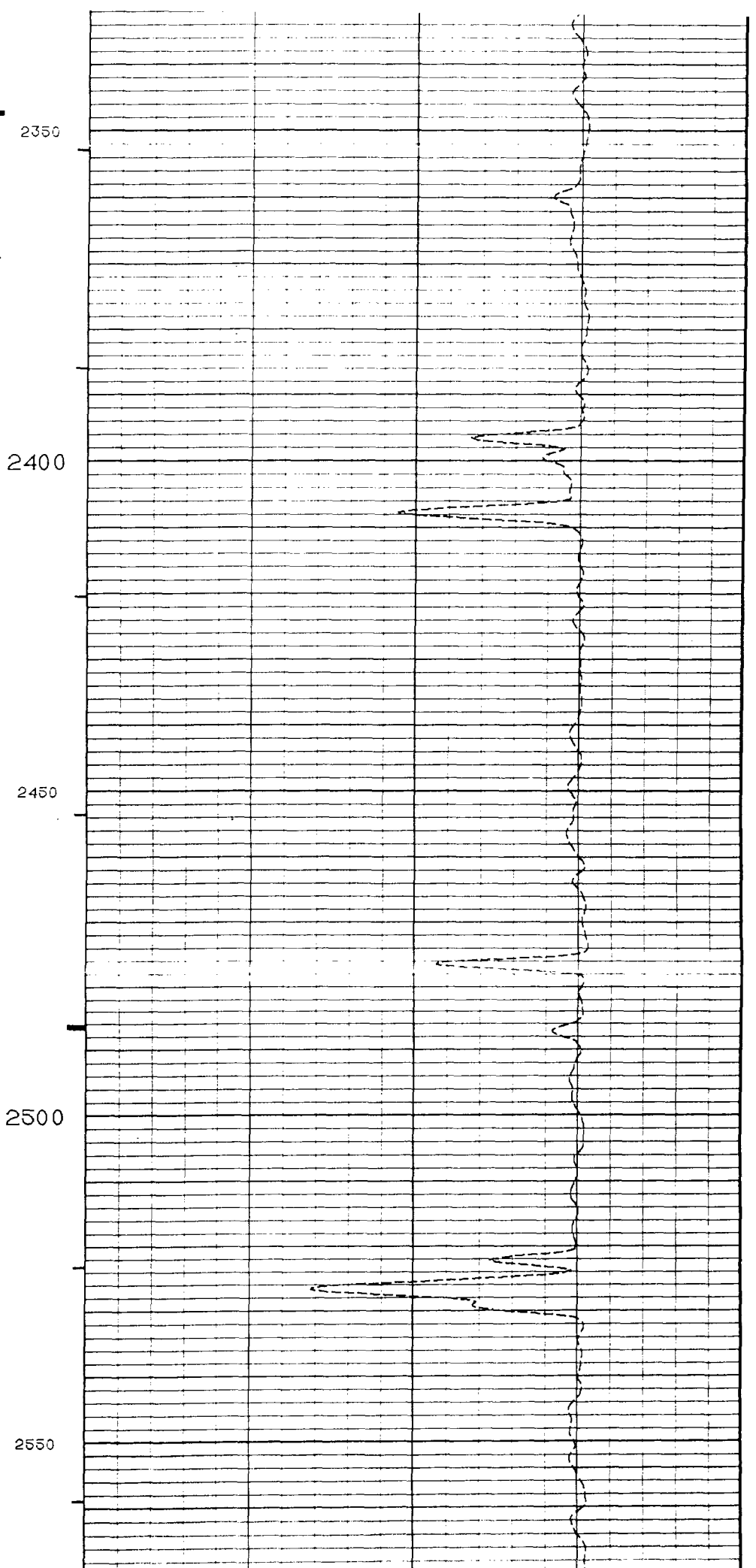
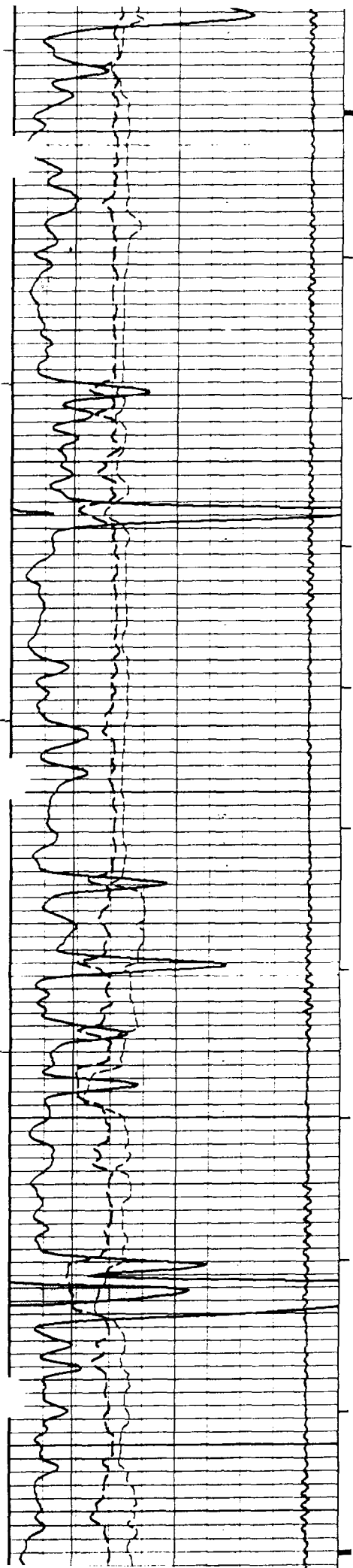
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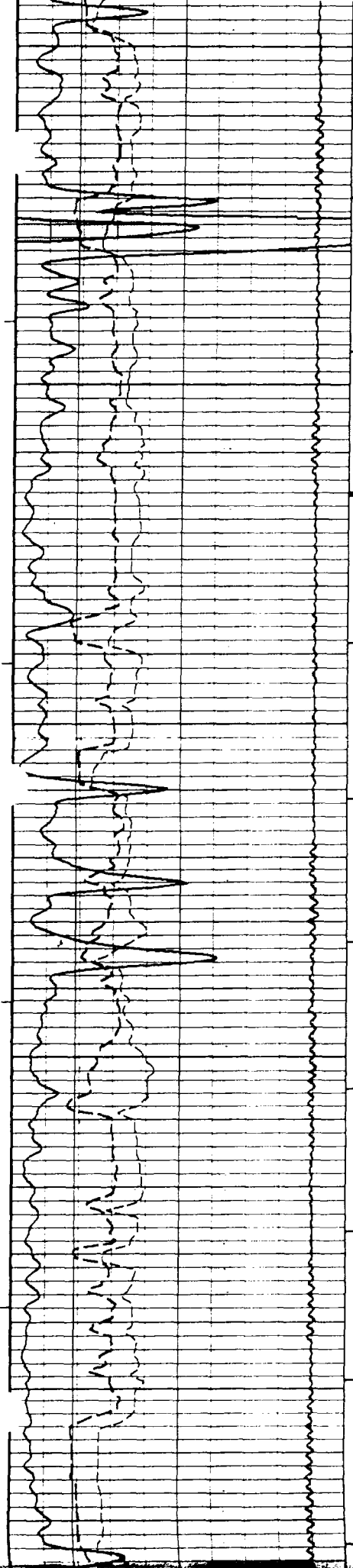
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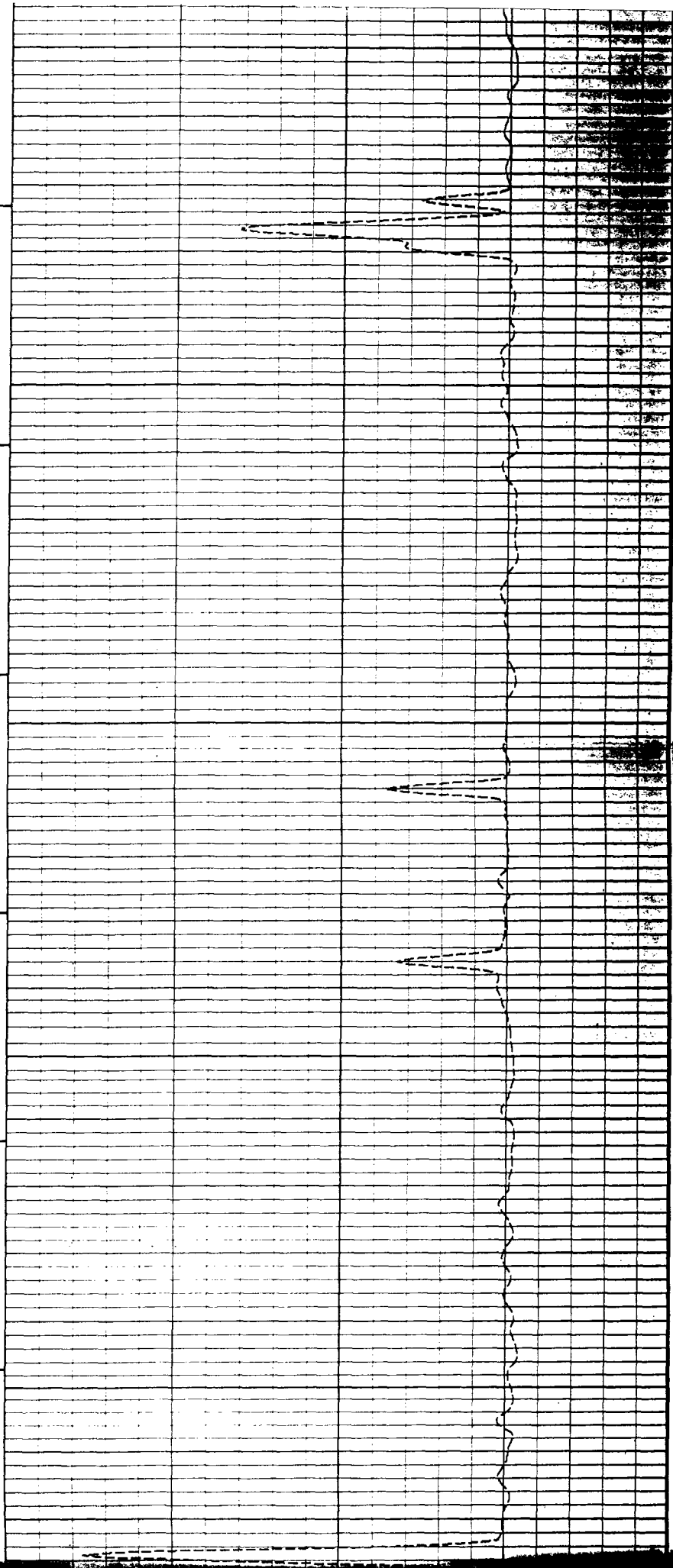
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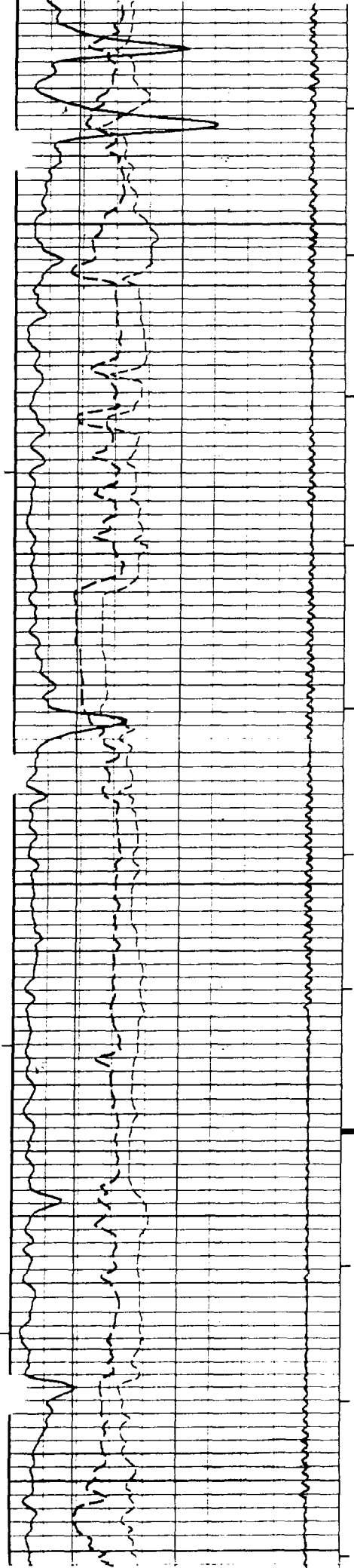
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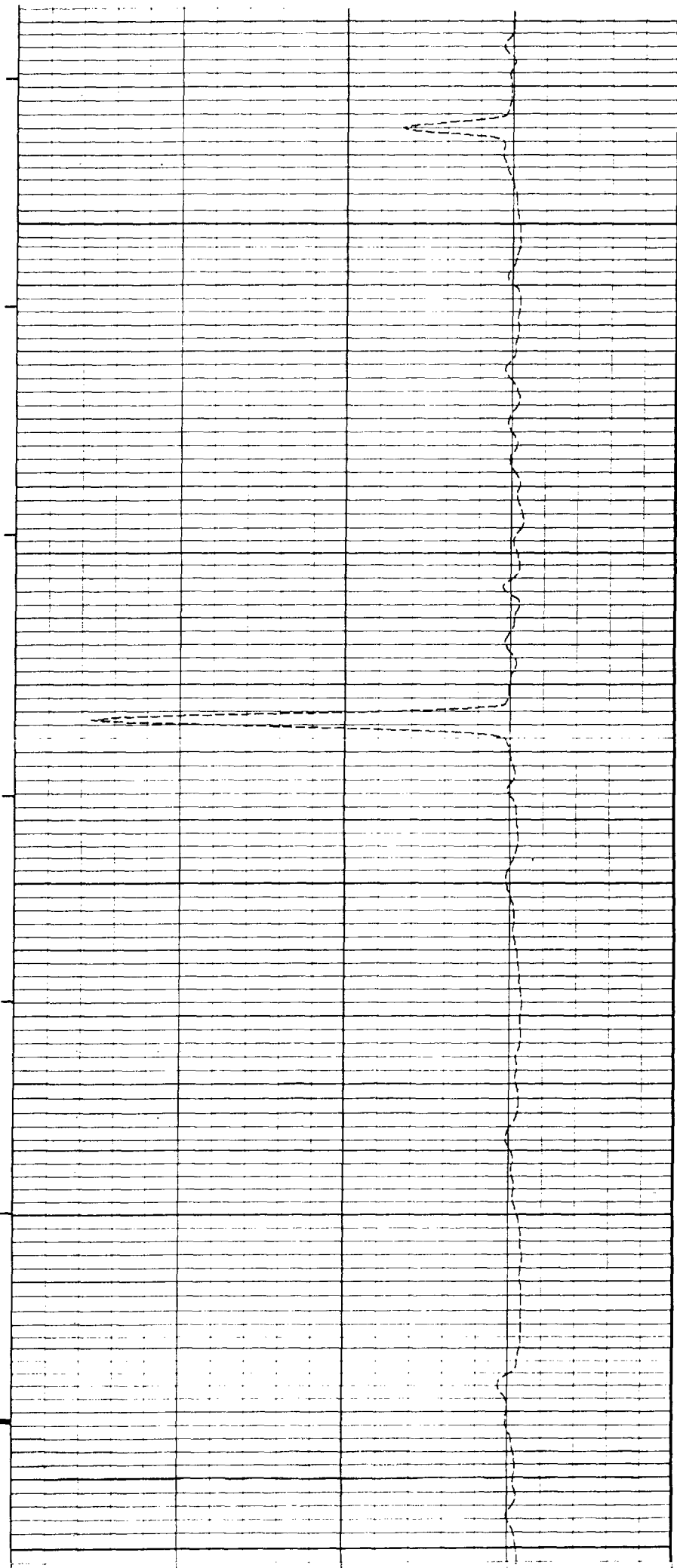
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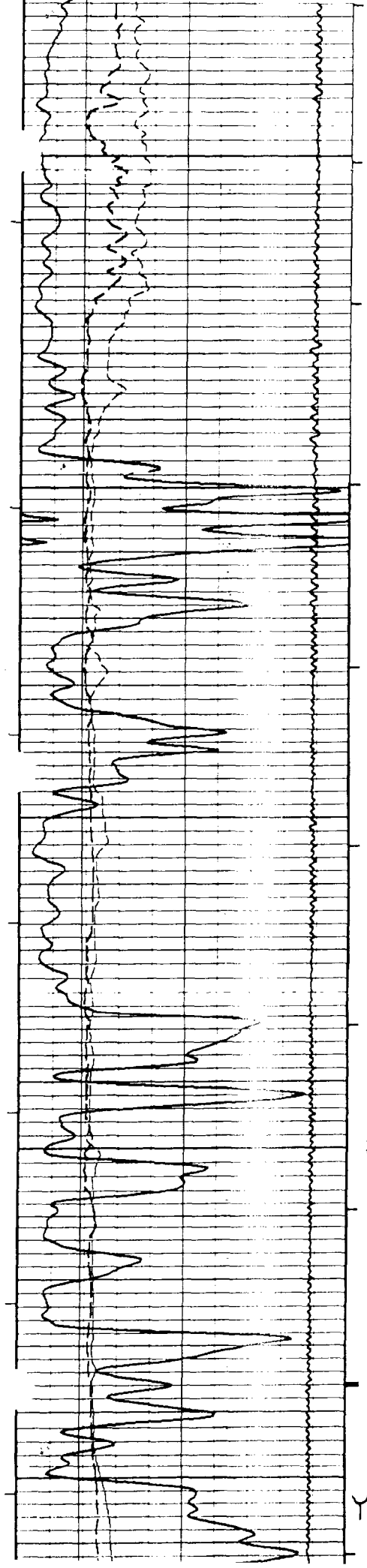
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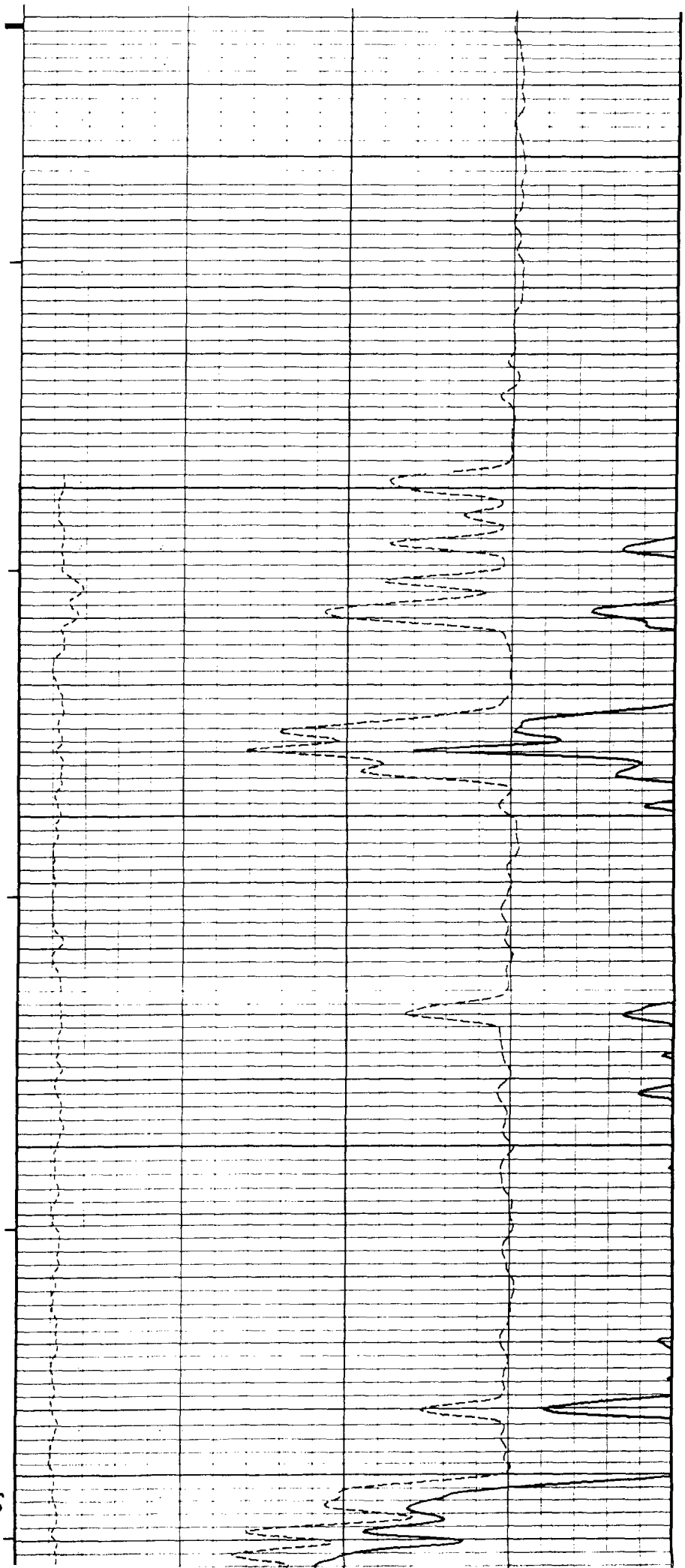
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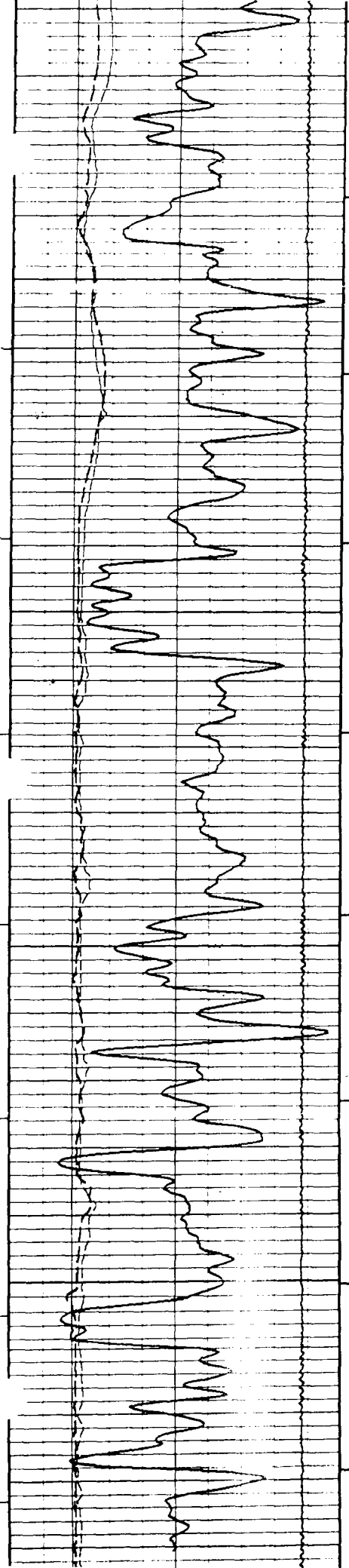
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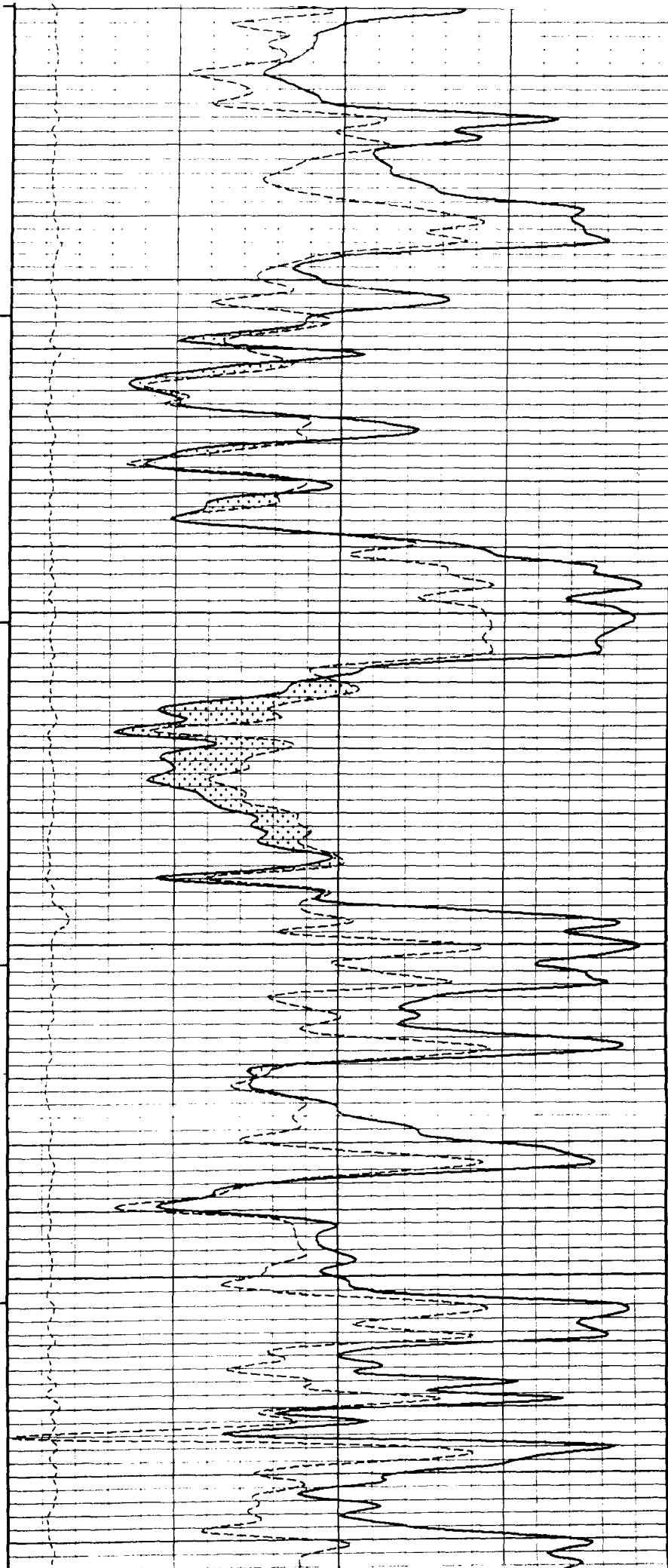
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LOWER  
YATES

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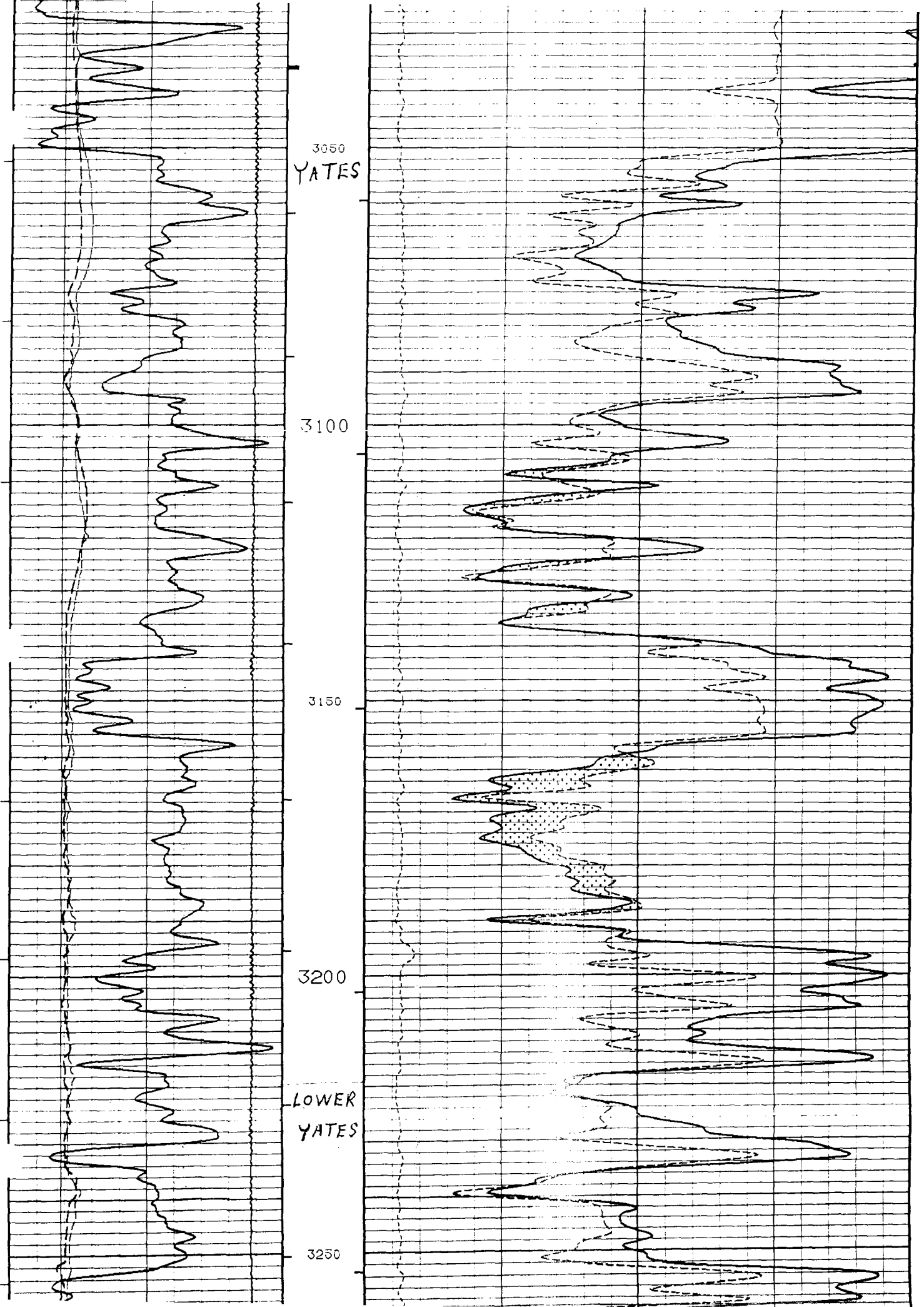
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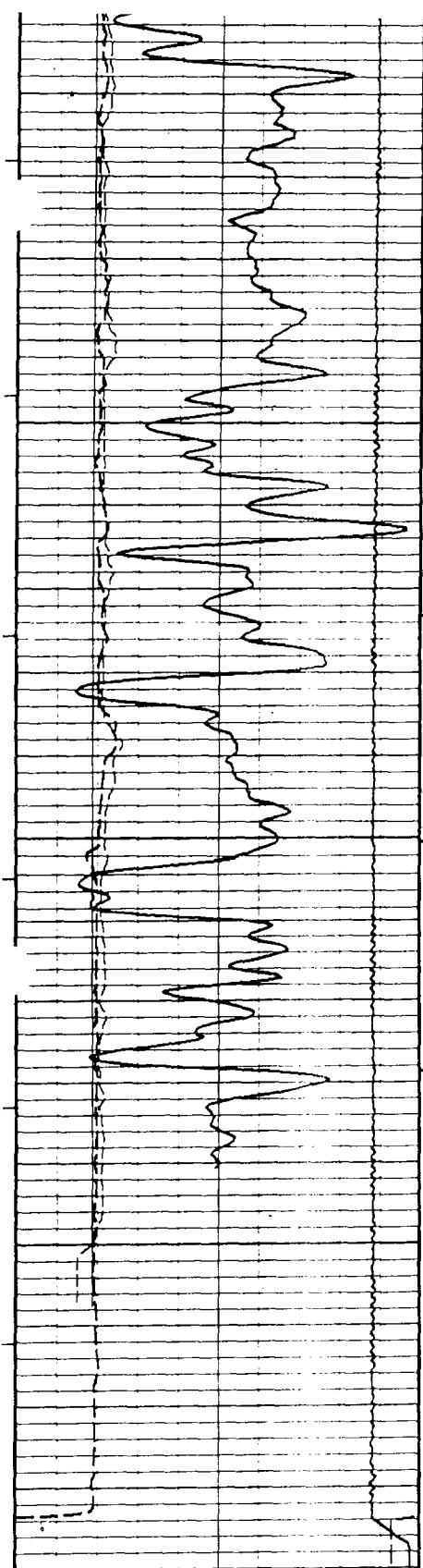
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LOWER  
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SEVEN  
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DEPTH IN  
FEET  
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DENSITY CALIPER  
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PNS GAMMA RAY

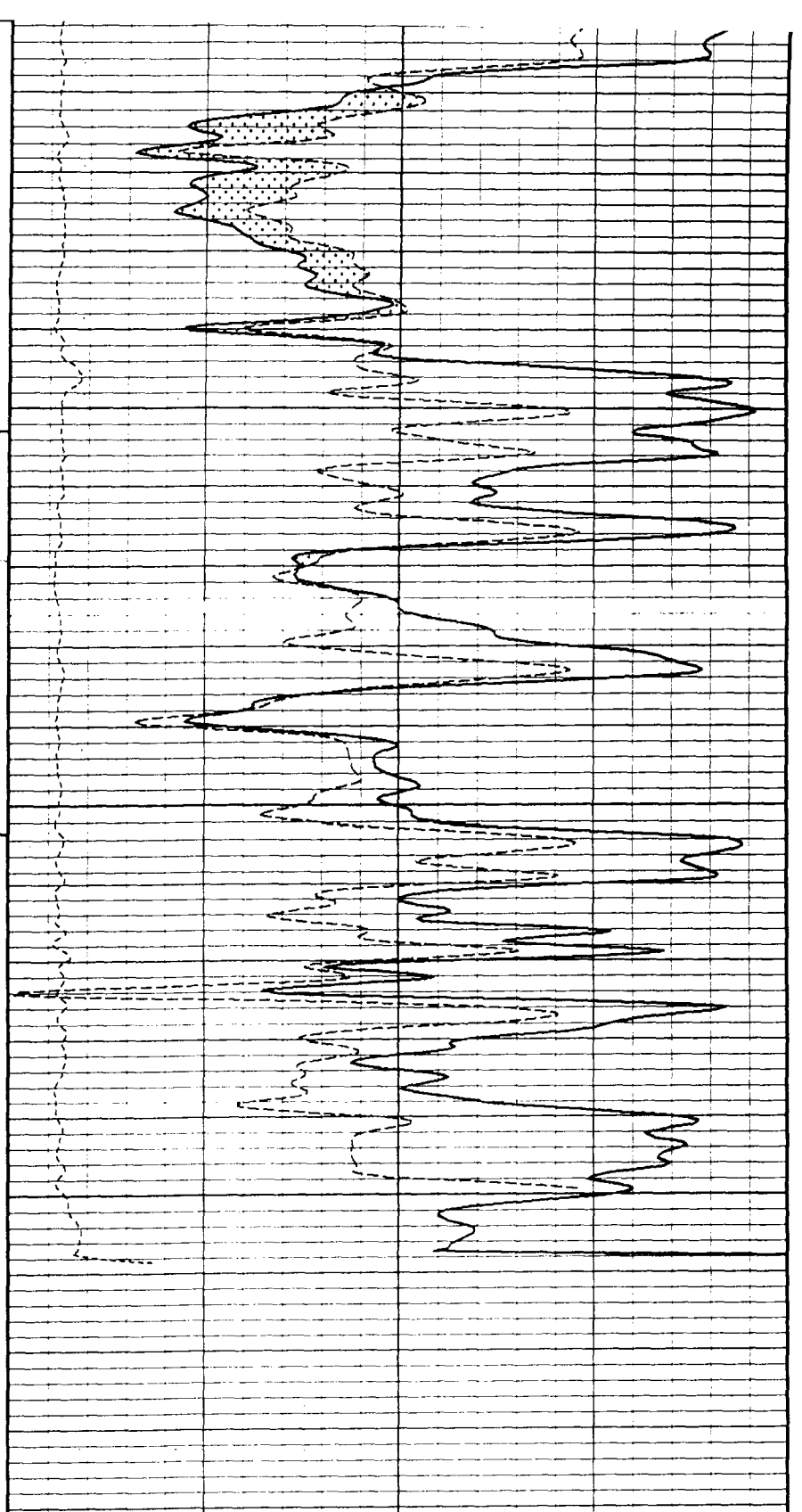
API

0 75 150

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MICROLOG CALIPER

HVI  
EVERY  
10 CU FT



LIMEST. DENSITY POROSITY  
PERCENT

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2

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPT.  
OIL CONSERVATION COMMISSION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 9316  
Order No. R-111-P

APPLICATION OF THE OIL CONSERVATION  
DIVISION UPON ITS OWN MOTION TO  
REVISE ORDER R-111, AS AMENDED, PERTAINING  
TO THE POTASH AREAS OF EDDY AND LEA  
COUNTIES, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 a.m. on  
February 18, 1988, at Santa Fe, New Mexico, before the Oil  
Conservation Commission of New Mexico, hereinafter referred to  
as the "Commission."

NOW, on this 21st day of April, 1988, the Commission,  
a quorum being present, having considered the testimony  
presented and the exhibits received at said hearing, and being  
fully advised in the premises,

FINDS THAT:

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

(2) Order R-111-A was entered July 14, 1955, and since  
that time no amendments have been entered, except amendments  
to Exhibit "A" attached thereto, despite significant advances  
in drilling technology and practices.

(3) Operation under Order R-111-A has become virtually  
unworkable because of 1) the lack of tolerance on the part of  
both oil/gas and potash industries in regarding the activities  
of the other industry in areas where leasehold interests are  
overlapping and 2) confusion recording the boundaries of the  
known Potash Leasing Area (KPLA) established by the U.S.  
Bureau of Land Management (BLM) and the R-111-A area as  
amended by Orders R-111-B through O.



-2-

Case No. 9316  
Order No. R-111-P

(4) The then Director of the Oil Conservation Division (OCD) by memorandum dated March 21, 1986 convened a study committee of volunteer representatives from the oil and potash industries and other interested parties.

(5) The committee met May 29, September 25-26, and November 13-14 (field trip) in 1986 and on March 19, 1987.

(6) By committee agreement a work committee was formed from the larger committee consisting of three members and one alternate from each industry and this work committee was chaired by the OCD Chief Petroleum Engineer and charged with the responsibility to develop proposed amendments to Order R-111-A. It met on April 30, May 1, July 23-24 and November 23, 1987.

(7) Each meeting of the work committee was held in the presence of representatives of both BLM and OCD; and at its final meeting November 23, 1987 an agreement was reached and signed by the committee members present, which agreement is attached hereto as Exhibit "B", for the purpose of providing background information and acknowledging the consensus reached by representatives of the Oil and Gas and Potash industries relating to the multiple use of resources in the potash area

(8) Exhibit "B" is regarded by the Commission as a report of both the work committee and the full study committee since a draft copy of a nearly identical agreement was furnished to each member of the study committee for comment, and comments received thereon were addressed at the final meeting.

(9) The agreement represents a compromise by both industries, the potash operators relinquishing lower grade marginal or uneconomic ore deposits in order to more fully protect their higher grade ore deposits; and the oil/gas operators receiving such lands containing sub-economic ore deposits as prospective drill-sites.

(10) The Oil and Gas Act, 70-2-3 F NMSA 1978, declares as waste "drilling or producing operations for oil or gas within any area containing commercial deposits of potash where such operations would have the effect unduly to reduce the total quantity of such commercial deposits of potash which may reasonably be recovered -- or where such operations would interfere unduly with the orderly commercial development of such potash deposits".

(11) The Oil and Gas Act in 70-2-12 B(17) empowers the Division "to regulate and, where necessary, prohibit drilling

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or producing operations for oil and gas" in areas which would cause waste as described in 70-2-3 F.

(12) The report of the work committee presents a reasonable process for determining where wells for oil and gas would cause waste of potash and the pertinent portions of said report should be contained in the order as a reasonable process for prohibiting oil and gas drilling in such areas in the absence of substantial evidence that waste of potash as described by the statute would not result.

(13) Release of methane into potash mine workings would endanger the lives of miners and would render further mining activities uneconomic because of the additional, and more expensive safety requirements which would be imposed by the Mine Safety and Health Administration (MSHA) of the U.S. Department of Labor.

(14) Salt and potash deposits are essentially non-porous and impermeable but are inter-bedded with clay seams which, in an undisturbed state are porous but of extremely low permeability.

(15) Primary mining activity creates minor localized disturbance but secondary mining causes subsidence of the overburden the effects of which tend to expand beyond the mined out area a distance approximately equal to the depth of the mined area.

(16) During the drilling of wells for oil and gas, measures should be taken to protect the salt-protection casing from internal pressures greater than the designed burst resistance plus a safety factor so as to prevent any possible entry of methane into the salt and potash interval.

(17) A proposed revision of Order R-111-A was presented at the hearing and comments were received thereon both orally at the hearing and in writing subsequent to the hearing, the record being held open for two weeks subsequent to the hearing, as announced by the Chairman.

(18) Testimony and comments both in support and in opposition to the proposed revision of the order were received at the hearing and subsequent thereto, some pointing out that the number of oil or gas wells which could be drilled under the terms of the committee report would be reduced but no comments addressed the possible waste of potash as a result of additional drilling.

-4-

Case No. 9316

Order No. R-111-P

(19) One member of the work committee from the potash industry testified the proposed revision of Order R-111-A failed to prohibit drilling in the commercial ore areas and was therefore contrary to the work committee report and the Oil and Gas Act.

(20) The Commission cannot abdicate its discretion to consider applications to drill as exceptions to its rules and orders but in the interest of preventing waste of potash should deny any application to drill in commercial potash areas as recommended in the work committee report, unless a clear demonstration is made that commercial potash will not be wasted unduly as a result of the drilling of the well.

(21) Confusion can be reduced and efficiencies can be obtained by making the area covered by Order R-111 coterminous with the KPLA as determined by the BLM, and the area should be expanded and contracted by the regular pool nomenclature procedure rather than by separate hearings and further revisions of Order R-111.

(22) Expansion of the R-111 area to coincide with the KPLA will bring under the purview of this order areas where potash is either absent or non-commercial and such areas should be granted less stringent casing, cementing and plugging requirements, at the discretion of the OCD district supervisor.

(23) The proposed revision of Order R-111-A will permit the drilling of wells for oil or gas in areas previously not available for such drilling and will prevent waste of potash, and further, will serve to reduce confusion and uncertainty in the conduct of operations by both the potash and oil/gas industries, all to the benefit of the state and its citizens.

IT IS THEREFORE ORDERED THAT:

This order shall be known as The Rules and Regulations Governing the Exploration and Development of Oil and Gas in Certain Areas Herein Defined, Which Are Known To Contain Potash Reserves.

A. OBJECTIVE

The objective of these Rules and Regulations is to prevent waste, protect correlative rights, assure maximum conservation of the oil, gas and potash resources of New Mexico, and permit the economic recovery of oil, gas and potash minerals in the area hereinafter defined.

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## B. THE POTASH AREA

(1) The Potash Area, as described in Exhibit A attached hereto and made a part hereof, represents the area in various parts of which potash mining operations are now in progress, or in which core tests indicate commercial potash reserves. Such area is coterminous with the Known Potash Leasing Area (KPLA) as determined by the U.S. Bureau of Land Management (BLM).

(2) The Potash Area, as described in Exhibit "A" may be revised by the Division after due notice and hearing at the regular pool nomenclature hearings, to reflect changes made by BLM in its KPLA.

## C. DRILLING IN THE POTASH AREA

(1) All drilling of oil and gas wells in the Potash Area shall be subject to these Rules and Regulations.

(2) No wells shall be drilled for oil or gas at a location which, in the opinion of the Division or its duly authorized representative, would result in undue waste of potash deposits or constitute a hazard to or interfere unduly with mining of potash deposits.

No mining operations shall be conducted in the Potash Area that would, in the opinion of the Division or its duly authorized representative, constitute a hazard to oil or gas production, or that would unreasonably interfere with the orderly development and production from any oil or gas pool.

(3) Upon discovery of oil or gas in the Potash Area, the Oil Conservation Division may promulgate pool rules for the affected area after due notice and hearing in order to address conditions not fully covered by these rules and the general rules.

(4) The Division's District Supervisor may waive the requirements of Sections D and F which are more rigorous than the general rules upon satisfactory showing that a location is outside the Life of Mine Reserves (LMR) and surrounding buffer zone as defined hereinbelow and that no commercial potash resources will be unduly diminished.

(5) All encounters with flammable gas, including hydrogen sulfide, during drilling operations shall be reported immediately to the appropriate OCD District office followed by a written report of same.

D. DRILLING AND CASING PROGRAM

(1) For the purpose of the regulations and the drilling of wells for oil and gas, shallow and deep zones are defined as follows:

(a) The shallow zone shall include all formations above the base of the Delaware Mountain Group or, above a depth of 5,000 feet, whichever is lesser.

(b) The deep zone shall include all formations below the base of the Delaware Mountain Group or, below a depth of 5,000 feet, whichever is lesser.

(c) For the purpose of identification, the base of the Delaware Mountain Group is hereby identified as the geophysical log marker found at a depth of 7485 feet in the Richardson and Bass No. 1 Rodke well in Section 27, Township 20 South, Range 31 East, NMPM, Eddy County, New Mexico.

(2) Surface Casing String:

✓ (a) A surface casing string of new or used oil field casing in good condition shall be set in the "Red Be" section of the basal Rustler formation immediately above the salt section, or in the anhydrite at the top of the salt section, as determined necessary by the regulatory representative approving the drilling operations, and the cement shall be circulated to the surface.

(b) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(c) Casing and water-shut-off tests shall be made both before and after drilling the plug and below the casing seat as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of six hundred (600) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole, and if the

hole does not remain dry for a period of one hour, corrective measures shall be applied.

(d) The above requirements for the surface casing string shall be applicable to both the shallow and deep zones.

(3) Salt Protection String:

(a) A salt protection string of new or used oil field casing in good condition shall be set not less than one hundred (100) feet nor more than six hundred (600) feet below the base of the salt section; provided that such string shall not be set below the top of the highest known oil or gas zone. With prior approval of the OCD District Supervisor the wellbore may be deviated from the vertical after completely penetrating Marker Bed No. 126 (USGS) but that section of the casing set in the deviated portion of the wellbore shall be centralized at each joint.

(b) The salt protection string shall be cemented, as follows:

(i) For wells drilled to the shallow zone, the string may be cemented with a nominal volume of cement for testing purposes only. If the exploratory test well is completed as a productive well, the string shall be re-cemented with sufficient cement to fill the annular space back of the pipe from the top of the first cementing to the surface or to the bottom of the cellar, or may be cut and pulled if the production string is cemented to the surface as provided in sub-section D (5)(a)(i) below.

(ii) For wells drilled to the deep zone, the string must be cemented with sufficient cement to fill the annular space back of the pipe from the casing seat to the surface or to the bottom of the cellar.

(c) If the cement fails to reach the surface or the bottom of the cellar, where required, the top of the cement shall be located by a temperature, gamma ray or other survey and additional cementing shall be done until the cement is brought to the point required.



(d) The fluid used to mix with the cement shall be saturated with the salts common to the zones penetrated and with suitable proportions but not less than 1% of calcium chloride by weight of cement.

(e) Cement shall be allowed to stand a minimum of twelve (12) hours under pressure and a total of twenty-four (24) hours before drilling the plug or initiating tests.

(f) Casing tests shall be made both before and after drilling the plug and below the casing seat, as follows:

(i) If rotary tools are used, the mud shall be displaced with water and a hydraulic pressure of one thousand (1000) pounds per square inch shall be applied. If a drop of one hundred (100) pounds per square inch or more should occur within thirty (30) minutes, corrective measures shall be applied.

(ii) If cable tools are used, the mud shall be bailed from the hole and if the hole does not remain dry for a period of one hour, corrective measures shall be applied.

(g) The Division, or its duly authorized representative, may require the use of centralizers on the salt protection string when in their judgment the use of such centralizers would offer further protection to the salt section.

(h) Before drilling the plug a drilling spool installed below the bottom blowout preventer or the wellhead casing outlet shall be equipped with a rupture disc or other automatic pressure-relief device set at 80% of the API-rated burst pressure of new casing or 60% of the API-rated burst pressure of used casing. The disc or relief device should be connected to the rig choke manifold system so that any flow can be controlled away from the rig. The disc or relief device shall remain installed as long as drilling activities continue in the well until the intermediate or production casing is run and cemented.

(i) The above requirements for the salt protection string shall be applicable to both the shallow and deep zones except for sub-section D (3) (b) (i) and (ii) above.

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(4) Intermediate String:

(a) In drilling wells to the deep zone for oil or gas, the operator shall have the option of running an intermediate string of pipe, unless the Division requires an intermediate string be run.

(b) Cementing procedures and casing tests for the intermediate string shall be the same as provided under sub-sections D (3) (c), (e) and (f) for the salt protection string.

(5) Production String:

(a) A production string shall be set on top or through the oil or gas pay zone and shall be cemented as follows:

X (i) For wells drilled to the shallow zone the production string shall be cemented to the surface if the salt protection string was cemented only with a nominal volume for testing purposes, in which case the salt protection string can be cut and pulled before the production string is cemented; provided, that if the salt protection string was cemented to the surface, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone.

(ii) For wells drilled to the deep zone, the production string shall be cemented with a volume adequate to protect the pay zone and the casing above such zone; provided, that if no intermediate string shall have been run and cemented to the surface, the production string shall be cemented to the surface.

(b) Cementing procedures and casing tests for the production string shall be the same as provided under sub-section D (3) (c), (e) and (f) for the salt protection string; however if high pressure oil or gas production is discovered in an area, the Division may promulgate the necessary rules to prevent the charging of the salt section.

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E. DRILLING FLUID FOR SALT SECTION

The fluid used while drilling the salt section shall consist of water, to which has been added sufficient salts of a character common to the zone penetrated to completely saturate the mixture. Other admixtures may be added to the fluid by the operator in overcoming any specific problem. This requirement is specifically intended to prevent enlarged drill holes.

F. PLUGGING AND ABANDONMENT OF WELLS

(1) All wells heretofore and hereafter drilled within the Potash Area shall be plugged in a manner and in accordance with the general rules or field rules established by the Division that will provide a solid cement plug through the salt section and any water-bearing horizon and prevent liquids or gases from entering the hole above or below the salt section.

(2) The fluid used to mix the cement shall be saturated with the salts common to the salt section penetrated and with suitable proportions but not more than three (3) percent of calcium chloride by weight of cement being considered the desired mixture whenever possible.

G. DESIGNATION OF DRILLABLE LOCATION FOR WELLS

(a) Within ninety (90) days following effective date of this Order and annually thereafter by January 31 if revised, each potash lessee, without regard to whether the lease covers State or Federal lands, shall file with the District Manager, BLM, and the State Land Office (SLO), a designation of the potash deposits considered by the potash lessee to be its life-of-mine reserves ("LMR"). For purposes of this Agreement, "life-of-mine reserves" means those potash deposits within the Potash Area reasonably believed by the potash lessee to contain potash ore in sufficient thickness and grade to be mineable using current day mining methods, equipment and technology. Information used by the potash lessee in identifying its LMR shall be filed with the BLM and SLO but will be considered privileged and confidential "trade secrets and commercial . . . information" within the meaning of 43 C.F.R. §2.13(c)(4) (1986), Section 19-1-2.1 NMSA 1978, and not subject to public disclosure.

(b) Authorized officers of the BLM and SLO shall review the information submitted by each potash lessee

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in support of its LMR designation on their respective lands and verify upon request, that the data used by the potash lessee in establishing the boundaries of its LMR is consistent with data available to the BLM and SLO. Any disputes between the BLM and potash lessee concerning the boundary of a designated LMR shall be resolved in accordance with the Department of Interior's Hearings and Appeals Procedures, 43 C.F.R. Part 4 (1986).

(c) A potash lessee may amend its designated LMR by filing a revised designation with the BLM and SLO accompanied by the information referred to in Section A above. Such amendments must be filed by January 31 next following the date the additional data becomes available.

(d) Authorized officers of the BLM and SLO shall commit the designated LMR of each potash lessee to a map(s) of suitable scale and thereafter revise the map(s) as necessary to reflect the latest amendments to any designated LMRs. These maps shall be considered privileged and confidential and exempt from disclosure under 43 C.F.R. Part 2 and §19-1-2.1 NMSA 1978, and will be used only for the purposes set forth in this Order.

(e) The foregoing procedure can be modified by policy changes within the BLM and State Land Office.

(2) Before commencing drilling operations for oil or gas on any lands within the Potash Area, the well operator shall prepare a map or plat showing the location of the proposed well, said map or plat to accompany each copy of the Notice of Intention to Drill. In addition to the number of copies required by the Division, the well operator shall send one copy by registered mail to each potash operator holding potash leases within a radius of one mile of the proposed well, as reflected by the plats submitted under paragraph 1 (2). The well operator shall furnish proof of the fact that said potash operators were notified by registered mail of his intent by attaching return receipt to the copies of the Notice of Intention to Drill and plats furnished the Division.

(3) Drilling applications on federal lands will be processed for approval by BLM. Applications on state or patented lands will be processed by the Division and, in the case of state lands, in collaboration with the SLO. The Division will first ascertain from the BLM or SLO that the location is not within the LMR area. Active mine workings and mined-out areas shall also be treated as LMR. Any application to drill in the LMR area, including buffer zones, may be approved only by mutual agreement of lessor and lessees of

*see memo  
7-17-89  
MR maps  
are available*

both potash and oil and gas interests. Applications to drill outside the LMR will be approved as indicated below; provided there is no protest from potash lessee within 20 days of his receipt of a copy of the notice:

- (a) a shallow well shall be drilled no closer to the LMR than one-fourth (1/4) mile or 110% of the depth of the ore, whichever is greater.
- (b) A deep well shall be drilled no closer than one-half (1/2) mile from the LMR.

#### H. INSPECTION OF DRILLING AND MINING OPERATIONS

A representative of any potash lessee within a radius of one mile from the well location may be present during drilling, cementing, casing, and plugging of any oil gas wells to observe conformance with these regulations. Likewise, a representative of the oil and gas lessee may inspect mine workings on his lease to observe conformance with these regulations.

#### I. FILING OF WELL SURVEYS, MINE SURVEYS AND POTASH DEVELOPMENT PLANS

##### (1) Directional Surveys:

The Division may require an operator to file a certified directional survey from the surface to a point below the lowest known potash-bearing horizon on any well drilled within the Potash Area.

##### (2) Mine Surveys:

Within 30 days after the adoption of this order and thereafter on or before January 31st of each year, each potash operator shall furnish the Division two copies of a plat of a survey of the location of his leaseholdings and all of his open mine workings, which plat shall be available for public inspection and on a scale acceptable to the Division.

#### J. APPLICABILITY OF STATEWIDE RULES AND REGULATIONS

All general statewide rules and regulations of the Oil Conservation Division governing the development, operation, and production of oil and gas in the State of New

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Mexico not inconsistent or in conflict herewith, are hereby adopted and made applicable to the areas described herein.

IT IS FURTHER ORDERED THAT:

(1) Order R-111 and amendments through R-111-O are hereby rescinded.

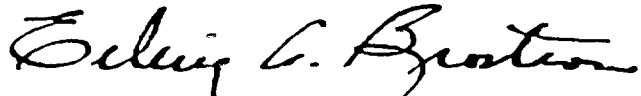
(2) Jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION



WILLIAM R. HUMPHRIES, Member



ERLING A. BROSTUEN, Member



WILLIAM J. LEMAY, Chairman  
and Secretary



STATEMENT OF AGREEMENT BETWEEN  
THE POTASH INDUSTRY AND OIL AND  
GAS INDUSTRY ON CONCURRENT  
OPERATIONS IN THE POTASH AREA  
IN EDDY AND LEA COUNTIES, NEW MEXICO

Introduction

This Statement of Agreement sets forth the joint agreement of the Potash Industry and Oil and Gas Industry on important issues concerning the concurrent development of potash and oil and gas reserves in Eddy and Lea Counties, New Mexico. It represents the efforts of numerous representatives from each Industry over many months and is intended to resolve many of the disputes that have arisen as a result of concurrent oil and gas drilling activities in the vicinity of underground potash mining.

The parties recognize that this Agreement will not resolve all disputes or disagreements that may arise and that regulatory intervention may still be necessary in some instances. By entering into this Agreement, however, each industry recognizes the right of the other to develop its mineral resources in a safe and economical manner and acknowledges that concurrent development of multiple mineral resources places certain limits on each industry. Each also agrees that these limits can be better defined through good faith discussions among industry representatives familiar with industry technology and practices than repeated and prolonged litigation or administrative proceedings.

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In attempting to accomplish this, each Industry has made concessions on issues considered critical to it in a good faith effort to obtain concessions from the other. For this reason, both Industries agree that the terms of this Statement of Agreement are subject to the following conditions:

1. Upon approval by representatives of each Industry, the terms of the Agreement will be submitted to and must be adopted without substantial change by the New Mexico Oil Conservation Commission ("OCC") in lieu of the current Order R-111A, as amended;
2. The terms of the Agreement will be submitted to and must be adopted without substantial change by the U. S. Department of Interior, Bureau of Land Management ("BLM") in lieu of Section III (E) of the Secretary of the Interior's Order of October 21, 1986 [51 Fed. Reg. 39425];
3. Each Industry will use its best efforts to secure approval of the terms of the Agreement from the OCC and BLM; and
4. In the event the terms in the Agreement are not adopted without substantial change by both the OCC and the BLM, this Statement of Agreement will become null and void and will not be referred to by any Industry representative on the Study Committee in any future proceeding before the OCC or BLM.

It is the intention of the parties to this Agreement that:

(1) certain areas of potash deposits, called "life-of-mine-reserves" or "LMR's," be permanently protected from oil and gas drilling activities; and (2) to make available for oil and gas drilling activities, certain areas within the Potash Area. The area of potash deposits protected will be determined in accordance with this Agreement but, generally speaking, will encompass the yellow, orange and a major portion of the blue

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areas shown on the BLM Potash Resource Map as it existed on October 1, 1984. Areas in the Potash Area that will be available for oil and gas drilling activities will be those areas outside the designated LMR's which, generally speaking, will be the red, green, grey and a minor portion of the blue areas shown on the BLM Potash Resources Map as it existed on October 1, 1984, less areas designated as buffer zones by this Agreement.

#### I. The Potash Area

A. The Area covered by this Agreement shall be known as the "Potash Area".

B. The "Potash Area" includes those tracts of land in Southeastern New Mexico, from the surface downward, which are designated as a "potash area" by the Secretary of the Department of Interior in Section V of the Order dated October 21, 1986 and published in the Federal Register on October 28, 1986 [51 Fed. Reg. 39426]. It shall also include any subsequent revisions to such designations. The terms "potash" and "commercial deposits of potash" shall have the same meaning as assigned by the U. S. Department of Interior.

C. It is the intent of the parties to this Agreement that the "Potash Area" designated by the State of New Mexico be identical to that designated by the U. S. Department of Interior. Accordingly, if the "potash area" designated in the Secretarial Order of October 21, 1986 [51 Fed. Reg. 39425] is revised, the OCC, on its own motion after notice and hearing as

provided by applicable laws and regulations, will adopt the same revision.

## II. Designation of Mine Reserves

A. Within ninety (90) days following adoption of this Agreement by the OCC and BLM and annually thereafter by January 31 if revised, each potash lessee, without regard to whether the lease covers State or Federal lands, shall file with the District Manager, BLM, a designation of the potash deposits considered by the potash lessee to be its life-of-mine reserves ("LMR"). For purposes of this Agreement, "life-of-mine reserves" means those potash deposits within the Potash Area reasonably believed by the potash lessee to contain potash ore in sufficient thickness and grade to be mineable using current day mining methods, equipment and technology. Information used by the potash lessee in identifying its LMR shall be filed with the BLM but will be considered privileged and confidential "trade secrets and commercial . . . information" within the meaning of 43 C.F.R. §2.13(c)(4) (1986) and not subject to public disclosure.

B. An authorized officer of the BLM shall review the information submitted by each potash lessee in support of its LMR designation and verify, upon request, that the data used by the potash lessee in establishing the boundaries of its LMR is consistent with data available to the BLM. Any disputes between the BLM and potash lessee concerning the boundary of a designated LMR shall be resolved in accordance with the

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Department of Interior's Hearings and Appeals Procedures, 40 C.F.R. Part 4 (1986).

C. A potash lessee may amend its designated LMR by filing a revised designation with the BLM accompanied by the information referred to in Section A above. Such amendments must be filed by January 31 next following the date the additional data becomes available.

D. An authorized officer of the BLM shall commit the designated LMR of each potash lessee to a map(s) of suitable scale and thereafter revise the map(s) as necessary to reflect the latest amendments to any designated LMRs. These maps shall be considered privileged and confidential and exempt from disclosure under 43 C.F.R. Part 2 and will be used only for the purposes set forth in this Agreement.

### III. Drilling in the Potash Area

A. All oil and gas wells drilled in the Potash Area after approval of this Agreement by the OCC and BLM, including those currently pending before the OCC and/or BLM, shall be subject to the terms of this Agreement.

B. It is the policy of the OCC and BLM to approve or deny applications for permits to drill (APD's) in the Potash Area in accordance with the following:

1. LMR and Buffer Zone. No oil or gas well shall be allowed from a surface location: (a) within the LMR of any potash lessee; (b) within one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee; or (c) where the well casing will pass within one-fourth (1/4) mile, or a distance equal to

the depth of the ore plus ten percent (10%), whichever is greater, of the LMR of any potash lessee.

2. Outside Buffer Zone But Within One-Half (1/2) mile of LMR. An APD for an oil or gas well at a location more than one-fourth (1/4) mile, or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, but less than one-half (1/2) mile from the LMR of any potash lessee may be approved only if: (a) the bottom hole location does not extend below the base of the Delaware Mountain Group, and (b) the well is drilled in accordance with the cementing and casing requirements set forth in Section V.
3. More Than One-Half Mile But Less Than One Mile From LMR. An APD for an oil or gas well at a location more than one-half (1/2) mile but less than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location provided: (a) wells with bottom hole locations below the base of the Delaware Mountain Group are drilled in accordance with the cementing and casing requirements set forth in Section V of this Agreement, and (b) wells with bottom hole locations above the base of the Delaware Mountain Group may be drilled without regard to the requirements in Section V of this Agreement but must be drilled in accordance with then current industry safety standards.
4. More Than One Mile From LMR. An APD for an oil or gas well at a location more than one mile from the LMR of any potash lessee may be approved regardless of the depth of the bottom hole location and without regard to the requirements of Section V of this Agreement.
5. Open Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass within one-fourth (1/4) mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any open mine workings.
6. Abandoned Mine Workings. No oil or gas well shall be allowed from any location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of any abandoned mine workings that are connected to an existing mine by an opening or barrier of one-hundred (100) feet or less unless the APD is accompanied by the sealing and safety plan and certification described in Paragraph C below.



7. An APD for a directionally drilled oil or gas well to a bottom hole location underlying the LMR of an potash lessee may be approved subject to the limitations and requirements set forth in Paragraphs - 6 above. Directionally drilled holes shall be drilled vertically until they have completely penetrated Marker Bed No. 126 (U.S.G.S.) of the Salado Formation at which time they may be deviated.

C. An oil and gas operator desiring to drill a well to bottom hole location that does not extend below the base of the Delaware Mountain Group from a surface location where the well casing will pass through or within one-fourth (1/4) of a mile or a distance equal to the depth of the ore plus ten percent (10%), whichever is greater, of abandoned mine workings that are connected to an existing mine by any opening or a barrier of one-hundred (100) feet or less shall prepare and submit to all affected potash lessees a plan and program for sealing of the area to be penetrated from other mine workings. Approval of any such plan shall be in the sole discretion of the affected potash lessees. Any approved plan shall be attached by the oil and gas operator to the APD for filing with the OCC and/or BLM. The oil and gas operator shall also complete certification in the form prescribed by the OCC and/or BLM that the drilling of such well will not create a safety hazard to affected potash lessees.

D. It is the belief of both parties that the provision of this Agreement eliminate the need for drilling islands and three-year mining plans and, therefore, both agree that no drilling islands will be established in the Potash Area and the filing of three-year mining plans will be eliminated.

#### IV. Location of Wells and Notice to Potash Lessee

A. The BLM, upon request, will advise oil and gas lessees of the surface locations where wells will be allowed to develop the leases. Oil or gas leases covering areas designated a LMR by a potash lessee will be unitized to the extent possible with other areas where drilling is allowed.

B. An oil or gas operator desiring to drill an oil or gas well in the Potash Area or within one (1) mile of a potash lease shall prepare and file an APD with the OCC and/or BLM along with a map or plat showing the location of the proposed well. One copy of the APD and map or plat shall be served by registered mail, return receipt requested, on all potash leaseholders within one (1) mile of the proposed well location. However, if the APD is for an oil or gas well that will penetrate abandoned mine workings, all potash leaseholders in the Potash Area shall be notified. Proof of such service shall be attached to the APD and filed with the OCC and/or BLM. Within twenty (20) days of service of an APD and required documents, any potash leaseholder within one (1) mile of the proposed well location (or any affected potash lessee if the proposed well will penetrate abandoned mine workings) may file an objection with the OCC to the proposed well. If the objections cannot be resolved by agreement of the parties, the matter shall be referred for hearing before the OCC.

C. The failure of a potash leaseholder to object to well location or its agreement to the drilling location

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referred to in this Agreement shall not constitute a release of liability. Oil and gas leaseholders and those persons and/or entities involved in the development of the lease shall be responsible as provided by law for any damages caused by them to any person by the release of gases or liquids into the strata or atmosphere as a result of drilling activities.

V. Drilling and Casing Program

[Same as current R-111-A]

VI. Drilling Fluid for Salt Section

[Same as current R-111-A]

VII. Plugging and Abandonment of Wells

[Same as current R-111-A]

VIII. Filing of Well Surveys

The OCC may require an oil and gas operator to file a certified directional survey from the surface to a point below the lowest known potash bearing horizon on all wells drilled in the Potash Area. All encounters with flammable gases, including  $H_2S$ , shall be reported by the operator to the OCC.

IX. Additional Safety Requirements and Emergency Action


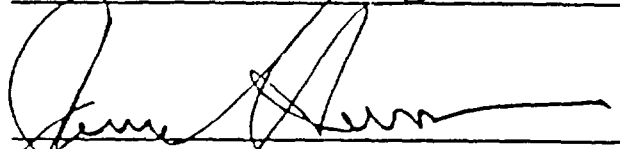
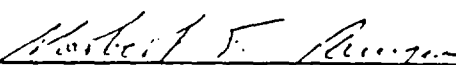
A. All oil and gas drilling activities within the Potash Area shall be performed using appropriate technology, equipment, and procedures to reduce the hazards of such activities to underground mines and miners and be conducted in accordance with the prudent operator standard.

B. Only the minimum number of wells necessary to develop an oil or gas lease will be allowed within the Potash Area.



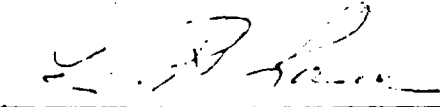

C. In the event the increased oil and gas drilling activities allowed by this Agreement result in a safety hazard or if data developed in the course of such increased activities make it reasonably appear that such activities are or will become a hazard to underground miners or mining activities, the BLM and/or OCC will, upon request, initiate proceedings in accordance with NMSA 70-2-23 and/or other applicable laws and regulations to review such data and take whatever emergency steps are found necessary to eliminate such hazard. Potash lessees may, in addition, initiate actions for injunctive relief under NMSA 70-2-29. The taking or failure to take such action by the OCC or any potash lessee shall not relieve the oil and gas lessee from liability for any damages caused by its oil and gas activities.

AGREED TO AND APPROVED THIS 23rd DAY OF November, 1987, BY THE FOLLOWING REPRESENTATIVES OF EACH INDUSTRY COMPRISING THE POTASH-OIL AREA SPECIAL RULES STUDY COMMITTEE:

For the Oil and Gas Industry:

For the Potash Industry:

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EXHIBIT "A"  
CASE 9316  
ORDER R-111-P

CONSOLIDATED LAND DESCRIPTION OF THE KNOWN POTASH  
LEASING AREA, AS OF FEBRUARY 3, 1988

EDDY COUNTY, NEW MEXICO

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

Section 10: SE/4 SE/4  
Section 11: S/2 SW/4  
Section 13: W/2 SW/4 and SE/4 SW/4  
Section 14: W/2 NE/4, NW/4 and S/2  
Section 15: E/2 NE/4, SE/4 SW/4 and SE/4  
Section 22: N/2, N/2 SW/4, SE/4 SW/4 and SE/4  
Section 23: All  
Section 24: N/2 NW/4, SW/4 NW/4 and NW/4 SW/4  
Section 26: NE/4, N/2 NW/4 and SE/4 NW/4  
Section 27: N/2 NE/4 and NE/4 NW/4

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM

Section 11: SE/4 SE/4  
Section 12: SE/4 NE/4 and S/2  
Section 13: All  
Section 14: NE/4, SE/4 NW/4 and S/2  
Section 15: SE/4 SE/4  
Section 22: NE/4, E/2 W/2 and SE/4  
Section 23: All  
Section 24: All  
Section 25: NW/4 NW/4  
Section 26: N/2 NE/4 and NW/4  
Section 27: NE/4 and E/2 NW/4

TOWNSHIP 19 SOUTH, RANGE 30 EAST, NMPM

Section 2: SW/4  
Section 3: W/2 SW/4, SE/4 SW/4, S/2 SE/4 and  
NE/4 SE/4  
Section 4: Lots 3 and 4, SW/4 NE/4, S/2 NW/4  
and S/2  
Section 5: Lots 1, 2, and 3, S/2 NE/4,  
S/2 NW/4 and S/2  
Section 6: S/2 SE/4 and NE/4 SE/4  
Sections 7 to 10 inclusive  
Section 11: S/2 NE/4, NW/4 NW/4 and S/2  
Section 12: NE/4, S/2 NW/4 and S/2  
Section 13: NE/4, W/2, N/2 SE/4 and SW/4 SE/4  
Sections 14 to 18 inclusive  
Section 19: Lots 1, 2, and 3, NE/4, E/2 NW/4,  
NE/4 SW/4, E/2 SE/4 and  
NW/4 SE/4  
Sections 20 to 23 inclusive  
Section 24: NW/4 NW/4 SW/4 and S/2 SW/4

Section 25: NW/4 NW/4  
Section 26: NE/4 NE/4, W/2 NE/4, W/2, W/2 SE/4  
and SE/4 SE/4  
Section 27: All  
Section 28: All  
Section 29: E/2, E/2 NW/4 and NW/4 NW/4  
Section 32: E/2 and SE/4 SW/4  
Section 33 to 35 inclusive  
Section 36: NW/4 NW/4, S/2 NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 31 EAST, NMPM

Section 7: Lots 1, 2, and 3 and E/2 NW/4  
Section 18: Lots 1, 2, and 3 and SW/4 NE/4,  
E/2 NW/4 and NE/4 SW/4  
Section 31: Lot 4  
Section 34: SE/4 SE/4  
Section 35: S/2 SW/4 and SW/4 SE/4  
Section 36: S/2 SE/4

LEA COUNTY, NEW MEXICO

TOWNSHIP 19 SOUTH, RANGE 32 EAST, NMPM

Section 31: Lot 4  
Section 33: Lots 1 to 4 inclusive and N/2 S/2  
Section 34: Lots 1 to 4 inclusive and N/2 S/2  
Section 35: Lots 1 to 4 inclusive and N/2 S/2  
Section 36: Lots 1 to 4 inclusive, SE/4 NE/4,  
NW/4 SW/4 and NE/4 SE/4

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM

Section 22: SE/4 NE/4, E/2 SW/4 and SE/4  
Section 23: S/2 NW/4, SW/4, W/2 SE/4 and  
SE/4 SE/4  
Section 25: SW/4 NW/4, W/2 SW/4 and SE/4 SW/4  
Section 26: All  
Section 27: All  
Section 28: S/2 SE/4 and NE/4 SE/4  
Section 30: Lots 2 to 4 inclusive, S/2 NE/4,  
SE/4 NW/4, E/2 SW/4 and SE/4  
Section 31: All  
Section 32: NE/4, S/2 NW/4 and S/2  
Sections 33 to 35 inclusive  
Section 36: W/2 NE/4, SE/4 NE/4, NW/4 and S/2

TOWNSHIP 19 SOUTH, RANGE 34 EAST, NMPM

Section 31: Lots 3 and 4



EDDY COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM

Section 1: SE/4 NE/4 and E/2 SE/4  
 Section 13: SW/4 NW/4, W/2 SW/4 and SE/4 SW/4  
 Section 14: NW/4 NE/4, S/2 NE/4, NW/4 and S/2  
 Section 15: E/2 E/2, SE/4 SW/4 and W/2 SE/4  
 Section 22: E/2 and E/2 NW/4  
 Section 23: All  
 Section 24: SW/4 NE/4, W/2, W/2 SE/4 and  
                     SE/4 SE/4  
 Section 25: N/2, SW/4, W/2 SE/4 and NE/4 SE/4  
 Section 26: All  
 Section 27: E/2  
 Section 34: NE/4  
 Section 35: N/2  
 Section 36: W/2 NE/4 and NW/4

TOWNSHIP 20 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 4 inclusive  
 Section 5: Lots 1 to 3 inclusive, S/2 N/2  
                     and S/2  
 Section 6: Lots 5, 6, and 7, S/2 NE/4, E/2 SW/4  
                     and SE/4  
 Section 7: Lots 1 and 2, E/2 and E/2 NW/4  
Sections 8 to 17 inclusive  
 Section 18: E/2  
 Section 19: E/2 and SE/4 SW/4  
Sections 20 to 29 inclusive  
 Section 30: Lots 1 to 3 inclusive, E/2 and  
                     E/2 W/2  
 Section 31: NE/4 and E/2 SE/4  
Sections 32 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 31 EAST, NMPM

Section 1: Lots 1 to 3 inclusive, S/2 N/2  
                     and S/2  
 Section 2: All  
 Section 3: Lots 1 and 2, S/2 NE/4 and SE/4  
 Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,  
                     E/2 SW/4, W/2 SE/4 and  
                     SE/4 SE/4  
 Section 7: All  
 Section 8: S/2 N/2 and S/2  
 Section 9: S/2 NW/4, SW/4, W/2 SE/4 and  
                     SE/4 SE/4  
 Section 10: E/2 and SW/4  
Sections 11 to 36 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 20 SOUTH, RANGE 32 EAST, NMPM

Sections 1 to 4 inclusive

Section 5: S/2 SE/4

Section 6: Lots 4 to 7 inclusive, SE/4 NW/4,  
E/2 SW/4 and SW/4 SE/4

Sections 7 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM

Section 6: Lots 3 to 7 inclusive, SE/4 NW/4,  
E/2 SW/4, W/2 SE/4 and  
SE/4 SE/4

Section 7: All

Section 8: SW/4, S/2 NW/4, W/2 SE/4 and  
SE/4 SE/4

Section 16: W/2 NW/4, SE/4 NW/4, SW/4 and  
S/2 SE/4

Sections 17 to 21 inclusive

Section 22: N/2 NW/4, SW/4 NW/4, SW/4, W/2 SE/4,  
and SE/4 SE/4

Section 26: SW/4, W/2 SE/4 and SE/4 SE/4

Sections 27 to 35 inclusive

Section 36: SW/4 NW/4 and W/2 SW/4

EDDY COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 3 inclusive

Section 4: Lots 1 through 16, NE/4 SW/4 and  
SE/4

Section 5: Lot 1

Section 10: N/2 NE/4, SE/4 NE/4 and SE/4 SE/4

Sections 11 to 14 inclusive

Section 15: E/2 NE/4 and NE/4 SE/4

Section 23: N/2 NE/4

Section 24: E/2, N/2 NW/4 and SE/4 NW/4

Section 25: NE/4 NE/4 and S/2 SE/4

Section 35: Lots 2 to 4 inclusive, S/2 NE/4,  
NE/4 SW/4 and N/2 SE/4

Section 36: Lots 1 to 4 inclusive, NE/4,  
E/2 NW/4 and N/2 S/2

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TOWNSHIP 21 SOUTH, RANGE 31 EAST, NMPM  
Sections 1 to 36 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM  
Sections 1 to 27 inclusive

Section 28: N/2 and N/2 S/2  
Sections 29 to 31 inclusive  
Section 32: NW/4 NE/4, NW/4 and NW/4 SW/4  
Section 34: N/2 NE/4  
Section 35: N/2 N/2  
Section 36: E/2, N/2 NW/4, SE/4 NW/4 and  
NE/4 SW/4

TOWNSHIP 21 SOUTH, RANGE 33 EAST, NMPM

Section 1: Lots 2 to 7 inclusive, Lots 10 to  
14 inclusive, N/2 SW/4 and  
SW/4 SW/4

Sections 2 to 11 inclusive

Section 12: NW/4 NW/4 and SW/4 SW/4  
Section 13: N/2 NW/4, S/2 N/2 and S/2  
Sections 14 to 24 inclusive  
Section 25: N/2, SW/4 and W/2 SE/4  
Sections 26 to 30 inclusive  
Section 31: Lots 1 to 4 inclusive, NE/4,  
E/2 W/2, N/2 SE/4 and  
SW/4 SE/4  
Section 32: N/2 and NW/4 SW/4  
Section 33: N/2  
Section 34: NE/4, N/2 NW/4 and E/2 SE/4  
Section 35: All  
Section 36: W/2 NE/4, NW/4 and S/2

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPM

Section 17: W/2  
Section 18: All  
Section 19: Lots 1 to 4 inclusive, NE/4,  
E/2 W/2, N/2 SE/4 and  
SW/4 SE/4  
Section 20: NW/4 NW/4  
Section 30: Lots 1 and 2 and NE/4 NW/4  
Section 31: Lots 3 and 4

EDDY COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 29 EAST, NMPM

Sections 1 and 2 inclusive

Section 3: SE/4 SW/4 and SE/4

Section 9: S/2 NE/4 and S/2

Sections 10 to 16 inclusive

Section 17: S/2 SE/4

Section 19: SE/4 NE/4 and E/2 SE/4

Sections 20 to 28 inclusive

Section 29: N/2 N/2, S/2 NE/4 and SE/4

Section 30: NE/4 NE/4

Section 31: Lots 1 to 4 inclusive, S/2 NE/4,  
E/2 W/2 and SE/4

Sections 32 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 36 inclusive

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM

Sections 1 to 11 inclusive

Section 12: NW/4 NE/4, NW/4 and NW/4 SW/4

Section 13: S/2 NW/4 and SW/4

Sections 14 to 23 inclusive

Section 24: W/2

Section 25: NW/4

Section 26: NE/4 and N/2 NW/4

Sections 27 to 34 inclusive

LEA COUNTY, NEW MEXICO

TOWNSHIP 22 SOUTH, RANGE 32 EAST, NMPM

Section 1: Lot 1

Section 6: Lots 2 to 7 inclusive and SE/4 NW/4

TOWNSHIP 22 SOUTH, RANGE 33 EAST, NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2 and  
N/2 S/2

Section 2: All

Section 3: Lot 1, SE/4 NE/4 and SE/4

Section 6: Lot 4

Section 10: NE/4

Section 11: NW/4 NE/4 and NW/4

TOWNSHIP 22 SOUTH, RANGE 34 EAST, NMPM

Section 6: Lots 4 to 6 inclusive

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EDDY COUNTY, NEW MEXICO

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM

Section 1: Lot 1

TOWNSHIP 23 SOUTH, RANGE 29 EAST, NMPM

Sections 1 to 5 inclusive

Section 6: Lots 1 to 6 inclusive, S/2 NE/4,  
SE/4 NW/4, E/2 SW/4 and SE/4

Section 7: NE/4 and NE/4 NW/4

Section 8: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Sections 9 to 16 inclusive

Section 17: NE/4 and E/2 SE/4

Sections 21 to 23 inclusive

Section 24: N/2, SW/4 and N/2 SE/4

Section 25: W/2 NW/4 and NW/4 SW/4

Section 26: All

Section 27: All

Section 28: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 33: N/2 NE/4 and NE/4 NW/4

Section 34: NE/4, E/2 NW/4, NW/4 NW/4,  
NE/4 SW/4 and SE/4

Section 35: All

Section 36: W/2 NE/4, NW/4 and N/2 SW/4

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM

Sections 1 to 18 inclusive

Section 19: N/2, N/2 SW/4, SE/4 SW/4 and SE/4

Section 20: All

Section 21: All

Section 22: N/2, S/2 SW/4, N/2 S/2 and SE/4 SE/4

Sections 23 to 25 inclusive

Section 26: E/2, SE/4 NW/4 and SW/4

Section 27: N/2 NW/4, SW/4 NW/4, SE/4 SW/4,  
S/2 SE/4 and NE/4 SE/4

Section 28: N/2 and SW/4

Section 29: N/2 and SE/4

Section 30: N/2 NE/4

Section 32: N/2 NE/4

Section 33: SE/4 NE/4, N/2 NW/4, NE/4 SE/4  
and S/2 SE/4

Sections 34 to 36 inclusive

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM

Section 2: Lot 4, SW/4 NW/4 and W/2 SE/4

Sections 3 to 7 inclusive

Section 8: NE/4 NE/4, W/2 NE/4 and W/2

Section 9: N/2 N/2

Section 10: NW/4 NW/4, SE/4 SE/4

Section 12: SW/4 NW/4 and SW/4  
 Section 13: SW/4 NE/4, W/2 and W/2 SE/4  
 Section 14: All  
 Section 15: E/2, SE/4 NW/4 and SW/4  
 Section 16: SW/4 and S/2 SE/4  
 Section 17: NW/4 and S/2  
 Sections 18 to 23 inclusive  
 Section 24: W/2 NE/4 and W/2  
 Section 25: W/2 NE/4, NW/4, N/2 SW/4 and  
                     NW/4 SE/4  
 Sections 26 to 34 inclusive  
 Section 35: N/2 NW/4 and SW/4 NW/4

TOWNSHIP 24 SOUTH, RANGE 29 EAST, NMPM

Section 2: Lots 2 to 4 inclusive  
 Section 3: Lot 1

TOWNSHIP 24 SOUTH, RANGE 30 EAST, NMPM

Section 1: Lots 1 to 4 inclusive, S/2 N/2,  
                     SW/4 and NW/4 SE/4  
 Section 2: All  
 Section 3: All  
 Section 4: Lots 1 and 2, S/2 NE/4, SE/4 NW/4,  
                     SW/4 SW/4, E/2 SW/4 and SE/4  
 Section 9: N/2, N/2 SW/4, SE/4 SW/4 and SE/4  
 Section 10: All  
 Section 11: All  
 Section 12: W/2 NW/4 and NW/4 SW/4  
 Section 14: W/2 NE/4 and NW/4  
 Section 15: NE/4 and N/2 NW/4

TOWNSHIP 24 SOUTH, RANGE 31 EAST, NMPM

Section 3: Lots 2 to 4 inclusive, SW/4 NE/4,  
                     S/2 NW/4, SW/4 and W/2 SE/4  
 Section 4: All  
 Section 5: Lots 1 to 4 inclusive, S/2 N/2,  
                     N/2 S/2 and SE/4 SE/4  
 Section 6: Lots 1 to 6 inclusive, S/2 NE/4,  
                     SE/4 NW/4, NE/4 SW/4 and  
                     N/2 SE/4  
 Section 9: E/2 and NW/4  
 Section 10: W/2 NE/4 and W/2  
 Section 35: Lots 1 to 4 inclusive, S/2 N/2 and  
                     N/2 S/2  
 Section 36: Lots 1 and 2, SW/4 NW/4 and N/2 SW/4

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM

Section 1: Lots 3 and 4 and S/2 NW/4  
 Section 2: Lots 1 to 4 inclusive and S/2 N/2

**KELLAHIN AND KELLAHIN**

ATTORNEYS AT LAW

EL PATIO BUILDING

117 NORTH GUADALUPE

POST OFFICE BOX 2265

SANTA FE, NEW MEXICO 87504-2265

W. THOMAS KELLAHIN\*

\*NEW MEXICO BOARD OF LEGAL SPECIALIZATION  
RECOGNIZED SPECIALIST IN THE AREA OF  
NATURAL RESOURCES-OIL AND GAS LAW

TELEPHONE (505) 982-4285  
TELEFAX (505) 982-2047

JASON KELLAHIN (RETIRED 1991)

June 20, 1995

**HAND DELIVERED**

**RECEIVED**

JUN 20 1995

Oil Conservation Division

Mr. Michael E. Stogner  
Chief Hearing Examiner  
Oil Conservation Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

*Re: Application of Stevens & Tull, Inc.  
for a Waiver of the salt protection string  
requirements of Order R-111-P for certain  
wells in the Oil/Potash Area,  
Lea County, New Mexico*

Dear Mr. Stogner:

On behalf of Stevens & Tull, Inc., please find enclosed our referenced application which we request be set for hearing on the next available Examiner's docket now scheduled for July 13, 1995. Also enclosed is our proposed advertisement to be used for the OCD docket.

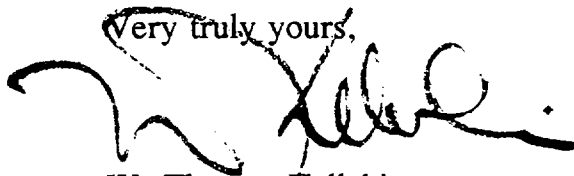
By copy of this letter, including the Application, to all parties, we are notifying them by certified mail return-receipt requested, that:

(1) they have the right to appear at the hearing, to make a statement to the Division, to present evidence and cross-examine witnesses either in support of or in opposition to the Application and

(2) advising that failure to appear at the time of the hearing and become a party of record will preclude them from challenging this application at a later date.

Oil Conservation Division  
June 20, 1995  
Page 2.

In accordance with Division Memorandum 2-90, parties who may appear in this case are hereby requested to file a Pre-Hearing Statement with the Division, copy to Applicant, not later than 4:00 PM on Friday, July 7, 1995.

Very truly yours,  
  
W. Thomas Kellahin

cc: Stevens & Tull, Inc.  
Attn: Jerry Weant

cc: **CERTIFIED MAIL:**  
All parties shown in application



**RECEIVED**

JUN 20 1995

Oil Conservation Division

Proposed notification/advertisement for OCD docket

Case 11338 : Application of Stevens & Tull, Inc. for a waiver of the salt protection string requirements of Order R-111-P for certain wells, Lea County New Mexico. Applicant seeks authority to delete the salt protection string requirements of Order R-111-P from oil wells to be located in Sections 9, 10, and 16, T20S, R33E, NMPM, and to be drilled to test for production in the West Teas Yates-Seven Rivers Pool. The subject wells are located north of Highway 180 some 4 miles northeast from the intersection of Highways 176 and 180 and are approximately 1 mile east from Laguna Gatuna, New Mexico.

STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

**RECEIVED**

JUN 20 1995

**IN THE MATTER OF THE APPLICATION OF  
STEVENS & TULL, INC. FOR WAIVER  
OF SALT PROTECTION STRING REQUIREMENTS  
OF ORDER R-111-P FOR CERTAIN WELLS,  
LEA COUNTY, NEW MEXICO**

Oil Conservation Division

CASE: 11338

**APPLICATION**

Comes now STEVENS & TULL, INC., by and through its attorneys, KELLAHIN and KELLAHIN, and applies to the New Mexico Oil Conservation Division for a waiver of the salt protection string requirements of Order R-111-P for certain oil wells to be subject to the West Teas Yates-Seven Rivers Pool and to be located in portions of Sections 9, 10 and 16, T20S, R33E, NMPM, Lea County, New Mexico.

In support thereof, Applicant states:

1. Applicant, Stevens & Tull, Inc., has the right to drill and develop the oil and gas minerals underlying the following described acreage in Lea County, New Mexico:

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM

Section 9: E/2SE/4

Section 10: SW/4

Section 16: All

2. Applicant proposes to test for production in the West Teas Yates-Seven Rivers Pool by drilling oil wells, each to an anticipated depth of approximately 3,400 feet, and all located on individual 40-acre spacing units within the area described in paragraph (1) above.

3. The proposed wells will be located within one mile of the current boundaries of the West Teas Yates-Seven Rivers Oil Pool which was established by Division Order R-1586 effective January 27, 1960 and is subject to the Division general statewide rules including oil well spacing of 40-acres. See Plat (Exhibit "A").

4. Sections 9, 10 and 16 were located outside the boundaries of the NMOCD R-111 potash area until April 21, 1998, when the Commission entered Order R-111-P and expanded the potash area to include these sections and other acreage:

Order R-111-P provides:

"Finding (22) Expansion of the R-111- area to coincide with the KPLA (known potash leasing area established by the BLM) will bring under the purview of this order areas where potash is either absent or non-commercial and such areas should be granted less stringent casing, cementing and plugging requirements, at the discretion of the OCD district supervisor."

Decretory Paragraph C.(4) provides that "the Division's District Supervisor may waive the requirements of Section D and F [dealing with drilling, casing and plugging] which are more rigorous than the general rules upon satisfactory showing that a location is outside the Life of Mine Reserves (LMR) and surrounding buffer zone as defined hereinbelow and that no commercial potash resources will be unduly diminished."

5. In Division Case No. 10858, Mitchell Energy Corporation obtained Order R-10122, issued May 31, 1994, approving its request to delete the potash protection string for nine (9) oil wells to be drilled into the West Teas Yates-Seven Rivers Pool all within adjoining Section 4.

6. Until recently, the BLM has routinely approved the deletion of the "potash protection string" for wells in this area which were drilled into this pool including six (6) wells located in Units A, B, C, F, G, and H of said Section 9.

7. Stevens & Tull, Inc. has filed with the Bureau of Land Management ("BLM") an Application for Permit to Drill ("APD") its Federal "9" Well No. 7 at a standard oil well location 2310 feet FSL and

990 feet FEL (Unit I) of Section 9, Township 20 South, Range 33 East, NMPM, Lea County, New Mexico.

8. Stevens & Tull, Inc. has been informed by the BLM-Carlsbad, that prior to the BLM's approving this APD, the BLM desires for it to obtain the concurrence of the Director-NMOCD that it may delete the "potash protection string" for this well.

9. The Mitchell Energy Corporation wells in Section 4 and the existing Steven & Tull Inc. wells in Section 9 are located in the same large barren area and identified as "Barren" on the 1984 Secretary of Interior's Potash Resources Map.

10. The nearest potash mine (Mississippi Potash) is approximately six (6) miles west of this area.

11. All of Section 9 and the SW/4 of Section 10 is unleased federal potash while Section 16 is State of New Mexico potash leased to Mississippi Potash, Inc.

12. Sections 9, 10 and 16 are NOT located within an "LMR" or a buffer zone as defined by Order R-111-P.

13. On May 3, 1995, and in accordance with Order R-111-P, Steven & Tull Inc. sent notice of its Intention to Drill the subject well to the following potash lessee within one mile of the subject well: Noranda Exploration, Mississippi Potash, Inc. and New Mexico Potash Corporation.

14. Of those potash companies, Mississippi Potash, Inc. responded by waiving objection to the well but stating "we feel all wells should comply with the requirement for a "salt protection string" of casing."

15. Mississippi Potash Inc. is the potash lessee of part of Section 4 in which the Division approved the deleting of the potash protection string for Mitchell Energy Corporation in Case 10858 (Order R-10122).

16. Stevens & Tull, Inc. seeks to have the Division grant an exception from "salt protection string" requirements of Order R-111-P for

17. A substantial savings in the cost of the subject wells will be realized by deleting the salt protection string for these wells.

18. The deletion of the salt protection string for these wells will not constitute a hazard to any potash deposits in the area nor does it constitute a risk to miner's health or safety.

19. Approval of the application will afford the applicant the opportunity to produce its just and equitable share of the hydrocarbons in the West Teas Yates-Seven Rivers formation, will prevent the economic loss caused by the drilling of wells with unnecessary salt protection strings and will otherwise prevent waste and protect correlative rights.

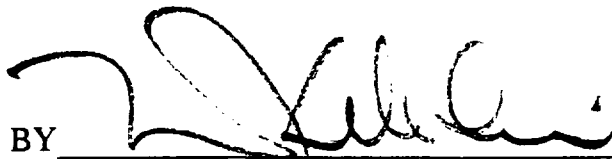
20. The salt protection string has been deleted by the Bureau of Land Management when a shallow well is to be drilled in this area.

21. In accordance with Division Order R-111-P, Applicant has provided notification of this application, with the names and addresses of those parties set forth on Exhibit B.

22. Applicant requests that this matter be set for hearing at the next available Examiner's docket now scheduled for July 13, 1995.

WHEREFORE, Applicant requests that, after notice and hearing, this Application be approved as requested.

KELLAHIN and KELLAHIN

A handwritten signature in black ink, appearing to read 'W. Thomas Kellahin', is written over a horizontal line.

BY  
W. Thomas Kellahin  
P. O. Box 2265  
Santa Fe, New Mexico 87504  
(505) 982-4285

ATTORNEYS FOR APPLICANT

Laguna Torte  
TO 13495  
DIA 12 27 72

U.S. MI  
Chas. E. & Mark Smith.  
Meridian  
86557  
110020  
U.S.

A.R.Co  
H.B.P  
8156

JFG Ent.  
Internat. Inc.  
Toro St.  
H36 JFG Ent.  
LG-3290

Yates Pet. et al  
9.1.93  
77073  
12900

R.R. Conarroe  
11.1.92  
53993

(HBC)-5/2  
Stone  
J.A. 0528  
116 80

Open U.S. open

Mitchell Ener.  
4.1.95  
63612  
20000

Mitchell Ener. D/R  
Barber Oil  
to 3500'  
HBP  
89889

Rich. & Bass  
H.B.P  
13231

Mitchell Ener.  
10.1.93  
77074  
8500

Meridian  
Cleary Pet. et al  
H.B.P  
17238

R.C. Hanks  
U.S. Govt.  
TD 3460  
DA 8-16 66  
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Pan Amer.  
Little Eddy Unit  
TO 1489  
U.S. DA 7-1-64

State  
Mitchell Ener. et al  
10.1.93  
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Boss Ent.  
Anasazi Fed.  
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McGrath  
E. Smith  
Fed Trigg  
TO 2435  
U.S.

Mitchell Ener. et al  
Squire Fe. Ener  
4.1.95  
63613  
41000

Mitchell Ener. D/R  
Barber to 3500'  
HBP  
89889

Stevens  
Tull  
Fed 5

Mitchell Ener. D/R  
Barber Oil  
to 3500'  
HBP  
89889

Amin. Oil  
8.1.77  
2844

Cleary Pe  
17439  
Samson Re.  
(Siete OEG  
Toro Fe.  
TO 10706  
HBP 9740

Cam Hospital, et al  
860000

Conoco  
5.1.97  
44001  
30000

Grover-McKinney  
Fed.

Mitchell Ener. et al  
10.1.93  
77074  
8500

Grace Pet  
HBP  
13780

Grace Pet  
HBP  
218152  
40400

Mitchell Ener.  
67499

Mitchell Ener. et al  
10.1.93  
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Hanson  
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8500

Stevens, Tull, Inc  
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77074  
8500

Fina O.E.C  
Grace Pet.  
HBP  
13279

Grace Pet  
HBP  
218152  
40400

Mitchell Ener. et al  
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W.K. Byrum  
Fed.  
DA 7-10-62

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Hanson  
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Stevens, Tull, Inc  
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77074  
8500

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13279

Grace Pet  
HBP  
218152  
40400

Santa Fe Ener.  
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25000

Anasazi  
Fed. Com  
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77074  
8500

Sinc  
Hanson  
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77074  
8500

Stevens, Tull, Inc  
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Fina O.E.C  
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Grace Pet  
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218152  
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Cities Service  
H.B.P.  
B-1482

Cities Service  
H.B.P.  
B-1482

CB Read  
10.1.93  
77074  
8500

Fina O.E.C  
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HBP  
13279

Grace Pet  
HBP  
218152  
40400

Santa Fe Ener.  
10.1.82  
16640

Mitchell Ener.  
10.1.93  
77074  
8500

Mitchell Ener.  
67499

Phillips  
Grace Pet.  
HBP  
13280

Grace Pet  
2.1.85  
16640

H.E. Yates  
11.1.9  
63764

EXHIBIT  
A

**EXHIBIT "B"**

Commissioner of Public Lands  
State of New Mexico  
P. O. Box 1148  
Santa Fe, New Mexico 87504  
Attn: Jamie Bailey

Bureau of Land Management  
Carlsbad Resources Area  
P. O. Box 1778  
Carlsbad, New Mexico 88220

Bureau of Land Management  
Roswell District Office  
P. O. Box 1397  
Roswell, New Mexico 88202

Oil Conservation Division  
P. O. Box 1980  
Hobbs, New Mexico 88241  
Attn: Jerry Sexton

Mississippi Potash Inc.  
P. O. Box 1914  
Yazoo, Mississippi 39194

New Mexico Potash Corporation  
P. O. Box 610  
Hobbs, New Mexico 88240

Noranda Exploration, Inc.  
P. O. Box 15638  
Denver, Colorado 80215

**STEVENS & TULL, INC**

**R-111-P HEARING**

**PROTECTION OF POTASH - USE OF DRILLING FLUIDS**

The prevention of migrating H<sub>2</sub>S gas into the Salada Formation is the greatest concern of the Mining Companies and the State of New Mexico Oil Conservation Division. This migration is of concern in areas where new fields can yield sufficient pressure to create this contamination. Below is information which is useful in determining if the Yates Production is a potential hazard in the West Teas Field.

**WEST TEAS FIELD**

	Virgin Reservoir Pressure :	1125 PSIG
*	Current Reservoir Pressure :	960 PSIG

\* based upon current static fluid levels in the field

**DRILLING FLUID CALCULATIONS**

Drilling Mud :	10 ppg saturated brine water 0.519 psi/ft pressure gradient
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Yates Formation:	Average Top @ 3100'
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Mud WT while drilling in Yates:	$0.519 \times 3100' = 1608.9 \text{ PSI}$
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These calculations show that the mud system is overbalanced and no gas, oil or fluid migration is possible from the Yates Formation.



## TEAS FIELD

API #	OPER	LEASE	WELL	THW	NOF	SEC	SPDT	CASING PROGRAM
30025017100000	ANADARKO	TEAS YATES UNIT TR 13	W-2	205	33E	11	10F S	660FW 8 5/8 @ 1403 7 @ 3200 4 1/2 @ 3378
30025017100000	ANDERSON PRICHARD OIL	FEDERAL 11	1	205	33E	11	660FW	13 3/8 @ 87 8 5/8 @ 881 5 1/2 @ 3275
30025017100000	ANADARKO	TEAS YATES UNIT TR8	2	205	33E	13	1980FS	990FW 8 5/8 @ 1500 5 1/2 @ 3225
30025017200000	ANADARKO	TEAS YATES UNIT TR8	3	205	33E	13	2150FN	10FW 10 3/4 @ 1435 7 5/8 @ 3182
30025017200000	ANADARKO	TEAS YATES UNIT TR2	1	205	33E	13	1980FS	1980FW 5 1/2 @ 3207
30025017200000	ANADARKO	TEAS YATES UNIT TR2	4	205	33E	13	2615FN	1980FW 10 3/4 @ 1398 7 5/8 @ 3210
30025017200000	ANADARKO	TEAS YATES UNIT TR3	3	205	33E	13	1815FN	990FE 8 5/8 @ 997 5 1/2 @ 3463
30025017210000	ANADARKO	TEAS YATES UNIT TR4	1	205	33E	13	1980FN	1980FE 13 3/8 @ 1067 10 3/4 @ 354
30025017220000	ANADARKO	TEAS YATES UNIT TR5	2	205	33E	13	2310FS	1980FE 5 1/2 @ 3491
30025017250000	ANADARKO	TEAS YATES UNIT TR2	2	205	33E	13	660 FN	330FW 13 3/8 @ 110 8 5/8 @ 841 5 1/2 @ 3325
30025017260000	ANADARKO	TEAS YATES UNIT TR2	3	205	33E	13	1295FN	1980FW 10 3/4 @ 1210 7 5/8 @ 3200
30025017340000	ANADARKO	TEAS YATES UNIT TR8	1	205	33E	14	990FS	2310FW 13 @ 70 10 @ 350 8 5/8 @ 825 7 @ 3297
30025017350000	UNION TEXAS PET	TEAS YATES UNIT TR15	1	205	33E	14	1980FS	660FE 13 3/8 @ 478 8 5/8 @ 1200 7 @ 3425
30025017350000	SINCLAIR O&G	TEAS YATES UNIT TR5	2	205	33E	14	660FN	1980FW 20 @ 1400 13 3/8 @ 3100 8 5/8 @ 9000 7 @ 33813
30025017310000	BLACK W.H.	TEAS YATES UNIT TR5	4	205	33E	14	2310FS	990FW 13 3/8 @ 68 10 3/4 @ 568 8 5/8 @ 947 7 @ 3370
30025017350000	ANADARKO	TEAS YATES UNIT TR5	5	205	33E	14	990FN	990FW 9 5/8 @ 1420 7 @ 3085
30025017290000	ANADARKO	TEAS YATES UNIT TR5	3	205	33E	14	1980FN	1650FW 7 @ 3330
30025017280000	ANADARKO	TEAS YATES UNIT TR5	1	205	33E	14	660FN	660FW 5 1/2 @ 3250
30025017240000	ANADARKO	TEAS YATES UNIT TR6	1	205	33E	14	2310FS	990FW 8 5/8 @ 950 4 1/2 @ 3428
30025017320000	ANADARKO	TEAS YATES UNIT TR7	1	205	33E	14	2310FS	1980FW 13 @ 69 10 3/4 @ 533 8 5/8 @ 951 7 @ 3280
30025017310000	BLACK W.H.	FEDERAL A	4	205	33E	14	2310FN	990FW 13 3/8 @ 68 10 3/4 @ 525 8 5/8 @ 817 7 @ 3370
30025017310000	ANADARKO	TEAS YATES UNIT TR10	2	205	33E	14	1650FN	2310FE 10 3/4 @ 530 8 5/8 @ 918 5 1/2 @ 3218
30025017330000	ANADARKO	TEAS YATES UNIT TR10	1	205	33E	14	1650FN	330FE 10 3/4 @ 666 8 5/8 @ 926 5 1/2 @ 3209
300250176350000	ANADARKO	TEAS YATES UNIT TR10	W-3	205	33E	14	2265FN	1425FE 9 5/8 @ 1334 7 @ 3209 4 1/2 @ 3420
300250176350000	ANADARKO	TEAS YATES UNIT TR11	2	205	33E	14	1250FN	1000FE 10 3/4 @ 1413 7 5/8 @ 3172
30025017270000	ANADARKO	TEAS YATES UNIT TR11	1	205	33E	14	990FN	2310FE 13 3/8 @ 70 10 3/4 @ 546 7 @ 885 5 1/2 @ 3215
30025017340000	SOUTHERN CALIFORNIA GAS	FEDERAL FOREST 3	1	205	33E	14	2310FS	2310FE 13 3/8 @ 83 10 3/4 @ 519 8 5/8 @ 914
30025017360000	ANADARKO	TEAS YATES UNIT TR14	2	205	33E	14	2310FS	2310FE 4 1/2 @ 3455
30025017390000	ANADARKO	TEAS YATES UNIT TR12	1	205	33E	1	660FN	660FE 10 @ 857 5 1/2 @ 3292
30025017590000	GRAHAM BJ	DINNIN B-FED A	2	205	33E	23	1980FS	2310FE 7 @ 1539 4 1/2 @ 3418
30025017600000	TENNICO OIL	LOOMIS FEDERAL	1	205	33E	23	1980FN	1980FW 7 5/8 @ 1449 5 1/2 @ 3390
30025017610000	TENNICO OIL	LOOMIS FEDERAL	2	205	33E	23	1980FS	1980FW 7 5/8 @ 1551 4 1/2 @ 3371
30025017630000	TALMADGE-COWELL	BERNISE DINNIN	1	205	33E	24	1650FS	330FE 8 5/8 @ 1621 5 1/2 @ 3276
30025017630000	TEMPO ENERGY	FEDERAL 24	1	205	33E	24	2270FN	1650FE 8 5/8 @ 1039 5 1/2 @ 3575
300250172910000	WALLEN PRODUCTION	WALLEN-FEDERAL	4	205	34E	17	330FS	330FW 13 3/8 @ 99 10 3/4 @ 570 7 @ 3315 4 1/2 @ 3250-3565
300250173110000	WALLEN PRODUCTION	WALLEN-FEDERAL	6	205	34E	18	2310FN	2310FW 9 5/8 @ 1500 7 @ 3381
300250173260000	WALLEN PRODUCTION	WALLEN-FEDERAL	7	205	34E	18	2310FN	2310FE 13 3/8 @ 190 10 3/4 @ 607 8 5/8 @ 1000 7 @ 3300 4 1/2 @ 3021-3561
300250173260000	WALLEN PRODUCTION	WALLEN-FEDERAL	5	205	34E	18	330FS	330FE 16 @ 98 13 3/8 @ 272 7 @ 3297
30025017350000	WALLEN PRODUCTION	FEDERAL	1	205	33E	18	1980FS	1980FE 7 @ 3492
300250174410000	WALLEN PRODUCTION	MCDONALD J FEDERAL	1	205	34E	18	330FS	330FE 20 @ 205 12 1/2 @ 605 10 @ 940 8 1/4 @ 3166
30025017430000	ANADARKO	TEAS YATES UNIT TR1	1	205	34E	18	1980FN	650FW 8 5/8 @ 1514 5 1/2 @ 3266
30025017270000	ANADARKO	TEAS YATES UNIT TR1	W-2	205	34E	18	1980FN	10FW 9 5/8 @ 1412 7 @ 3223
30025017300000	WALLEN PRODUCTION	WALLEN-FEDERAL	8	205	34E	18	2310FS	2310FW 16 @ 102 13 3/8 @ 272 7 @ 3300
30025017220000	GETTY OIL	GOVERNMENT N	2	205	34E	19	990FS	1913FW 8 5/8 @ 1340 5 1/2 @ 3486
30025017290000	WALLEN PRODUCTION	WALLEN-FEDERAL	3	205	34E	19	330FN	330FE 13 3/8 @ 212 7 @ 3136
300250173810000	WALLEN PRODUCTION	WALLEN-FEDERAL	1	205	33E	20	330FN	330FW 13 3/8 @ 85 10 3/4 @ 667 8 5/8 @ 1483 7 @ 3159 4 1/2 @ 2981-3606
300250176620000	YATES HARVEY E	WEST LYNCH FED	1	205	34E	19	330FS	1650FE 9 5/8 @ 1496 7 @ 3192 4 1/2 @ 3528
30025017480000	CITIES SERVICES OIL	WILLIS-FEDERAL A	1	205	34E	29	330FN	330FW 9 5/8 @ 1520 7 @ 3229 4 1/2 @ 3543
300250172970000	YATES HARVEY E	WEST LYNCH 30	1	205	34E	30	330FN	1650FE 8 5/8 @ 505 5 1/2 @ 3500
300250174820000	GACKLE DRUG CO INC	TEXACO-FEDERAL	1	205	34E	30	760FN	660FE 9 5/8 @ 1517 7 @ 3138 4 1/2 @ 3073-3522

## TEAS WEST FIELD

API #	OPER	LEASE	WELL	THW	NOF	SEC	SPDT	CASING PROGRAM
30025017180000	SINCLAIR O&G	FED-LEA 6015 ARC	2	205	33E	9	330FS	1980FW 9 5/8 @ 1285 7 @ 2950 5 @ 2875-3350
300250173960000	STEVENS & TULL	FEDERAL 9	3	205	33E	9	330FN	2310FW 8 5/8 @ 1300 5 1/2 @ 3320
300250173960000	GROVER OIL	FEDERAL	1	205	33E	9	1980FS	1650FW 8 5/8 @ 1265 4 1/2 @ 3398
30025017170000	STEVENS & TULL	FEDERAL 9	2	205	33E	9	990FN	2110FE 8 5/8 @ 1300 5 1/2 @ 3311
300250173030000	GROVER-MCKINNEY OIL	FEDERAL	3	205	33E	9	1980FS	2310FE 8 5/8 @ 1218 4 1/2 @ 3420
300250172970000	GROVER OIL	FEDERAL	2	205	33E	9	1980FE	660FW 8 5/8 @ 1256 4 1/2 @ 3400
300250172990000	GROVER OIL	BARBER	1	205	33E	9	1980FN	1650FW 8 5/8 @ 1261 4 1/2 @ 3400
300250173030000	STEVENS & TULL	FEDERAL 9	1	205	33E	9	2310FN	2310FE 8 5/8 @ 1243 5 1/2 @ 3445
300250172970000	GROVER OIL	BARBER	2	205	33E	9	1980FN	660FW 8 5/8 @ 1290 4 1/2 @ 3382
30025017100000	CITIES SERVICES OIL	STATE BF	1	205	33E	16	1980FN	1980FE 9 5/8 @ 1245 7 @ 2970 5 @ 2925-3275
30025017450000	HENDON WILLIAM E JR	ARCO STATE	1	205	33E	16	1980FN	660FW NR NR
30025017100000	CITIES SERVICES OIL	STATE BF	2	205	33E	16	1980FS	1980FW 9 5/8 @ 1245 7 @ 2935 5 @ 2940-3225
30025017420000	HANSON OIL	ATLANTIC-STATE	1	205	33E	16	990FN	1980FW 8 5/8 @ 1200 7 @ 2955 4 1/2 @ 3260
30025017470000	SINCLAIR O&G	STATE-LEA 886	2	205	33E	16	660FN	1980FE 9 5/8 @ 1308 7 @ 2950
30025017460000	SINCLAIR O&G	STATE-LEA	2	205	33E	16	660FN	660FW 9 5/8 @ 1350 7 @ 2975 2 7/8 @ 3297
3002501720840000	READ & STEVENS, INC.	SNYDER	1	205	33E	16	2310FS	2310FE NR 2 7/8 @ 3090
300250173430000	SHORELINE EXPL	SNYDER	2	205	33E	16	1090FS	2310FE 10 3/4 @ 363 NR
30025017430000	SINCLAIR O&G	LEA-STATE	1	205	33E	16	1980FN	1980FW 13 3/8 @ 1196 5 1/2 @ 3325

## HALFWAY FIELD

API #	OPER	LEASE	WELL	THW	NOF	SEC	SPDT	CASING PROGRAM
30025009330000	PRICE MRS BERTIE NOLAND	BURNER-FEDERAL	3X	205	32E	9	280FS	1980FE 10 3/4 @ 450 5 1/2 @ 2622
30025009330000	PRICE MRS BERTIE NOLAND	BURNER-FEDERAL	3	205	32E	9	330FS	1980FE 10 @ 398 8 5/8 @ 887 7 @ 2599
30025009340000	PRICE MRS BERTIE NOLAND	BURNER-FEDERAL	4	205	32E	9	330FS	2310FW 10 @ 450 8 5/8 @ 959 7 @ 2685
30025017420000	BASS PERRY R	LITTLE EDDY UNIT	16	205	32E	16	2310FN	2310FW 8 5/8 @ 880 7 @ 2373 4 1/2 @ 2546
30025009460000	SECO PROD	PHILIPS STATE	1	205	32E	16	1980FN	2310FE 10 3/4 @ 1150 7 @ 2416 4 1/2 @ 2714
30025009530000	SAIKIN DAVID C	TEXAS-STATE B	4	205	32E	16	2210FS	2310FE 7 @ 2490
30025009390000	PRICE MRS BERTIE NOLAND	STATE	1	205	32E	16	2310FN	1980FW 10 3/4 @ 450 8 1/4 @ 94E 7 @ 2612
30025009400000	PRICE MRS BERTIE NOLAND	STATE	2	205	32E	16	2310FN	990FW 10 @ 454 8 5/8 @ 950 7 @ 2626
30025009410000	PRICE MRS BERTIE NOLAND	STATE	3	205	32E	16	990FN	2310FW 8 5/8 @ 930 7 @ 2547
30025009470000	BEARING SER & SUPPLY	STOUT-STATE	1	205	32E	16	660FN	2310FE 9 5/8 @ 1152 7 @ 2410 4 1/2 @ 2683
30025009470000	TEXACO OIL CORPORATION	TEXAS-STATE	1	205	32E	16	1980FS	660FW 10 @ 454 8 1/4 @ 939 7 @ 2610
30025009490000	THOMSON OIL COMPANY	TEXAS-STATE B	1	205	32E	16	990FN	2310FE 10 @ 425 8 @ 895 5 1/2 @ 2494
30025009530000	SAIKIN DAVID C	TEXAS-STATE B	4	205	32E	16	2210FS	2310FE 7 @ 2490
30025009480000	PRICE MRS BERTIE NOLAND	TEXAS-STATE B	3	205	32E	16	2310FS	2310FE 8 5/8 @ 939 7 @ 2477
30025009490000	HUSKY OIL COMPANY	TEXAS-STATE B	1	205	32E	16	990FN	2310FE 10 @ 425 8 @ 895 5 1/2 @ 2494
30025009500000	HUSKY OIL COMPANY	TEXAS-STATE	1	205	32E	16	2310FN	2310FE 10 @ 40 8 1/4 @ 936 7 @ 2367
30025009510000	NORTH SHORE CORP	TEXAS-STATE B	1	205	32E	16	2310FN	990FE 10 @ 426 8 1/4 @ 898

## SALT LAKE FIELD

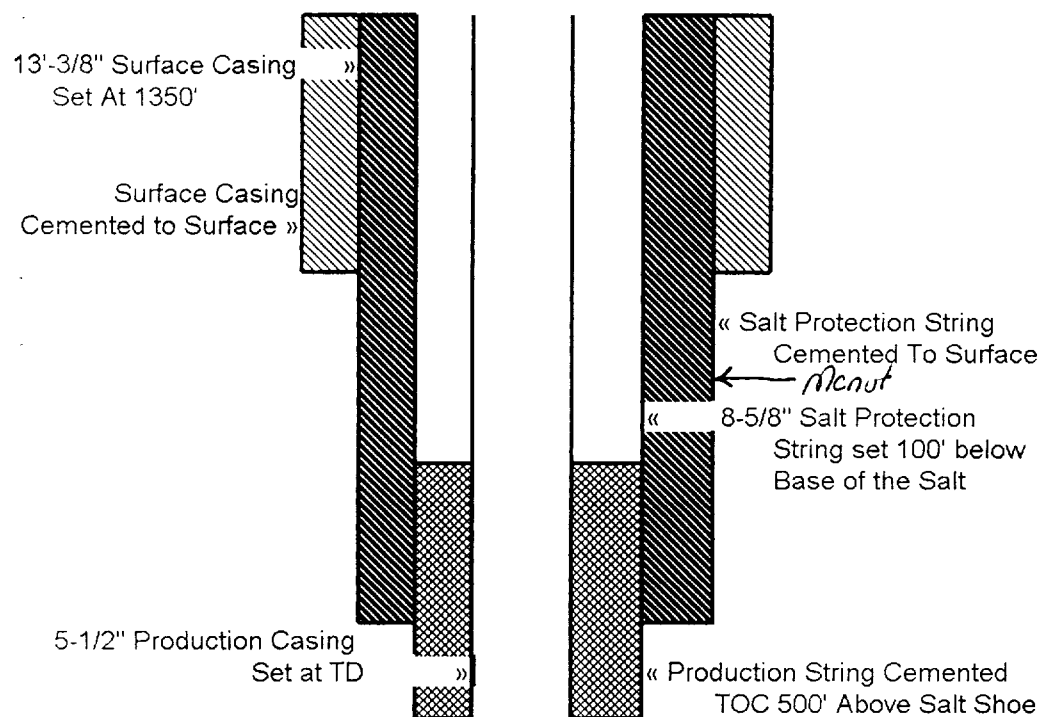
API #	OPER	LEASE	WELL	THW	NOF	SEC	SPDT	NR NR		CASING PROGRAM	
30025017130001	LLANO INC	BROOKS-FEDERAL 7	8	205	33E	7	660FS	1928FW			
30025017080000	CONTINENTAL OIL	BROOKS A-7	1	205	33E	7	660FS	660FW	8 5/8 @ 1150'	7 @ 2908'	
30025017090000	CONTINENTAL OIL	BROOKS A-7	5	205	33E	7	1980FN	1980 FW	13 3/8 @ 274'	10 @ 711'	8 5/8 @ 1166'
30025017100000	CONTINENTAL OIL	BROOKS A-7	2	205	33E	7	660FS	1980FW	10 @ 631'	5 1/2 @ 2710'	5 1/2 @ 2933'
30025017110000	CONTINENTAL OIL	BROOKS A-7	3	205	33E	7	660FS	1980FE	10 3/4 @ 605'	8 5/8 @ 1162'	5 1/2 @ 2887'
30025017120000	LLANO INC	LITTLE EDDY UBROOKS	4	205	33E	7	1980FS	1980FW	10 3/4 @ 661'	8 5/8 @ 1130'	5 1/2 @ 2907'
30025017480000	BAY PET CO	WELCH-STATE	1	205	33E	18	1980FS	1980FW	10 3/4 @ 787'	8 1/2 @ 1135'	5 1/2 @ 3045'
30025017490000	CONTINENTAL OIL	SMITH 18	1	205	33E	18	660FN	1980FE	8 5/8 @ 1115'	5 1/2 @ 2908'	
30025017500000	WELSH, LEONARD	STATE *	2	205	33E	18	1980FN	660FW	10 @ 590'	8 1/2 @ 1095'	7 @ 2980'
30025017530000	BAY PET CO	STATE	3	205	33E	18	660FN	1980FW	10 @ 610'	8 1/4 @ 1114'	7 @ 3031'
30025017280000	MONTGOMERY RANDALL F	BASS-STATE	1	205	33E	18	660FN	2080FW	9 5/8 @ 1130'	7 @ 2880'	
300250173310000	MONTGOMERY RANDALL F	BASS-STATE	2	205	33E	18	1700FN	1650FW	9 5/8 @ 1095'	7 @ 2723'	
300250172930000	MONTGOMERY RANDALL F	BASS-STATE	3	205	33E	18	330FN	990FW	9 5/8 @ 1119'	7 @ 2752'	
30025017350000	LLANO	BROOKS FEDERAL	7	205	33E	18	660FN	2010FE	10 3/4 @ 1200'	7 @ 3767'	
300250176030000	MINERALS INC	BASS-STATE	5	205	33E	18	330FN	2310FW	8 5/8 @ 1102'	5 1/2 @ 2900'	
30025017480000	MINERALS INC	BASS-STATE	6	205	33E	18	330FN	1650FW	8 5/8 @ 1114'	5 1/2 @ 3055'	
30025127870000	BAY PET CO	WELCH STATE	4	205	33E	18	1980FN	1980FW	7 @ 2953'		

Stevens & Tull Inc.

R-111-P Hearing

Wellbore Schematic

Salt Protection String in Place

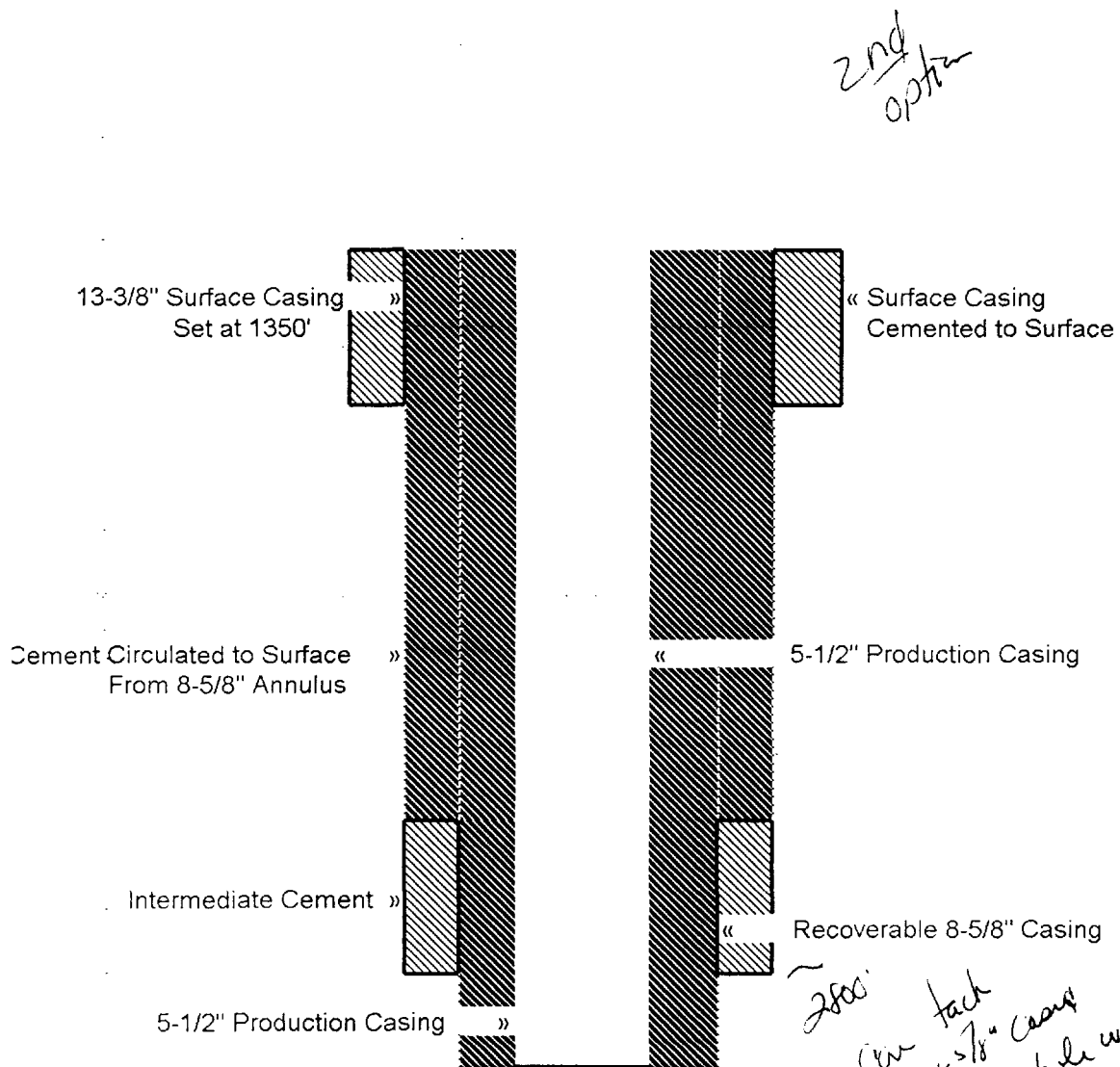


Stevens & Tull Inc.

R-111-P Hearing

Wellbore Schematic

Optional Casing Procedure

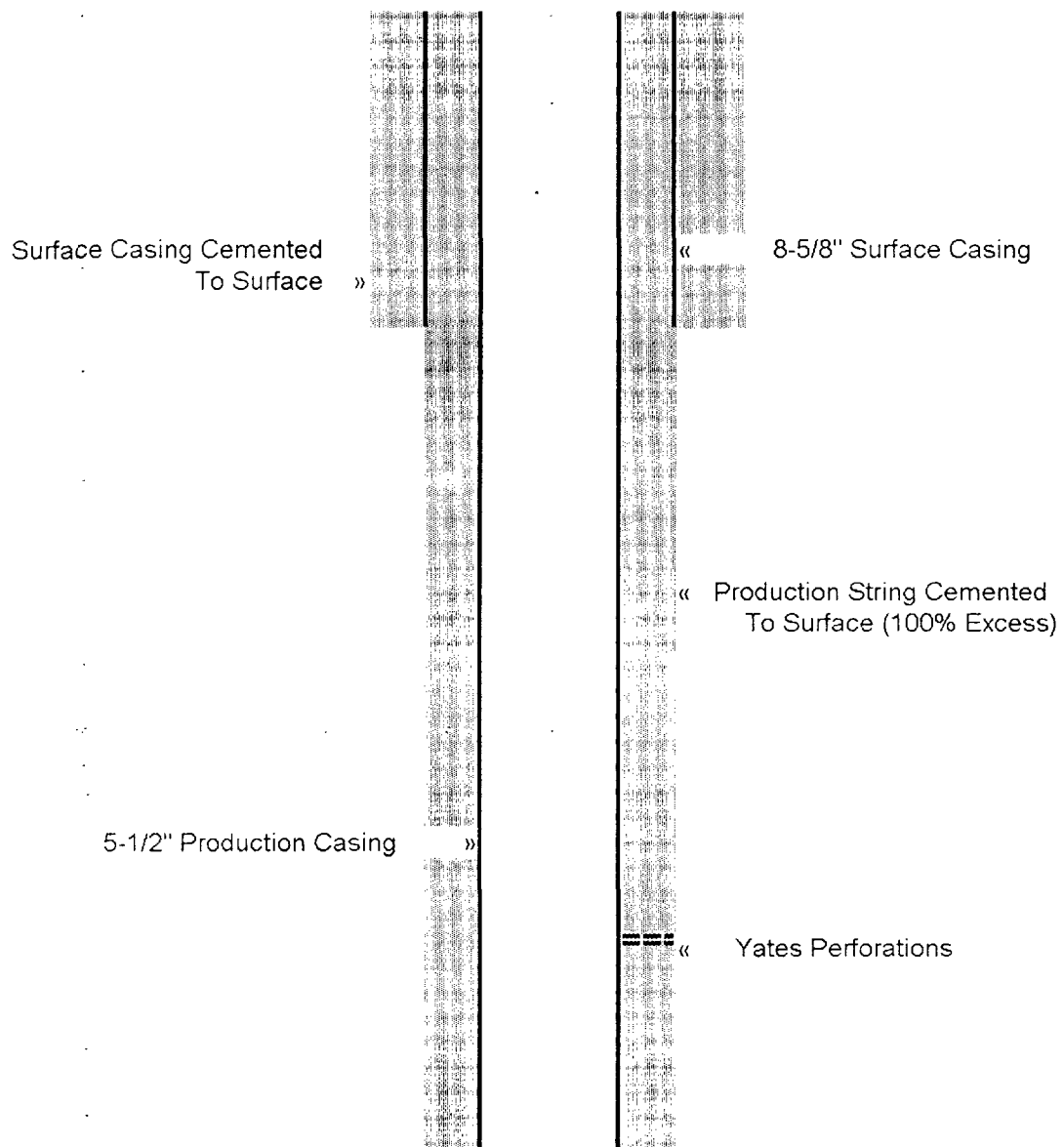


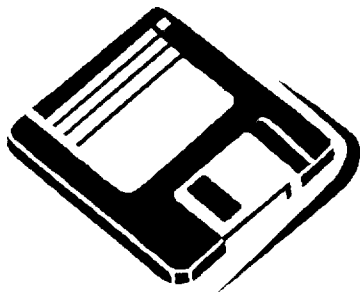
Salt can be  
exposed for  
24 hours or  
more

2800'  
Can tack  
8-5/8" casing  
in hole w/  
50 SX

Can recover 8-5/8" casing  
and annulus  
5 1/2" to  
surface

**Stevens & Tull Inc.**  
**R-111-P Hearing**  
**Wellbore Schematic**  
**Recommendation by Stevens & Tull Inc.**





**Stevens & Tull Inc.**

**Well Plan**

**West Teas Field**

**Lea County, New Mexico**

**Prepared By:**

A handwritten signature in black ink, which appears to read "Michael G. Mooney". The signature is written in a cursive, flowing style and is positioned above a solid horizontal line.

**Michael G. Mooney**

## DRILLING PROGNOSIS & PROCEDURE

### West Teas Field

1. MIRU Drilling Rig
2. Drill 12-1/4" hole to a depth of approximately 1350' with fresh water mud
3. Run 8-5/8" -24#, K55 Casing to surface TD
4. Cement with adequate amounts of class "C" cement with 2% CaCl<sub>2</sub> to circulate cement to surface
5. Wait on cement for 12 hrs while pressure is being held on casing
6. Start Nipple up of 3000 PSIG Blow out Preventer, Install H<sub>2</sub>S monitoring equipment
7. Start drilling operations after cement has set for a total 24 hrs
8. Drill 7-7/8" hole to Total Depth estimated to be 3500' utilizing saturated 10 ppg brine water
9. Once Total Depth is obtained condition the hole for open hole logging by raising the viscosity of the mud system
10. Run open hole logs to determine the productivity of the well
11. If not productive plug and abandon as per NMOCD or BLM recommendations
12. If productive run 5-1/2" 15.5#, K55, LT&C casing to Total Depth
13. Cement with adequate amounts of class "C" cement with floccelle and fluid loss additives to circulate the cement to surface.
14. Allow cement to set for 12 hrs before commencing rig down operations
15. Complete well as required
16. Place well into production by installing a sucker rod pumping system

0 - Circled #4  
2-111P requirements

#10- Do not run open hole  
logs. rather set casing right  
away.

Same procedure utilized  
for BLM accepted  
wells

## MUD PROGRAM

### WEST TEAS FIELD

Depth Interval (feet)	Density (PPG)	Funnel Viscosity (Seconds)	Type Mud	Filtrate (cc)
0-1350'	8.5	40-45	Spud Mud	NC
1350'-3500'	10.0	28	Saturated Brine Water	NC
3500'	10.0	35	Saturated Brine Water	10-15

## WEST TEAS FIELD

### CASING STRING DESIGN

DEPTH: 1350'  
 TYPE: Surface  
 SIZE: 8-5/8"  
 MUD WEIGHT: 8.5

<i>Description</i>	<i>Interval</i>	<i>Length Per Section</i>	<i>Weight Per Section</i>	<i>Cumm. Weight</i>	<i>Min. Strength</i>	<i>Tens. S.F.</i>
24#,ST&C,K-55	0-1350'	1350'	32400#	32400#	263,000	8.12

<i>Collapse Force</i>	<i>*Resist</i>	<i>S.F.</i>	<i>Burst Force</i>	<i>Resist</i>	<i>S.F.</i>	<i>Minimum Torque</i>	<i>Optimum Torque</i>	<i>Maximum Torque</i>
596	1370	2.29	624	2950	4.72	1970	2630	3290

\*Tension effect on collapse resistance included

#### Procedure:

1. Clean threads on shoe joint, float collar, and guide shoe to bare shiny metal. Apply Thread Lock to connections prior to make-up.
2. The casing assembly will be made up as follows:

**Note: Best-o-Life 2000 will be applied to all connections not receiving Thread Lock.**

- a. Guide shoe
  - b. Shoe Joint
  - c. Float collar
  - d. Remainder of casing string
3. Centralizers should be applied 10 feet above the guide shoe by means of a stop collar, around the first coupling above the float collar, and every fourth coupling back to surface.



# WEST TEAS FIELD

## CASING STRING DESIGN

DEPTH: 3500'  
 TYPE: Production  
 SIZE: 5-1/2"  
 MUD WEIGHT: 10.0

<i>Description</i>	<i>Interval</i>	<i>Length Per Section</i>	<i>Weight Per Section</i>	<i>Cumm. Weight</i>	<i>Min. Strength</i>	<i>Tens. S.F.</i>
15.50#,ST&C,K-55	0-3500	3500'	54,250#	54,250#	222,000	4.09

<i>Collapse Force</i>	<i>Resist</i>	<i>S.F.</i>	<i>Burst Force</i>	<i>Resist</i>	<i>S.F.</i>	<i>Minimum Torque</i>	<i>Optimum Torque</i>	<i>Maximum Torque</i>
1820	4040	2.22	1691	5320	3.14	1500	2000	2500

### Procedure:

Make up and run 5 1/2" casing as per the following:

- A. Clean exposed threads on the guide shoe, first joint of 5 1/2" casing, float collar, and second joint of casing. Apply Thread Lock to these connections prior to make-up.
- B. The bottom assembly of the casing assembly must be made up as follows with the first listed being the first in the hole:

**Note: Seal Lube will be applied to all connections not receiving Thread Lock.**

1. Guide Shoe
  2. First joint of 5 1/2" casing
  3. Float collar
  4. 5 1/2" casing back to 2950" with a rough coat bonding
  5. 5 1/2" casing back to surface (sandblasted)
  6. Rotate casing while cementing
- C. Install centralizers as follows on the 5 1/2" casing:
1. 10' above the guide shoe by means of a stop collar
  2. Around the first coupling above the float collar
  3. Every third coupling back to surface

WEST TEAS FIELD  
**CEMENTING PROGRAM**

**8-5/8" Surface Casing**

Depth:	1350'
Casing Size:	8-5/8"
Hole Size:	12.25"
Calculated Cement Fill:	1350'
Excess Calculated:	100%
Cementing Company:	Haliburton

**Cement Recommendation:**

*Spacer:* 20 Bbls Fresh Water

*Slurry:* 860 sack Premium Plus + 2% CaCl<sub>2</sub>

Slurry Weight:	14.8 ppg
Slurry Yield:	1.34 cu.ft./sack

**Procedure:**

1. Utilize the two-plug system
2. Wait on cement a minimum of 12 hours (with pressure)
3. Wait on cement a minimum of 24 hours total before drill out

**NOTE: VOLUME ADJUSTMENTS BASED ON THE CALIPER WILL BE UNATTAINABLE. THE STANDARD PRACTICE FOR SURFACE CASING CEMENT VOLUME DETERMINATION HAS BEEN CALCULATED (GAUGE HOLE PLUS 100% EXCESS). NO FURTHER CALCULATIONS WILL BE MADE FOR CEMENT VOLUME.**

WEST TEAS FIELD  
CEMENTING PROGRAM

**5-1/2" Production Casing**

Depth:	3500
Casing Size:	5-1/2"
Hole Size:	7-7/8"
Calculated Cement Fill:	3500
Excess Calculated :	100%

**Cement Recommendation:**

*Lead Slurry:* 650 sacks Premium Plus + 1% CaCl<sub>2</sub> + 15 #/sk Salt

Slurry Weight:	14.0 ppg
Slurry Yield:	1.75 cu.ft./sack

*Tail Slurry:* 230 sacks Premium Plus + .4% HALAD - 322 (fluid loss) + 2% CaCl<sub>2</sub>

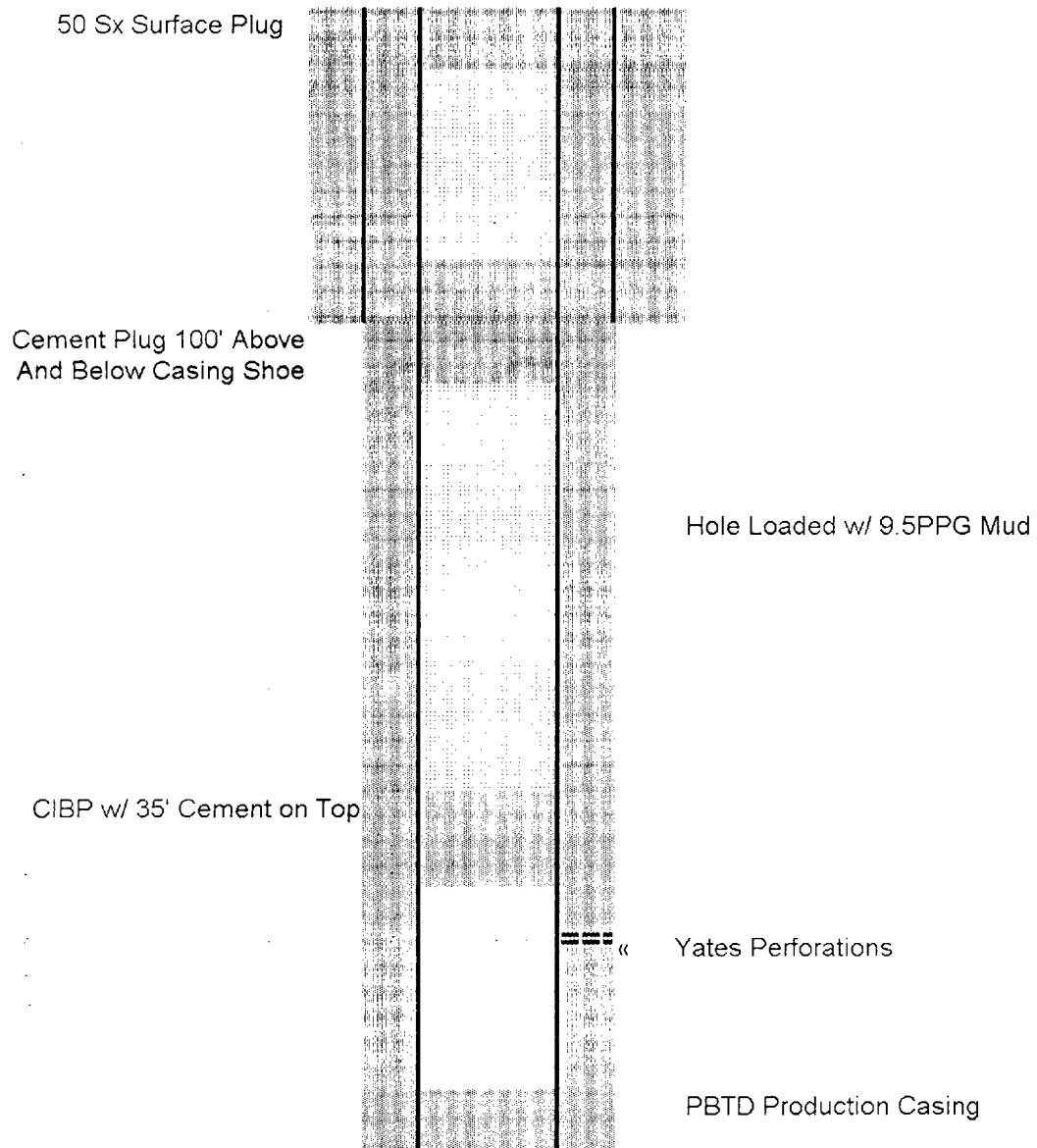
Slurry Weight:	14.8 ppg
Slurry Yield:	1.32 cu.ft./sack

**Procedure:**

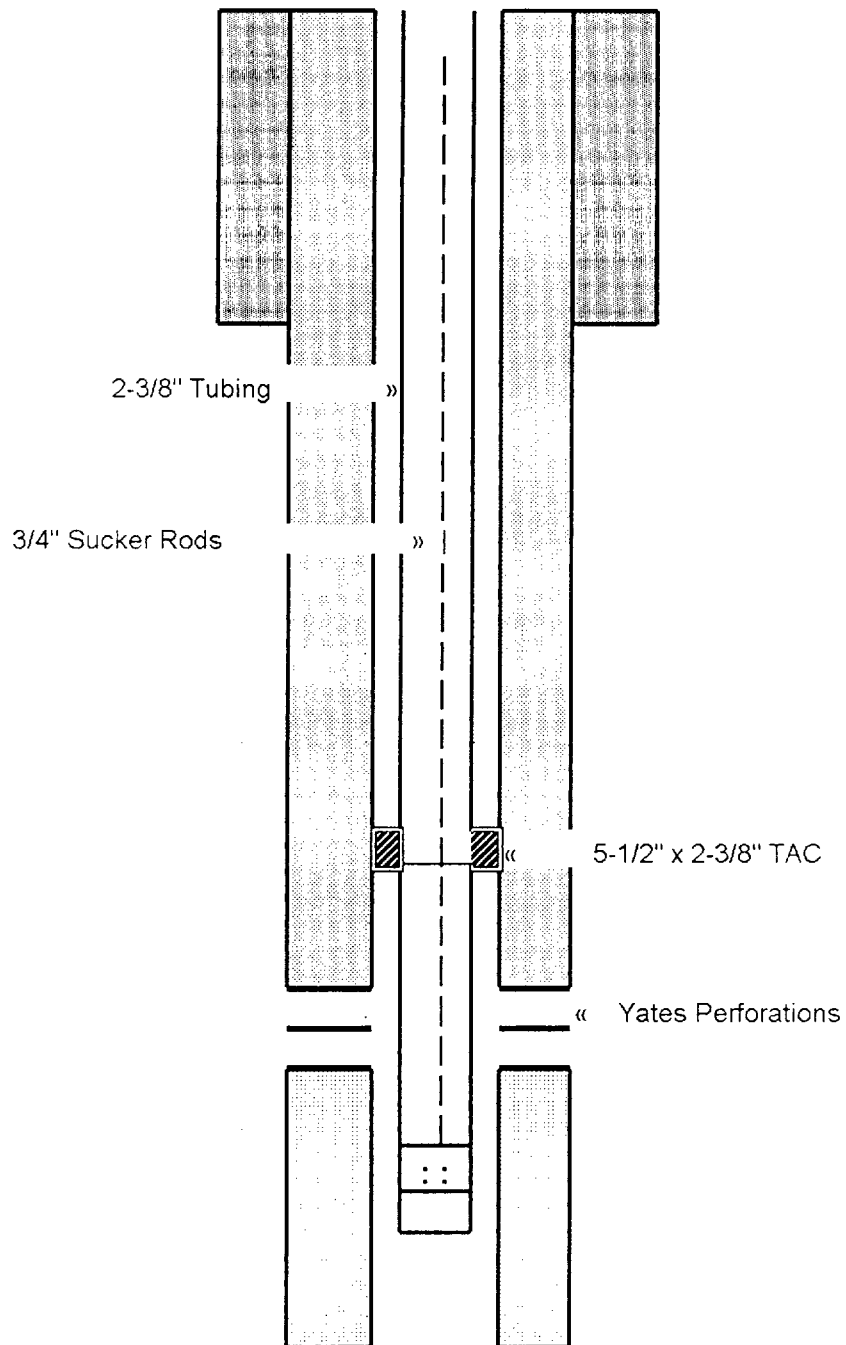
Cement the 5-1/2" casing string as follows:

1. Rotate casing during cementation
2. Wait on cement 12 hours before commencing rig operations

**Stevens & Tull Inc.**  
**R-111-P Hearing**  
**Wellbore Schematic**  
**Plug and Abandonment Procedure**



**Stevens & Tull Inc.**  
**R-111-P Hearing**  
**Wellbore Schematic**



**West Teas Rod Pump Setup**

# MINIMUM BLOWOUT PREVENTER REQUIREMENTS

3,000 psi Working Pressure

3 MWP

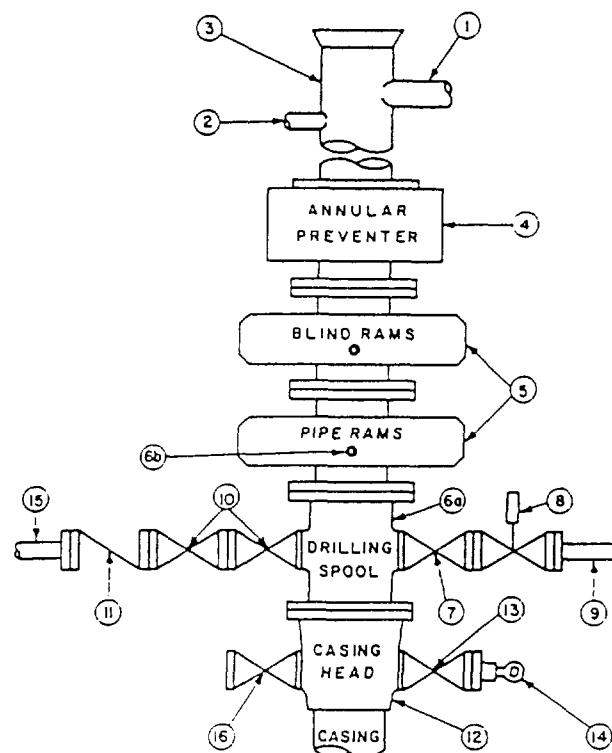
## STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min choke line outlets		
6b	2" min. kill line and 3" min. choke line outlets in ram. (Alternate to 6a above.)		
7	Valve <div>Gate <input type="checkbox"/> Plug <input type="checkbox"/></div>	3-1/8"	
8	Gate valve—power operated	3-1/8"	
9	Line to choke manifold		3"
10	Valves <div>Gate <input type="checkbox"/> Plug <input type="checkbox"/></div>	2-1/16"	
11	Check valve	2-1/16"	
12	Casing head		
13	Valve <div>Gate <input type="checkbox"/> Plug <input type="checkbox"/></div>	1-13/16"	
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"

## OPTIONAL

16	Flanged valve	1-13/16"
----	---------------	----------

CONFIGURATION A



## CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 3,000 psi, minimum.
2. Automatic accumulator (80 gallon, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure.
3. BOP controls, to be located near drillers position.
4. Kelly equipped with Kelly cock.
5. Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
6. Kelly saver-sub equipped with rubber casing protector at all times.
7. Plug type blowout preventer tester.
8. Extra set pipe rams to fit drill pipe in use on location at all times.
9. Type RX ring gaskets in place of Type R.

## MEC TO FURNISH:

1. Bradenhead or casinghead and side valves.
2. Wear bushing, if required.

## GENERAL NOTES:

1. Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager.
2. All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke. Valves must be full opening and suitable for high pressure mud service.
3. Controls to be of standard design and each marked, showing opening and closing position.
4. Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, other bean sizes, retainers, and choke wrenches to be conveniently located for immediate use.
5. All valves to be equipped with handwheels or handles ready for immediate use.
6. Choke lines must be suitably anchored.

7. Handwheels and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
9. All seamless steel control piping (3000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
10. Casinghead connections shall not be used except in case of emergency.
11. Do not use kill line for routine fill-up operations.

## Stevens & Tull, Inc

### R-111-P

### Economic Differences Between Casing Designs

Stevens & Tull, Inc have drilled wells utilizing the R-111-P recommendation and the proposed Method omitting the salt string. Attached is an itemized detail summary showing the specifics. Below is a General Tabulation of the results:

#### PLEASE REVIEW ENCLOSED ATTACHMENTS

#### State BF # 3 Section 16-T20S-R33E

Total IDC 's	\$ 156,406.58
Total Tang. Cost	\$ 69,472.43
Total Cost of well	\$ 225,879.01

Payout of Investment	3.05 yrs
Rate of Return	24.2%

*Did 400  
assume  
50,000 Bbls  
50,000*

#### Federal # 9-2 Section 9-T20S-R33E

Total IDC 's	\$ 105,393.82
Total Tang. Cost	\$ 56,866.36
Total Cost of well	\$ 162,266.18

Payout of Investment	2.08 yrs
Rate of Return	39.1%

Drilling & Completion difference between using salt string and not is \$ 63,612.83

At \$ 15.00/ BBL of oil we need to recover an additional 4240 BBLs to payout the salt string

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PROPERTY 003615-02 FEDERAL 9 #2 - AFE

STATE: NM COUNTY: LEA

PAGE 1

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
PROSPECT/OTHER COST					
10792	STEVENS & TULL, INC.		.00000000	13,275.98	.00
		TOTAL PROSPECT/OTHER COST		13,275.98	.00
INTANGIBLE COSTS					
10792	STEVENS & TULL, INC.	DRILLING OVERHEAD 10/7-10/21	.00000000	1,814.77	.00
106984	THE WESTERN COMPANY OF NO	CEMENTING 8 5/8"	.00000000	8,453.56	.00
107372	THE WESTERN COMPANY OF NO	CEMENTING 5 1/2"	.00000000	6,122.23	.00
1092-107	D. C. WELL SERVICE, INC.	COMPLETION UNIT	.00000000	3,508.69	.00
107329	CAPSTAR DRILLING	DRILLING	.00000000	30,303.87	.00
11964	MCCLATCHY BROS., INC.	EQUIP RENTAL/TRUCKING	.00000000	174.73	.00
10590	LEWALLEN SUPPLY CO., INC.	EQUIP RENTAL/TRUCKING	.00000000	235.79	.00
17030	BRANTLEY TRUCKING, INC.	EQUIP RENTAL/TRUCKING	.00000000	1,241.23	.00
10188	FORKLIFT ENTERPRISES	EQUIP RENTAL/TRUCKING	.00000000	201.55	.00
1092-106	D. C. WELL SERVICE, INC.	EQUIP RENTAL/TRUCKING	.00000000	367.03	.00
669	POSEY PIPE & EQUIPMENT	EQUIP RENTAL/TRUCKING	.00000000	235.70	.00
1092-9	STEVENS & TULL, INC.	EQUIP RENTAL/TRUCKING	.00000000	84.25	.00
1092-28	STEVENS & TULL, INC.	LABOR - ENGINEER	.00000000	317.98	.00
1092-2	STEVENS & TULL, INC.	LABOR - ENGINEER	.00000000	1,330.63	.00
1092-44	STEVENS & TULL, INC.	LABOR - ENGINEER	.00000000	54.05	.00
1092-2	STEVENS & TULL, INC.	LABOR - ENGINEER CORR. N.M. TAX	.00000000	-15.89	.00
1092-34	STEVENS & TULL, INC.	LABOR - ENGINEER	.00000000	3,594.68	.00
1092-67	STEVENS & TULL, INC.	LABOR - FOREMAN	.00000000	104.09	.00
1092-11	STEVENS & TULL, INC.	LABOR - FOREMAN	.00000000	104.09	.00
1092-47	STEVENS & TULL, INC.	LABOR - FOREMAN	.00000000	1,105.11	.00
10/19/92	RANDY HALL, DBA POGAR	LABOR - GEOLOGIST	.00000000	401.23	.00
6614	RON'S WELDING, INC.	LABOR - ROUSTABOUT	.00000000	137.90	.00
471	J. H. LINDSEY	LABOR - ROUSTABOUT	.00000000	561.73	.00
1092-62	STEVENS & TULL, INC.	LABOR - ROUSTABOUT	.00000000	391.24	.00
1092-4	FORKLIFT ENTERPRISES	LOCATION - CLEANUP	.00000000	151.13	.00
1092-114	ENVIRONMENTAL LINING SERV	LOCATION - ROADS, PITS	.00000000	812.98	.00
1092-024	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	.00000000	11,095.93	.00
1092-2	HOBBS ANCHOR, INC.	LOCATION - ROADS, PITS SET ANCHORS	.00000000	635.39	.00
1092-065	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	.00000000	164.13	.00
1092-1	GASKIN	LOCATION - SURVEY	.00000000	552.25	.00
1092-1	GASKIN	LOCATION - SURVEY	.00000000	156.65	.00
1092-1	MCNEESE LOGGING SERVICE I	LOGGING - MUD	.00000000	2,641.54	.00
10/19/92	NEW MEXICO ARCHAEOLOGICAL	MISCELLANEOUS	.00000000	275.86	.00
1092-1	REYNOLDS BROS. REPRODUCTI	MISCELLANEOUS	.00000000	69.19	.00
1092-1	HORIZON MUD COMPANY	MUD & CHEMICALS	.00000000	2,834.89	.00
1092-1	CAPTAN CORPORATION	PERFORATING	.00000000	1,735.35	.00
1092-1	A. A. GILFELD SERVICE	WASTE WATER / MUD DISPOSAL	.00000000	211.70	.00
1092-1	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	.00000000	3.10	.00
10/19/92	RANDY HALL, DBA POGAR	TRAVEL EXPENSE & MILEAGE	.00000000	140.98	.00
1092-1	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	.00000000	41.90	.00
1092-1	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	.00000000	1,538.19	.00



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REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
0-02164	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	.00000000	558.76	.00
0-02165	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	.00000000	1,068.63	.00
0/92	STEVENS & TULL, INC.	INSURANCE	.00000000	675.89	.00
TOTAL INTANGIBLE COSTS				84,054.75	.00
LEASE EQUIPMENT - NEW					
7782	POSEY PIPE & EQUIPMENT	CASING 1340.1', 8 5/8"	.00000000	10,109.95	.00
092-11	BOND-COAT, INC.	CASING BOND-COAT 5 1/2"	.00000000	638.94	.00
7790	POSEY PIPE & EQUIPMENT	CASING 5 1/2", 3380.15'	.00000000	15,526.85	.00
0-138	RIO TANKS, INC.	LINE PIPE 2000', 3" FLOWLINE	.00000000	2,404.43	.00
7535-1	R & R SERVICE CO., INC.	SEPARATOR 3-PHASE	.00000000	4,773.46	.00
0565	TOMMY WHITE SUPPLY CO., I	BUCKER RODS 3200', 3/4" RODS	.00000000	3,978.31	.00
06852	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	.00000000	101.13	.00
081	A-1 PUMP & SUPPLY	VALVES & FITTINGS	.00000000	596.43	.00
12008-01	UNION SUPPLY CO.	VALVES & FITTINGS	.00000000	741.54	.00
17992	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	.00000000	886.25	.00
18367	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	.00000000	230.69	.00
12705-01	UNION SUPPLY CO.	VALVES & FITTINGS	.00000000	435.34	.00
16852	TOMMY WHITE SUPPLY CO., I	WELLHEAD	.00000000	454.54	.00
TOTAL LEASE EQUIPMENT - NEW				40,677.90	.00
EQUIPMENT - USED					
11092-01	STEVENS & TULL, INC.	MISCELLANEOUS 1-SIZE D PANEL	.00000000	319.73	.00
11092-01	STEVENS & TULL, INC.	MOTOR 1-15HP WESTINGHOUSE	.00000000	447.63	.00
11092-01	STEVENS & TULL, INC.	PUMPING UNIT 1-CAROT D30	.00000000	3,730.25	.00
2936	RENO EQUIPMENT	TUBING 3325.7', 2 3/8"	.00000000	3,739.95	.00
TOTAL LEASE EQUIPMENT - USED				8,237.56	.00
TOTAL BILLABLE AMOUNT				146,446.19	.00

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PAGE 1

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE	
PROSPECT/OTHER COST						
	STEVENS & TULL, INC.		0.00000000	1,474.94	0.00	
		TOTAL PROSPECT/OTHER COST		1,474.94	0.00	
INTANGIBLE COSTS						
10/92	STEVENS & TULL, INC.	DRILLING OVERHEAD	ADJ 10/92	0.00000000	1,609.80	0.00
10/92	STEVENS & TULL, INC.	DRILLING OVERHEAD	ADJ 10/92	0.00000000	-1,614.77	0.00
406984	THE WESTERN COMPANY OF NO	CEMENTING	ADJ 10/92	0.00000000	6,433.67	0.00
407372	THE WESTERN COMPANY OF NO	CEMENTING	ADJ 10/92	0.00000000	6,103.41	0.00
406984	THE WESTERN COMPANY OF NO	CEMENTING	ADJ 10/92	0.00000000	-6,453.56	0.00
407372	THE WESTERN COMPANY OF NO	CEMENTING	ADJ 10/92	0.00000000	-6,122.28	0.00
1092-107	D. C. WELL SERVICE, INC.	COMPLETION UNIT	ADJ 10/92	0.00000000	3,497.88	0.00
1092-107	D. C. WELL SERVICE, INC.	COMPLETION UNIT	ADJ 10/92	0.00000000	-3,508.69	0.00
002329	CAPSTAR DRILLING	DRILLING	ADJ 10/92	0.00000000	30,210.45	0.00
002329	CAPSTAR DRILLING	DRILLING	ADJ 10/92	0.00000000	-30,303.87	0.00
61964	MCCLATCHY BROS., INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	174.20	0.00
29590	LEWALLEN SUPPLY CO., INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	235.07	0.00
37080	BRANTLEY TRUCKING, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	1,237.41	0.00
35188	FORKLIFT ENTERPRISES	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	200.93	0.00
1092-106	D. C. WELL SERVICE, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	365.90	0.00
7809	POSEY PIPE & EQUIPMENT	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	234.98	0.00
008709	AJAX REPAIR AND SUPPLY, I	EQUIP RENTAL/TRUCKING		0.00000000	184.54	0.00
1092-9	STEVENS & TULL, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	84.00	0.00
1192-25	STEVENS & TULL, INC.	PIPE TRAILER		0.00000000	42.00	0.00
61964	MCCLATCHY BROS., INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-174.73	0.00
29590	LEWALLEN SUPPLY CO., INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-235.79	0.00
37080	BRANTLEY TRUCKING, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-1,241.23	0.00
35188	FORKLIFT ENTERPRISES	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-201.55	0.00
1092-106	D. C. WELL SERVICE, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-367.03	0.00
7809	POSEY PIPE & EQUIPMENT	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-235.70	0.00
1092-9	STEVENS & TULL, INC.	EQUIP RENTAL/TRUCKING	ADJ 10/92	0.00000000	-84.25	0.00
0492-78	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	317.00	0.00
0592-2	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	1,326.53	0.00
0692-44	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	53.89	0.00
0592-2	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	-15.85	0.00
1092-34	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	3,583.60	0.00
1192-52	STEVENS & TULL, INC.	LABOR - ENGINEER		0.00000000	718.38	0.00
0492-78	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	-317.98	0.00
0592-2	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	-1,330.63	0.00
0692-44	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	-54.05	0.00
0592-2	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	15.89	0.00
1092-34	STEVENS & TULL, INC.	LABOR - ENGINEER	ADJ 10/92	0.00000000	-3,594.68	0.00
0492-67	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	103.77	0.00
0592-11	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	103.77	0.00
1092-47	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	1,101.71	0.00
1192-64	STEVENS & TULL, INC.	LABOR - FOREMAN		0.00000000	1,622.64	0.00

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REFERENCE	VENDOR	DESCRIPTION		INTEREST TYPE	GROSS	YOUR SHARE
0492-67	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	-104.09	0.00
0592-11	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	-104.09	0.00
1092-47	STEVENS & TULL, INC.	LABOR - FOREMAN	ADJ 10/92	0.00000000	-1,105.11	0.00
10/19/92	RANDY HALL, DBA POGAR	LABOR - GEOLOGIST	ADJ 10/92	0.00000000	400.00	0.00
10/19/92	RANDY HALL, DBA POGAR	LABOR - GEOLOGIST	ADJ 10/92	0.00000000	-401.23	0.00
28614	RON'S WELDING, INC.	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	137.48	0.00
0471	J. H. LINDSEY	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	560.00	0.00
1092-62	STEVENS & TULL, INC.	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	390.04	0.00
925034	K & S PAINTING, SANDBLAST	LABOR - ROUSTABOUT		0.00000000	501.13	0.00
28614	RON'S WELDING, INC.	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	-137.90	0.00
0471	J. H. LINDSEY	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	-561.73	0.00
1092-62	STEVENS & TULL, INC.	LABOR - ROUSTABOUT	ADJ 10/92	0.00000000	-391.24	0.00
35284	FORKLIFT ENTERPRISES	LOCATION - CLEANUP	ADJ 10/92	0.00000000	150.69	0.00
35643	FORKLIFT ENTERPRISES	LOCATION - CLEANUP		0.00000000	200.93	0.00
35284	FORKLIFT ENTERPRISES	LOCATION - CLEANUP	ADJ 10/92	0.00000000	-151.15	0.00
ELS-114	ENVIRONMENTAL LINING SERV	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	611.10	0.00
1092-024	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	10,972.00	0.00
001032	HOBBS ANCHOR, INC.	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	633.44	0.00
1092-065	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	183.57	0.00
ELS-114	ENVIRONMENTAL LINING SERV	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	-612.98	0.00
1092-024	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	-11,005.93	0.00
001032	HOBBS ANCHOR, INC.	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	-635.39	0.00
1092-065	GLOBE CONSTRUCTION COMPAN	LOCATION - ROADS, PITS	ADJ 10/92	0.00000000	-184.13	0.00
1341	GASKIN	LOCATION - SURVEY	ADJ 10/92	0.00000000	550.55	0.00
1359	GASKIN	LOCATION - SURVEY	ADJ 10/92	0.00000000	156.17	0.00
1341	GASKIN	LOCATION - SURVEY	ADJ 10/92	0.00000000	-552.25	0.00
1359	GASKIN	LOCATION - SURVEY	ADJ 10/92	0.00000000	-156.65	0.00
011772	BPB INSTRUMENTS, INC.	LOGGING - CASSED HOLE		0.00000000	3,132.14	0.00
1632	McNEESE LOGGING SERVICE I	LOGGING - MUD	ADJ 10/92	0.00000000	2,832.78	0.00
1632	McNEESE LOGGING SERVICE I	LOGGING - MUD	ADJ 10/92	0.00000000	-2,841.54	0.00
6/9/92ST	NEW MEXICO ARCHAEOLOGICAL	MISCELLANEOUS	ADJ 10/92	0.00000000	275.01	0.00
56629	REYNOLDS BROS. REPRODUCTI	MISCELLANEOUS	ADJ 10/92	0.00000000	88.92	0.00
29817CK	MICHAEL G. MOONEY	MISCELLANEOUS		0.00000000	8.38	0.00
6/9/92ST	NEW MEXICO ARCHAEOLOGICAL	MISCELLANEOUS	ADJ 10/92	0.00000000	-275.86	0.00
56629	REYNOLDS BROS. REPRODUCTI	MISCELLANEOUS	ADJ 10/92	0.00000000	-89.19	0.00
4638	HORIZON MUD COMPANY	MUD & CHEMICALS	ADJ 10/92	0.00000000	2,826.15	0.00
4638	HORIZON MUD COMPANY	MUD & CHEMICALS	ADJ 10/92	0.00000000	-2,834.89	0.00
1558	CAPITAN CORPORATION	PERFORATING	ADJ 10/92	0.00000000	1,730.00	0.00
1558	CAPITAN CORPORATION	PERFORATING	ADJ 10/92	0.00000000	-1,735.35	0.00
71576	A. A. OILFIELD SERVICE	WASTE WATER / MUD DISPOSAL	ADJ 10/92	0.00000000	221.02	0.00
71576	A. A. OILFIELD SERVICE	WASTE WATER / MUD DISPOSAL	ADJ 10/92	0.00000000	-221.70	0.00
008213	THE WESTERN COMPANY OF NO	STIMULATION - ACIDIZING		0.00000000	-160.00	0.00
28902CK	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	3.10	0.00
10/19/92	RANDY HALL, DBA POGAR	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	140.55	0.00
29660CK	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	41.78	0.00
28902CK	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	-3.10	0.00

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INVOICE DATE 11/30/92

PROPERTY 003615-02 FEDERAL 9 #2 - AFE

STATE: NM COUNTY: LEA

PAGE 3

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE	
10/19/92	RANDY HALL, DBA POGAR	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	-140.98	0.00
29660CK	MICHAEL B. MOONEY	TRAVEL EXPENSE & MILEAGE	ADJ 10/92	0.00000000	-41.90	0.00
10-02163	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	1,633.14	0.00
10-02164	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	557.04	0.00
10-02165	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	1,065.34	0.00
10-02163	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	-1,638.19	0.00
10-02164	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	-558.76	0.00
10-02165	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	ADJ 10/92	0.00000000	-1,068.63	0.00
10/92	STEVENS & TULL, INC.	FACILITIES & SYSTEMS EXPE		0.00000000	596.96	0.00
10/92	STEVENS & TULL, INC.	INSURANCE	ADJ 10/92	0.00000000	673.81	0.00
10/92	STEVENS & TULL, INC.	INSURANCE	ADJ 10/92	0.00000000	-675.89	0.00
TOTAL INTANGIBLE COSTS				6,588.15	0.00	

## LEASE EQUIPMENT - NEW

7782	POSEY PIPE & EQUIPMENT	CASING	ADJ 10/92	0.00000000	10,078.83	0.00
1092-11	BOND-COAT, INC.	CASING	ADJ 10/92	0.00000000	636.98	0.00
7790	POSEY PIPE & EQUIPMENT	CASING	ADJ 10/92	0.00000000	15,478.98	0.00
7782	POSEY PIPE & EQUIPMENT	CASING	ADJ 10/92	0.00000000	-10,109.99	0.00
1092-11	BOND-COAT, INC.	CASING	ADJ 10/92	0.00000000	-638.94	0.00
7790	POSEY PIPE & EQUIPMENT	CASING	ADJ 10/92	0.00000000	-15,526.85	0.00
10-138	RIO TANKS, INC.	LINE PIPE	ADJ 10/92	0.00000000	2,397.02	0.00
10-138	RIO TANKS, INC.	LINE PIPE	ADJ 10/92	0.00000000	-2,404.43	0.00
10-147	RIO TANKS, INC.	MISCELLANEOUS		0.00000000	68.90	0.00
84714	DIXIE ELECTRIC INC.	MISCELLANEOUS	ELECTRICAL	0.00000000	4,272.75	0.00
84752	DIXIE ELECTRIC INC.	MISCELLANEOUS	ELECTRICAL	0.00000000	1,055.00	0.00
159098-01	UNION SUPPLY CO.	MISCELLANEOUS		0.00000000	226.33	0.00
17568-1	R & R SERVICE CO., INC.	SEPARATOR	ADJ 10/92	0.00000000	4,758.75	0.00
17568-1	R & R SERVICE CO., INC.	SEPARATOR	ADJ 10/92	0.00000000	-4,773.46	0.00
40565	TOMMY WHITE SUPPLY CO., I	SUCKER RODS	ADJ 10/92	0.00000000	3,966.05	0.00
40565	TOMMY WHITE SUPPLY CO., I	SUCKER RODS	ADJ 10/92	0.00000000	-3,978.31	0.00
016852	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	100.82	0.00
4081	A-1 PUMP & SUPPLY	VALVES & FITTINGS	ADJ 10/92	0.00000000	594.60	0.00
112008-01	UNION SUPPLY CO.	VALVES & FITTINGS	ADJ 10/92	0.00000000	739.26	0.00
017992	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	883.52	0.00
018267	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	229.98	0.00
112705-01	UNION SUPPLY CO.	VALVES & FITTINGS	ADJ 10/92	0.00000000	434.00	0.00
4141	A-1 PUMP & SUPPLY	VALVES & FITTINGS		0.00000000	231.75	0.00
016852	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	-101.13	0.00
4081	A-1 PUMP & SUPPLY	VALVES & FITTINGS	ADJ 10/92	0.00000000	-596.43	0.00
112008-01	UNION SUPPLY CO.	VALVES & FITTINGS	ADJ 10/92	0.00000000	-741.54	0.00
017992	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	-886.25	0.00
018267	TOMMY WHITE SUPPLY CO., I	VALVES & FITTINGS	ADJ 10/92	0.00000000	-230.69	0.00
112705-01	UNION SUPPLY CO.	VALVES & FITTINGS	ADJ 10/92	0.00000000	-435.34	0.00
016852	TOMMY WHITE SUPPLY CO., I	WELLHEAD	ADJ 10/92	0.00000000	453.14	0.00
016852	TOMMY WHITE SUPPLY CO., I	WELLHEAD	ADJ 10/92	0.00000000	-454.54	0.00
10-147	RIO TANKS, INC.	INSTALLATION-SURFACE EQUI		0.00000000	148.53	0.00

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INVOICE DATE 11/30/92

PROPERTY 003615-02 FEDERAL 9 #2 - AFE

STATE: NM COUNTY: LEA

PAGE 4

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
84714	DIXIE ELECTRIC INC.	INSTALLATION-SURFACE EQUI	0.00000000	1,371.50	0.00
84752	DIXIE ELECTRIC INC.	INSTALLATION-SURFACE EQUI	0.00000000	527.50	0.00
		TOTAL LEASE EQUIPMENT - NEW		7,776.29	0.00
LEASE EQUIPMENT - USED					
MT1092-01	STEVENS & TULL, INC.	MISCELLANEOUS	ADJ 10/92	318.75	0.00
MT1092-01	STEVENS & TULL, INC.	MISCELLANEOUS	ADJ 10/92	-319.73	0.00
MT1092-01	STEVENS & TULL, INC.	MOTOR	ADJ 10/92	446.25	0.00
MT1092-01	STEVENS & TULL, INC.	MOTOR	ADJ 10/92	-447.63	0.00
MT1092-01	STEVENS & TULL, INC.	PUMPING UNIT	ADJ 10/92	3,718.75	0.00
MT1092-01	STEVENS & TULL, INC.	PUMPING UNIT	ADJ 10/92	-3,730.25	0.00
02966	RENO EQUIPMENT	TUBING	ADJ 10/92	3,728.42	0.00
02966	RENO EQUIPMENT	TUBING	ADJ 10/92	-3,739.95	0.00
		TOTAL LEASE EQUIPMENT - USED		-25.39	0.00
		TOTAL BILLABLE AMOUNT		15,813.99	0.00

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INVOICE DATE 01/31/95

RTY 006160-03 BF STATE #3 - AFE

STATE: NM COUNTY: EDDY

PAGE 1

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
INTANGIBLE COSTS					
7950	STEVENS & TULL, INC.	DRILLING OVERHEAD 12/20/94-1/20/95	0.00000000	2,268.49	0.00
63571	THE WESTERN COMPANY OF NO	CEMENTING	0.00000000	2,895.01	0.00
64204	THE WESTERN COMPANY OF NO	CEMENTING	0.00000000	2,826.63	0.00
4285	X-PERT WELL SERVICE CO.,	COMPLETION UNIT	0.00000000	3,087.14	0.00
4330	X-PERT WELL SERVICE CO.,	COMPLETION UNIT	0.00000000	5,300.73	0.00
02827	CAPSTAR DRILLING	DRILLING	0.00000000	37,280.87	0.00
02830	CAPSTAR DRILLING	DRILLING	0.00000000	6,709.69	0.00
02466	GREGG FULFER	ELECTRICAL HOOKUP	0.00000000	2,206.30	0.00
987	CHANCE TOOL CO., INC.	EQUIP RENTAL/TRUCKING	0.00000000	1,097.10	0.00
005	RENO EQUIPMENT	EQUIP RENTAL/TRUCKING	0.00000000	127.20	0.00
207	INDIAN FIRE AND SAFETY, I	EQUIP RENTAL/TRUCKING	0.00000000	486.75	0.00
6341	MCCLATCHY BROS., INC.	EQUIP RENTAL/TRUCKING	0.00000000	196.98	0.00
2-09752	O.D. RENTALS	EQUIP RENTAL/TRUCKING	0.00000000	105.45	0.00
2-09754	O.D. RENTALS	EQUIP RENTAL/TRUCKING	0.00000000	64.89	0.00
1078	BRANTLEY TRUCKING, INC.	EQUIP RENTAL/TRUCKING	0.00000000	928.45	0.00
352	PECOS VALLEY TOOLS, INC.	EQUIP RENTAL/TRUCKING	0.00000000	673.60	0.00
31004	CHAPARRAL SERVICE, INC.	EQUIP RENTAL/TRUCKING	0.00000000	699.24	0.00
1143	BRANTLEY TRUCKING, INC.	EQUIP RENTAL/TRUCKING	0.00000000	946.15	0.00
5	LEAMCO-RUTHCO	EQUIP RENTAL/TRUCKING	0.00000000	4,313.78	0.00
	PECOS VALLEY TOOLS, INC.	EQUIP RENTAL/TRUCKING	0.00000000	673.60	0.00
294-36	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	-1,805.93 ✓	0.00
294-36	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	1,759.00 ✓	0.00
195-37	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	2,327.00 ✓	0.00
195-39	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	2,272.80 ✓	0.00
294-36	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	46.90 }	0.00
195-37	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	98.86 }	0.00
195-39	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	113.67 }	0.00
75-23	STEVENS & TULL, INC.	LABOR - FOREMAN	0.00000000	4,303.85	0.00
75-23	STEVENS & TULL, INC.	LABOR - FOREMAN	0.00000000	-4,303.85	0.00
75-23	STEVENS & TULL, INC.	LABOR - FOREMAN	0.00000000	4,098.90	0.00
75-23	STEVENS & TULL, INC.	LABOR - FOREMAN	0.00000000	204.94 }	0.00
623	RAY HARE	LABOR - ROUSTABOUT	0.00000000	120.00	0.00
20987	KEVIN ROBERTS	LABOR - ROUSTABOUT	0.00000000	135.68	0.00
79956	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	740.59	0.00
000010	MERRYMAN CONSTRUCTION COM	LABOR - ROUSTABOUT	0.00000000	483.99	0.00
00382	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	721.80	0.00
01102	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	810.43	0.00
03343	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	661.65	0.00
01103	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	884.10	0.00
03344	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	571.44	0.00
01104	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	296.81	0.00
05994	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	469.58	0.00
09868	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	837.81	0.00
09869	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	801.12	0.00
	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	564.14	0.00

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INVOICE DATE 01/31/95

PROPERTY 006160-03 BF STATE #3 - AFE

STATE: NM COUNTY: EDDY

PAGE 2

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
99907	B-M SERVICE COMPANY, INC.	LOCATION - ROADS, PITS	0.00000000	240.60	0.00
93638	MCCASLAND SERVICES, INC.	LOCATION - ROADS, PITS	0.00000000	6,841.25	0.00
99311	B-M SERVICE COMPANY, INC.	LOCATION - ROADS, PITS	0.00000000	422.94	0.00
94373	DIAMOND RENTAL, INC.	LOCATION - ROADS, PITS	0.00000000	890.40	0.00
94070	MCCASLAND SERVICES, INC.	LOCATION - ROADS, PITS	0.00000000	830.42	0.00
93451	PRO-LOG	LOGGING - Cased Hole	0.00000000	1,272.00	0.00
737	McNEESE LOGGING SERVICE I	LOGGING - MUD	0.00000000	200.00	0.00
03644	SCHLUMBERGER WELL SERVICE	LOGGING - OPEN HOLE	0.00000000	5,172.24	0.00
96497-01	UNION SUPPLY CO.	MISCELLANEOUS	0.00000000	176.81	0.00
0416	GARNER PUMP & SUPPLY, INC	MISCELLANEOUS	UPGRADE BHP	1,167.74	0.00
02774	HOBBS ANCHOR, INC.	MISCELLANEOUS	SET ANCHORS	626.46	0.00
		MISCELLANEOUS	USF&S CLAIM PAYMENT	-4,942.18	0.00
087	HORIZON MUD COMPANY	MUD & CHEMICALS	0.00000000	6,849.77	0.00
195	CAPITAN CORPORATION	PERFORATING	0.00000000	1,437.45	0.00
199	CAPITAN CORPORATION	PERFORATING	0.00000000	2,800.00	0.00
2-08526	SCURLOCK PERMIAN CORPORAT	WASTE WATER / MUD DISPOSAL	0.00000000	1,977.86	0.00
2-08530	SCURLOCK PERMIAN CORPORAT	WASTE WATER / MUD DISPOSAL	0.00000000	519.85	0.00
2-08531	SCURLOCK PERMIAN CORPORAT	WASTE WATER / MUD DISPOSAL	0.00000000	440.47	0.00
2-08532	SCURLOCK PERMIAN CORPORAT	WASTE WATER / MUD DISPOSAL	0.00000000	370.85	0.00
555	SCURLOCK PERMIAN CORPORAT	WASTE WATER / MUD DISPOSAL	0.00000000	370.85	0.00
54301	THE WESTERN COMPANY OF NO	STIMULATION - ACIDIZING	0.00000000	1,328.02	0.00
5-01-1014	KNOX SERVICES, INC.	STIMULATION - ACIDIZING	0.00000000	1,467.71	0.00
47340X	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	0.00000000	36.48	0.00
48490X	AMERICAN EXPRESS	TRAVEL EXPENSE & MILEAGE	0.00000000	14.55	0.00
49490X	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	0.00000000	40.67	0.00
2-08420	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	1,629.27	0.00
2-08421	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	660.76	0.00
2-08422	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	1,641.90	0.00
2-08527	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	543.09	0.00
2-08529	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	543.09	0.00
2-08528	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	271.55	0.00
2-08554	SCURLOCK PERMIAN CORPORAT	WATER - DRILLING	0.00000000	135.77	0.00
2/94R	STEVENS & TULL, INC.	FACILITIES & SYSTEMS EXPE	0.00000000	28.09	0.00
7/95I	STEVENS & TULL, INC.	INSURANCE	0.00000000	20.20	0.00
TOTAL INTANGIBLE COSTS				126,030.26	0.00

## LEASE EQUIPMENT - NEW

0427	GARNER PUMP & SUPPLY, INC	BOTTOM HOLE PUMP	0.00000000	2,633.91	0.00
356	POSEY PIPE & EQUIPMENT, I	CASING	3446.80; 4 1/2"	11,172.28	0.00
15295	ROJO SPECIALTY & EQUIPMEN	CASING		119.57	0.00
02466	GREGG FULFER	MISCELLANEOUS	ELECTRICAL	4,274.75	0.00
INV950211	ROYALTY SUPPLY	SUCKER RODS	3158', 3/4"	1,027.07	0.00
5-1001	MIKE PASSMORE, DBA P & P	TUBING	3472', 112 JTS., 2 3	6,197.52	0.00
INV950211	ROYALTY SUPPLY	VALVES & FITTINGS		1,956.79	0.00
7-095	UNITED WELLHEAD SERVICES,	WELLHEAD		1,367.10	0.00
TOTAL LEASE EQUIPMENT - NEW				28,748.99	0.00

STEVENS & TULL, INC.

JOINT OWNER INVOICE

INVOICE NO. 5100616003

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INVOICE DATE 01/31/95

ALTY 006160-03 BE STATE #3 - AFE

STATE: NM COUNTY: EDDY

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REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
LEASE EQUIPMENT - USED					
002466	GREGG FULFER	MOTOR	15 H.P., ELECTRIC 0.00000000	442.05	0.00
		TOTAL LEASE EQUIPMENT - USED		442.05	0.00
		TOTAL BILLABLE AMOUNT		155,221.30	0.00



STEVENS &amp; TULL, INC.

## JOINT OWNER INVOICE

INVOICE NO. 5200616003

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INVOICE DATE 02/28/95

PROPERTY 006160-03 BF STATE #3 - AFE

STATE: NM COUNTY: EDDY

PAGE 1

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
INTANGIBLE COSTS					
22005	SONNY'S OIL FIELD SERVICE	EQUIP RENTAL/TRUCKING	0.00000000	359.42	0.00
22027	SONNY'S OIL FIELD SERVICE	EQUIP RENTAL/TRUCKING	0.00000000	315.75	0.00
201736	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	106.00	0.00
201041	B-M SERVICE COMPANY, INC.	LABOR - ROUSTABOUT	0.00000000	656.68	0.00
93691	REYNOLDS BROS. REPRODUCTI	MISCELLANEOUS	0.00000000	39.15	0.00
35063CX	MICHAEL G. MOONEY	TRAVEL EXPENSE & MILEAGE	0.00000000	1.58	0.00
21998	SONNY'S OIL FIELD SERVICE	WATER - STIM	0.00000000	325.22	0.00
1795R	STEVENS & TULL, INC.	FACILITIES & SYSTEMS EXPE	0.00000000	1,038.03	0.00
TOTAL INTANGIBLE COSTS				2,839.83	0.00
LEASE EQUIPMENT - NEW					
H3197-IN	MILFORD PIPE & SUPPLY, IN	LINE PIPE 3000', 3"	0.00000000	3,193.32	0.00
296726-01	UNION SUPPLY CO.	VALVES & FITTINGS	0.00000000	7,866.02	0.00
296840-01	UNION SUPPLY CO.	VALVES & FITTINGS	0.00000000	207.69	0.00
296947-01	UNION SUPPLY CO.	VALVES & FITTINGS	0.00000000	559.66	0.00
TOTAL LEASE EQUIPMENT - NEW				11,826.69	0.00
TOTAL BILLABLE AMOUNT				14,666.52	0.00

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INVOICE DATE 12/31/94

PROPERTY 006160-03 BF STATE #3 - AFE

STATE: NY COUNTY: EDDY

PAGE 1

REFERENCE	VENDOR	DESCRIPTION	INTEREST TYPE	GROSS	YOUR SHARE
INTANGIBLE COSTS					
12/94D	STEVENS & TULL, INC.	DRILLING OVERHEAD	0.00000000	96.63	0.00
462766	THE WESTERN COMPANY OF NO	CEMENTING	0.00000000	4,641.84	0.00
463289	THE WESTERN COMPANY OF NO	CEMENTING	0.00000000	7,320.08	0.00
463292	THE WESTERN COMPANY OF NO	CEMENTING	0.00000000	6,128.75	0.00
80020924	STAR TOOL CO.	EQUIP RENTAL/TRUCKING	0.00000000	2,054.68	0.00
80020905	STAR TOOL CO.	NON-CONTR FITTINGS	0.00000000	507.00	0.00
1294-36	STEVENS & TULL, INC.	LABOR - ENGINEER	0.00000000	1,305.93	0.00
012759	SUPERIOR WELDING SERVICE	LABOR - ROUSTABOUT	0.00000000	144.42	0.00
012227	SUPERIOR WELDING SERVICE	LABOR - ROUSTABOUT	0.00000000	397.14	0.00
347280X	KENNETH SMITH	LOCATION - DAMAGES	0.00000000	1,484.85	0.00
1734	McNEESE LOGGING SERVICE I	LOGGING - MUD	0.00000000	2,231.25	0.00
1008	R & B CASING INSPECTION	MISCELLANEOUS INSPECT 9 5/8"	0.00000000	265.00	0.00
1009	R & B CASING INSPECTION	MISCELLANEOUS INSPECT 7"	0.00000000	437.25	0.00
95B11	STEVENS & TULL, INC.	MISCELLANEOUS	0.00000000	1,055.99	0.00
95B11	STEVENS & TULL, INC.	MISCELLANEOUS	0.00000000	-1,055.99	0.00
12/94I	STEVENS & TULL, INC.	INSURANCE	0.00000000	19.67	0.00
TOTAL INTANGIBLE COSTS				27,536.49	0.00
LEASE EQUIPMENT - NEW					
39	S & S EQUIPMENT & SUPPLY	CASING FLINT COAT 4 1/2"	0.00000000	597.61	0.00
3	POSEY PIPE & EQUIPMENT, I	CASING 906.8', 21 JTS., 9 5	0.00000000	10,497.34	0.00
8848	POSEY PIPE & EQUIPMENT, I	CASING 2934', 68 JTS., 7"	0.00000000	17,359.75	0.00
TOTAL LEASE EQUIPMENT - NEW				28,454.70	0.00
TOTAL BILLABLE AMOUNT				55,991.19	0.00

PREPARED BY	Michael G. Mooney
INTEREST OWNER	Stevens & Tull, Inc
WELL &/OR LEASE NAME	Generic
FIELD &/OR RESERVOIR	West Teas
COUNTY OR PARISH	Lea *EFF DATE (mmm-yy) Aug-95
(2 CAP LETTERS) STATE	NM EVALUATION DATE 21-Jul-95
OPERATOR' NAME	Stevens & Tull, Inc
PROJ COMB NAME -(COMB#)	50.00 * Required IF to be SAVED and COMBINED
PROJ SAVE FILE NAME	Fed * Unique name required to SAVE.
	EXPONENTIAL DECLINE

-----					
NO OF WELLS (1 or more)*	1	RESERVE CATEGORY: Proved Producing			
OIL WELL PROD - bbl/DAY	20	REMARKS BELOW:			
G O R -- Mcf/bbl	4.00				
GAS WELL PROD - Mcf/DAY		NO SALT STRING			
CONDENSATE - bbl/MMcf					
EXPONENT -N- DECIMAL	0.00				
Eff. DECLINE RATE - - %	10.00				
YEARS OF CONSTANT PROD	0				
SET ECO LIMIT 1=YES 0=NO	1				
ECO RATE bbl OR Mcf/DAY	3				
MAX YEARS TO CALC (4-30)	30	INVEST	INVEST	INVEST	INVEST
INPUT OF ECONOMIC DATA		2nd YR	3rd YR	4th YR	5th YR
IDC & OTHER EXP - \$	105393				
TANG & LSE EQUIP - \$	56866				
LSEHOLD COST - \$	0	INITAL W.I. OWNED - % 100.0000			
DIR OPR EXP/WELL - \$/YR	24000	INITAL REVENUE INTEREST - % 75.0000			
DIR OPR EXP ESC --- %	3.00	FINAL W.I. OWNED - % 100.0000			
YEAR NO. TO START ESC	1	FINAL REVENUE INTEREST - % 75.0000			
INDIR OPR EXP- % NET REV	0.00	ACTIVATOR FOR REVERSION			
SEV TAX - % NET OIL REV	5.94	0 FOR NO REVERSION *****			
SEV TAX - % NET GAS REV	5.79	1 FOR GROSS INCOME \$			
SEV TAX GAS - \$/Mcf	0.00	2 FOR NET INCOME *****			
ADV TAX - % OF NET REV	0.00	OIL PRICE - \$/BBL 15.00			
LOAN PRINCIPAL - \$	0	OIL PRICE ESC - % 3.00			
ANNUAL INTEREST RATE %	0.00	OIL ESC START YEAR NO. 1			
TERM 0=FIX 1=DEDICATED	0	MAX OIL PRICE - \$/BBL 20.00			
TOTAL NO. MONTHS (FIX)	0	GAS PRICE - \$/MCF 1.65			
DEDICATION OF TOT REV %	0.00	GAS PRICE ESC - % 3.00			
CUMULATIVE PROD - bbl	0	GAS ESC START YEAR NO. 1			
CUMULATIVE PROD - Mcf	0	MAX GAS PRICE - \$/MCF 2.50			
ASSIGNED ACRES / WELL	40	SELECT DISCOUNT RATE -% 10.00			
AVERAGE THICKNESS - FT.	150	MID-YEAR =1 YEAR-END=0 1			
NET PROFIT INTEREST - %	0.00	BOE FACTOR 10.00			
TRANSPORTATION - \$/bbl	\$0.00	FED INCOME TAX RATE - % 20.00			
TRANSPORTATION - \$/Mcf	\$0.00	STATE INCOME TAX RATE - % 7.00			
PCT DEPLETION RATE - %	0.00	RECOVERY PERIOD (5, 7, 10) 5			
DEPL LIMITATION OF NET-%	0.00	DEPR METHOD (1.0, 1.5, 2.0) 150%			
SEC 29 TAX CREDIT- \$/Mcf	0.00	MID-PERIOD CONVENTION CODE 0			
SALVAGE - %	0.00	LOSS CARRY FWD (1=ON 2=OFF) 0			
PROD. RISK FACTOR ---- %	100.00	IDC RISK FACTOR ----- % 100.00			
LSEHOLD RISK FACTOR -- %	100.00	TANG & EQUIP RISK FACTOR - % 100.00			

PREPARED BY	Michael G. Mooney
INTEREST OWNER	Stevens & Tull, Inc
WELL &/OR LEASE NAME	Generic
FIELD &/OR RESERVOIR	West Teas
COUNTY OR PARISH	Lea
(2 CAP LETTERS) STATE	NM
OPERATOR' NAME	Stevens &
PROJ COMB NAME -(COMB#)	50.00
PROJ SAVE FILE NAME	Fed

# SUMMARY OF EXPONENTIAL DECLINE

EVALUATION DATE	21-Jul-95
INVESTMENT	\$162,259
NO. MONTHS PROD IN 1st YEAR	5
ECO LIFE - YEARS	13.42
PAYOUT YRS	2.08
NET INCOME/INVEST	3.31
INTERNAL RATE RETURN--Mid-Year	39.1%
NPV @ SELECT RATE-\$ 10.00%	\$187,915
8/8 OIL RES - bbl	52,431
8/8 GAS RES - Mcf	209,724
NET OIL RES - bbl	39,323
NET GAS RES - Mcf	157,293
NET COST/BOE - \$/BOE	2.95
NET RETURN/BOE - \$/BOE	6.81
NET INCOME/BOE - \$/BOE	9.75
WT. AVG PRICE OIL - \$/bbl	17.46
WT. AVG PRICE GAS - \$/Mcf	1.94
OIL ECO RATE - bbl/DAY	5.1
GAS ECO RATE - Mcf/DAY	20.5
ULT OIL RECOV/ACRE - bbl	1,311
ULT GAS RECOV/ACRE - Mcf	5,243
ULT OIL RECOV/ACRE-FT -bbl	9
ULT GAS RECOV/ACRE-FT -Mcf	35
\$ PER NET INIT PROD RATE	\$10,817

-- RESERVE & ECONOMIC REPORT --

PREPARED BY -----	Michael G. Mooney	COMB NAME	50.00	CATEGORY -	Proved Producing
INTEREST OWNER -----	Stevens & Tull, Inc	FILE NAME	Fed	COUNTY ---	Lea
WELL &/OR LEASE -----	Generic	EVAL. DATE	21-Jul-95	STATE ----	NM
FIELD OR RESERVOIR -	West Teas	EFFECTIVE DATE	Aug-95	OPERATOR -	Stevens & Tull, Inc

--- GROSS PROD. ---						--- NET PROD ---		NET OPERATING REVENUE			NET OPERATING EXPENSES		
YEAR	OIL-BBLS	GAS-MCF	OIL-BBLS	GAS-MCF	PRICE OIL-\$	PRICE GAS-\$	OIL REVENUE-\$	GAS REVENUE-\$	TOTAL REVENUE-\$	DIR & INDIR OPR EXP-\$	SEV & ADV & TRANSP-EXPENSES-\$	TOTAL	

EXPONENTIAL DECLINE

1995	2976	11903	2232	8928	\$15.00	\$1.65	\$33,479	\$14,731	\$48,209	\$10,000	\$2,842	\$12,842
1996	6631	26524	4973	19893	15.45	1.70	76,837	33,808	110,645	24,720	6,522	31,242
1997	5968	23872	4476	17904	15.91	1.75	71,228	31,340	102,568	25,462	6,046	31,507
1998	5371	21484	4028	16113	16.39	1.80	66,028	29,052	95,080	26,225	5,604	31,830
1999	4834	19336	3626	14502	16.88	1.86	61,208	26,932	88,140	27,012	5,195	32,207
2000	4351	17402	3263	13052	17.39	1.91	56,740	24,966	81,705	27,823	4,816	32,638
2001	3916	15662	2937	11747	17.91	1.97	52,598	23,143	75,741	28,657	4,464	33,122
2002	3524	14096	2643	10572	18.45	2.03	48,758	21,454	70,212	29,517	4,138	33,655
2003	3172	12686	2379	9515	19.00	2.09	45,199	19,888	65,087	30,402	3,836	34,239
2004	2854	11418	2141	8563	19.57	2.15	41,900	18,436	60,335	31,315	3,556	34,871
2005	2569	10276	1927	7707	20.00	2.22	38,535	17,090	55,625	32,254	3,278	35,532
2006	2312	9248	1734	6936	20.00	2.28	34,682	15,842	50,524	33,222	2,977	36,199
S-TOT	48477	193909	36358	145432	WT.	WT.	627,190	276,681	903,871	326,609	53,275	379,884
REM.	3954	15815	2965	11861	AVG.	AVG.	59,306	28,300	87,605	69,463	5,161	74,624
TOTAL	52431	209724	39323	157293	\$17.46	\$1.94	686,496	304,981	991,477	396,072	58,436	454,508

YEAR	OPERATING CASH FLOW-\$	CAPITAL INVEST-\$	ANNUAL PRIN.		CASH FLOW BTAX-\$	CUM. CASH FLOW BTAX-\$	OPR CASH FLOW AFTER DEBT REDUCTION	DISC RATE-%	---PRESENT WORTH PROFILE---		
			INT. 1000-\$	PAYMENT 1000-\$					NPV BTAX-\$	DISC RATE-%	NPV BTAX-\$

Based On Mid-Year Discounting

	\$35,368	\$162,259	0.0	0.0	(\$126,891)	(\$126,891)	\$35,368	2	325,602	40	(\$2,710)
1996	79,403	0	0.0	0.0	79,403	(47,488)	79,403	5	264,652	45	(16,412)
1997	71,061	0	0.0	0.0	71,061	23,573	71,061	8	215,529	50	(27,955)
1998	63,251	0	0.0	0.0	63,251	86,823	63,251	10	187,915	55	(37,798)
1999	55,932	0	0.0	0.0	55,932	142,756	55,932	12	163,642	60	(46,279)
2000	49,067	0	0.0	0.0	49,067	191,823	49,067	15	132,389	65	(53,656)
2001	42,619	0	0.0	0.0	42,619	234,442	42,619	18	106,138	70	(60,126)
2002	36,557	0	0.0	0.0	36,557	270,999	36,557	20	90,898	75	(65,844)
2003	30,848	0	0.0	0.0	30,848	301,847	30,848	25	59,021	80	(70,931)
2004	25,464	0	0.0	0.0	25,464	327,311	25,464	30	33,935	85	(75,483)
2005	20,093	0	0.0	0.0	20,093	347,404	20,093	35	13,779	90	(79,581)
2006	14,325	0	0.0	0.0	14,325	361,729	14,325				

BEFORE TAX SUMMARY

S-TOT	523,988	162,259	0.0	0.0	361,729	361,729	523,988	MONTHS IN 1st YEAR	-----	5
REM.	12,981	0	0.0	0.0	12,981	12,981	12,981	ECO LIFE	-----	YEARS 13.42
TOTAL	536,969	162,259	0.0	0.0	374,710	374,710	536,969	NPV @ SELECT RATE-	10.0%	\$187,915

NET COST/BOE	-----	\$/BOE	\$2.95	ULT OIL RECOV/ACRE	-----	BBL	1,311	NET INCOME/INVEST	-----	3.31
NET RETURN/BOE	---	\$/BOE	\$6.81	ULT GAS RECOV/ACRE	-----	MCF	5,243	INT RATE RETURN - Mid-Yr		39.1%
NET INCOME/BOE	---	\$/BOE	\$9.75	ULT OIL RECOV/ACRE-FT	---	BBL	9	PAYOUT	-----	YRS 2.08
OIL ECO RATE	--	BBL/DAY	5.1	ULT GAS RECOV/ACRE-FT	---	MCF	35	\$ PER NET INIT PROD RATE		\$10,817
GAS ECO RATE	--	MCF/DAY	20.5	INITIAL W.I.	-----	%	100.00000	8/8 OIL RES	-----	BBL 52,431
INIT PROD RAT	--	BBL/DAY	20	FINAL W.I.	-----	%	100.00000	8/8 GAS RES	-----	MCF 209,724
DECLINE RATE	-----	%	10.0	INITIAL REVENUE INT.	-----	%	75.00000	NET OIL RES	-----	BBL 39,323
EXPONENT - N	-----		0.0	FINAL REVENUE INT.	-----	%	75.00000	NET GAS RES	-----	MCF 157,293
PROD. RISK FACTOR	----	%	100.00	TANG & EQUIP RISK FACTOR	---	%	100.00	ULT OIL RECOV	-----	BBL 52,431
USEHOLD RISK FACTOR	--	%	100.00	IDC RISK FACTOR	-----	%	100.00	ULT GAS RECOV	-----	MCF 209,724

PREPARED BY	Michael G. Mooney
INTEREST OWNER	Stevens & Tull, Inc
WELL &/OR LEASE NAME	Generic
FIELD &/OR RESERVOIR	West Teas
COUNTY OR PARISH	Lea *EFF DATE (mmm-yy) Aug-95
(2 CAP LETTERS) STATE	NM EVALUATION DATE 21-Jul-95
OPERATOR' NAME	Stevens & Tull, Inc
PROJ COMB NAME -(COMB#)	50.00 * Required IF to be SAVED and COMBINED
PROJ SAVE FILE NAME	Fed * Unique name required to SAVE.
	EXPONENTIAL DECLINE

-----					
NO OF WELLS (1 or more)*	1	RESERVE CATEGORY: Proved Producing			
OIL WELL PROD - bbl/DAY	20	REMARKS BELOW:			
G O R -- Mcf/bbl	4.00				
GAS WELL PROD - Mcf/DAY		R-111-P REGULATIONS			
CONDENSATE - bbl/MMcf					
EXPONENT -N- DECIMAL	0.00				
Eff. DECLINE RATE - - %	10.00				
YEARS OF CONSTANT PROD	0				
SET ECO LIMIT 1=YES 0=NO	1				
ECO RATE bbl OR Mcf/DAY	3				
MAX YEARS TO CALC (4-30)	30	INVEST	INVEST	INVEST	INVEST
INPUT OF ECONOMIC DATA		2nd YR	3rd YR	4th YR	5th YR
IDC & OTHER EXP - \$	105393				
TANG & LSE EQUIP - \$	56866				
LSEHOLD COST - \$	0	INITAL W.I. OWNED - % 100.0000			
DIR OPR EXP/WELL - \$/YR	24000	INITAL REVENUE INTEREST - % 75.0000			
DIR OPR EXP ESC --- %	3.00	FINAL W.I. OWNED - % 100.0000			
YEAR NO. TO START ESC	1	FINAL REVENUE INTEREST - % 75.0000			
INDIR OPR EXP- % NET REV	0.00	ACTIVATOR FOR REVERSION			
SEV TAX - % NET OIL REV	5.94	0 FOR NO REVERSION *****			
SEV TAX - % NET GAS REV	5.79	1 FOR GROSS INCOME \$			
SEV TAX GAS - \$/Mcf	0.00	2 FOR NET INCOME *****			
ADV TAX - % OF NET REV	0.00	OIL PRICE - \$/BBL 15.00			
LOAN PRINCIPAL - \$	0	OIL PRICE ESC - % 3.00			
ANNUAL INTEREST RATE %	0.00	OIL ESC START YEAR NO. 1			
TERM 0=FIX 1=DEDICATED	0	MAX OIL PRICE - \$/BBL 20.00			
TOTAL NO. MONTHS (FIX)	0	GAS PRICE - \$/MCF 1.65			
DEDICATION OF TOT REV %	0.00	GAS PRICE ESC - % 3.00			
CUMULATIVE PROD - bbl	0	GAS ESC START YEAR NO. 1			
CUMULATIVE PROD - Mcf	0	MAX GAS PRICE - \$/MCF 2.50			
ASSIGNED ACRES / WELL	40	SELECT DISCOUNT RATE -% 10.00			
AVERAGE THICKNESS - FT.	150	MID-YEAR =1 YEAR-END=0 1			
NET PROFIT INTEREST - %	0.00	BOE FACTOR 10.00			
TRANSPORTATION - \$/bbl	\$0.00	FED INCOME TAX RATE - % 20.00			
TRANSPORTATION - \$/Mcf	\$0.00	STATE INCOME TAX RATE - % 7.00			
PCT DEPLETION RATE - %	0.00	RECOVERY PERIOD (5, 7, 10) 5			
DEPL LIMITATION OF NET-%	0.00	DEPR METHOD (1.0, 1.5, 2.0) 150%			
SEC 29 TAX CREDIT- \$/Mcf	0.00	MID-PERIOD CONVENTION CODE 0			
SALVAGE - %	0.00	LOSS CARRY FWD (1=ON 2=OFF) 0			
PROD. RISK FACTOR ---- %	100.00	IDC RISK FACTOR ----- % 100.00			
LSEHOLD RISK FACTOR -- %	100.00	TANG & EQUIP RISK FACTOR - % 100.00			

PREPARED BY	Michael G. Mooney
INTEREST OWNER	Stevens & Tull, Inc
WELL &/OR LEASE NAME	Generic
FIELD &/OR RESERVOIR	West Teas
COUNTY OR PARISH	Lea
(2 CAP LETTERS) STATE	NM
OPERATOR' NAME	Stevens &
PROJ COMB NAME -(COMB#)	50.00
PROJ SAVE FILE NAME	Fed

# SUMMARY OF EXPONENTIAL DECLINE

EVALUATION DATE	21-Jul-95
INVESTMENT	\$225,878
NO. MONTHS PROD IN 1st YEAR	5
ECO LIFE - YEARS	13.42
PAYOUT YRS	3.05
NET INCOME/INVEST	2.38
INTERNAL RATE RETURN--Mid-Year	24.2%
NPV @ SELECT RATE-\$ 10.00%	\$124,296
8/8 OIL RES - bbl	52,431
8/8 GAS RES - Mcf	209,724
NET OIL RES - bbl	39,323
NET GAS RES - Mcf	157,293
NET COST/BOE - \$/BOE	4.10
NET RETURN/BOE - \$/BOE	5.65
NET INCOME/BOE - \$/BOE	9.75
WT. AVG PRICE OIL - \$/bbl	17.46
WT. AVG PRICE GAS - \$/Mcf	1.94
OIL ECO RATE - bbl/DAY	5.1
GAS ECO RATE - Mcf/DAY	20.5
ULT OIL RECOV/ACRE - bbl	1,311
ULT GAS RECOV/ACRE - Mcf	5,243
ULT OIL RECOV/ACRE-FT -bbl	9
ULT GAS RECOV/ACRE-FT -Mcf	35
\$ PER NET INIT PROD RATE	\$15,059

-- RESERVE & ECONOMIC REPORT --

PREPARED BY -----	Michael G. Mooney	COMB NAME	50.00	CATEGORY -	Proved Producing
INTEREST OWNER -----	Stevens & Tull, Inc	FILE NAME	Fed	COUNTY ---	Lea
WELL &/OR LEASE ----	Generic	EVAL. DATE	21-Jul-95	STATE ----	NM
FIELD OR RESERVOIR -	West Teas	EFFECTIVE DATE	Aug-95	OPERATOR -	Stevens & Tull, Inc

NET OPERATING REVENUE -----						NET OPERATING EXPENSES -----					
--- GROSS PROD.---		--- NET PROD ---		PRICE	PRICE	OIL	GAS	TOTAL	DIR & INDIR SEV & ADV	TOTAL	
YEAR	OIL-BBLS	GAS-MCF	OIL-BBLS	GAS-MCF	OIL-\$	GAS-\$	REVENUE-\$	REVENUE-\$	REVENUE-\$	OPR EXP-\$ & TRANSP-	EXPENSES-\$

EXPONENTIAL DECLINE

1995	2976	11903	2232	8928	\$15.00	\$1.65	\$33,479	\$14,731	\$48,209	\$10,000	\$2,842	\$12,842
1996	6631	26524	4973	19893	15.45	1.70	76,837	33,808	110,645	24,720	6,522	31,242
1997	5968	23872	4476	17904	15.91	1.75	71,228	31,340	102,568	25,462	6,046	31,507
1998	5371	21484	4028	16113	16.39	1.80	66,028	29,052	95,080	26,225	5,604	31,830
1999	4834	19336	3626	14502	16.88	1.86	61,208	26,932	88,140	27,012	5,195	32,207
2000	4351	17402	3263	13052	17.39	1.91	56,740	24,966	81,705	27,823	4,816	32,638
2001	3916	15662	2937	11747	17.91	1.97	52,598	23,143	75,741	28,657	4,464	33,122
2002	3524	14096	2643	10572	18.45	2.03	48,758	21,454	70,212	29,517	4,138	33,655
2003	3172	12686	2379	9515	19.00	2.09	45,199	19,888	65,087	30,402	3,836	34,239
2004	2854	11418	2141	8563	19.57	2.15	41,900	18,436	60,335	31,315	3,556	34,871
2005	2569	10276	1927	7707	20.00	2.22	38,535	17,090	55,625	32,254	3,278	35,532
2006	2312	9248	1734	6936	20.00	2.28	34,682	15,842	50,524	33,222	2,977	36,199
S-TOT	48477	193909	36358	145432	WT.	WT.	627,190	276,681	903,871	326,609	53,275	379,884
REM.	3954	15815	2965	11861	AVG.	AVG.	59,306	28,300	87,605	69,463	5,161	74,624
TOTAL	52431	209724	39323	157293	\$17.46	\$1.94	686,496	304,981	991,477	396,072	58,436	454,508

OPERATING		CAPITAL	ANNUAL PRIN.		CUM.	OPR CASH FLOW	---PRESENT WORTH PROFILE---				
YEAR	CASH FLOW-\$	INVEST-\$	INT. 1000-\$	PAYMENT 1000-\$	CASH FLOW BTAX-\$	CASH FLOW BTAX-\$	AFTER DEBT REDUCTION	DISC RATE-%	NPV BTAX-\$	DISC RATE-%	NPV BTAX-\$

Based On Mid-Year Discounting

	\$35,368	\$225,878	0.0	0.0	(\$190,510)	(\$190,510)	\$35,368	2	261,983	40	(\$66,329)
1996	79,403	0	0.0	0.0	79,403	(111,107)	79,403	5	201,033	45	(80,031)
1997	71,061	0	0.0	0.0	71,061	(40,046)	71,061	8	151,910	50	(91,574)
1998	63,251	0	0.0	0.0	63,251	23,204	63,251	10	124,296	55	(101,417)
1999	55,932	0	0.0	0.0	55,932	79,137	55,932	12	100,023	60	(109,898)
2000	49,067		0.0	0.0	49,067	128,204	49,067	15	68,770	65	(117,275)
2001	42,619		0.0	0.0	42,619	170,823	42,619	18	42,519	70	(123,745)
2002	36,557		0.0	0.0	36,557	207,380	36,557	20	27,279	75	(129,463)
2003	30,848		0.0	0.0	30,848	238,228	30,848	25	(4,598)	80	(134,550)
2004	25,464		0.0	0.0	25,464	263,692	25,464	30	(29,684)	85	(139,102)
2005	20,093		0.0	0.0	20,093	283,785	20,093	35	(49,840)	90	(143,200)
2006	14,325		0.0	0.0	14,325	298,110	14,325				
S-TOT	523,988	225,878	0.0	0.0	298,110	298,110	523,988				
REM.	12,981	0	0.0	0.0	12,981	12,981	12,981				
TOTAL	536,969	225,878	0.0	0.0	311,091	311,091	536,969				

BEFORE TAX SUMMARY

NET COST/BOE -----	\$/BOE	\$4.10	ULT OIL RECOV/ACRE ----	BBL	1,311	INT RATE RETURN - Mid-Yr	24.2%
NET RETURN/BOE ---	\$/BOE	\$5.65	ULT GAS RECOV/ACRE ----	MCF	5,243	PAYOUT -----	YRS 3.05
NET INCOME/BOE ---	\$/BOE	\$9.75	ULT OIL RECOV/ACRE-FT--	BBL	9	\$ PER NET INIT PROD RATE	\$15,059
OIL ECO RATE --	BBL/DAY	5.1	ULT GAS RECOV/ACRE-FT--	MCF	35	8/8 OIL RES -----	BBL 52,431
GAS ECO RATE --	MCF/DAY	20.5	INITAL W.I. -----	%	100.00000	8/8 GAS RES -----	MCF 209,724
INIT PROD RAT--	BBL/DAY	20	FINAL W.I. -----	%	100.00000	NET OIL RES -----	BBL 39,323
DECLINE RATE -----	%	10.0	INITAL REVENUE INT. ----	%	75.00000	NET GAS RES -----	MCF 157,293
EXPONENT - N -----		0.0	FINAL REVENUE INT. ----	%	75.00000	ULT OIL RECOV -----	BBL 52,431
PROD. RISK FACTOR ----	%	100.00	TANG & EQUIP RISK FACTOR-	%	100.00	ULT GAS RECOV -----	MCF 209,724
LSEHOLD RISK FACTOR --	%	100.00	IDC RISK FACTOR -----	%	100.00		



**POTASH MINING VIABILITY REPORT**

TO

**STEVENS & TULL, INC.**

FOR

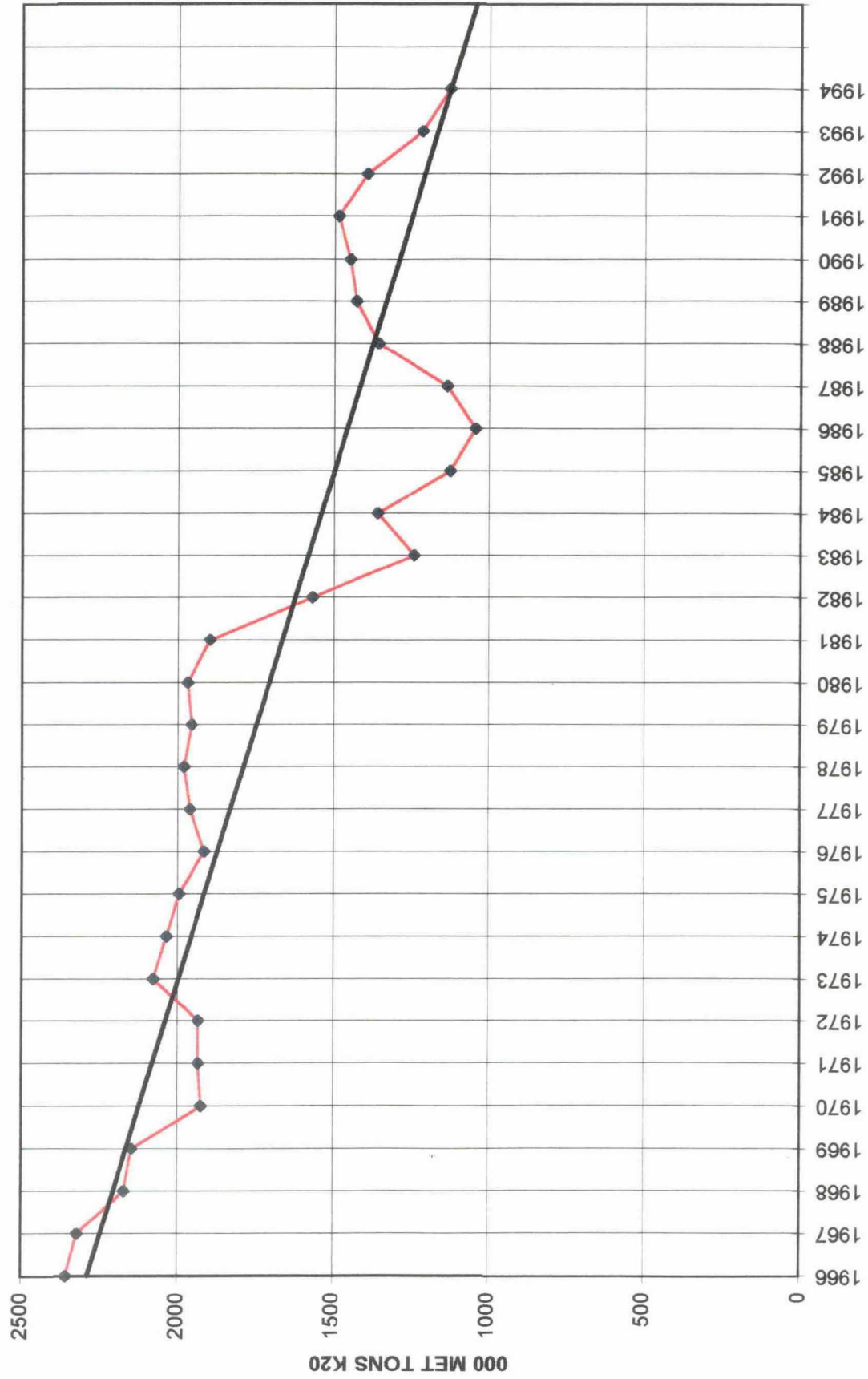
**NMOCD HEARING**

**7/27/95**

**GARY L. HUTCHINSON**

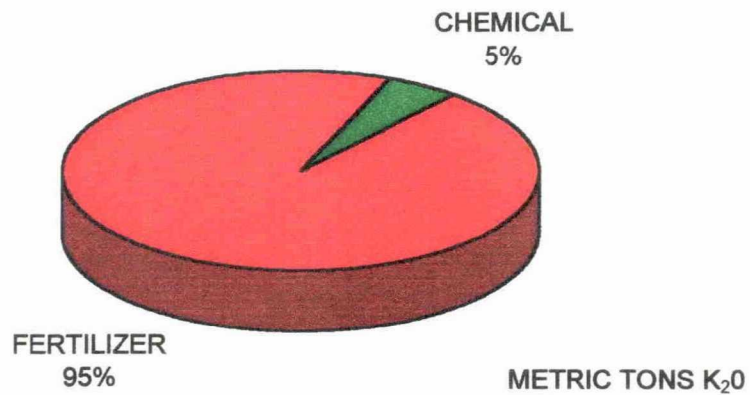
**GOLDEN, COLORADO**

# NEW MEXICO POTASH PRODUCTION

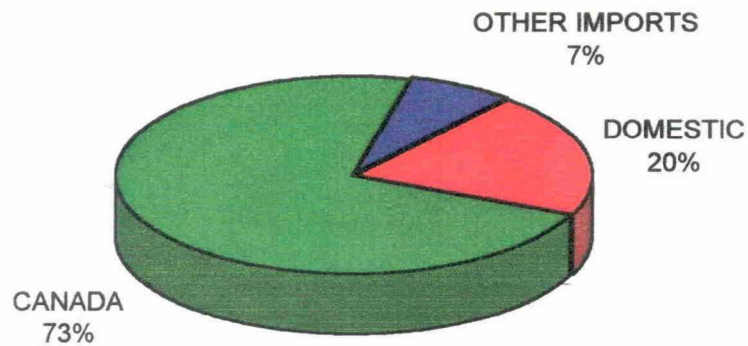


STEVENS TULL, INC.  
WEST TEAS PROJECT

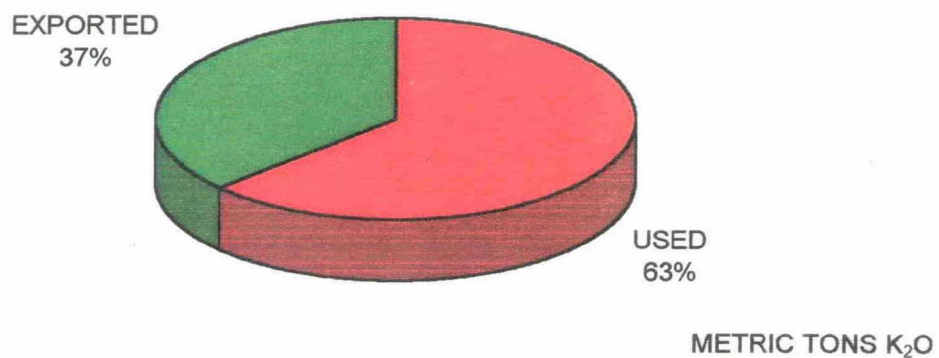
U.S. POTASH DEMAND USES



US DEMAND SOURCES

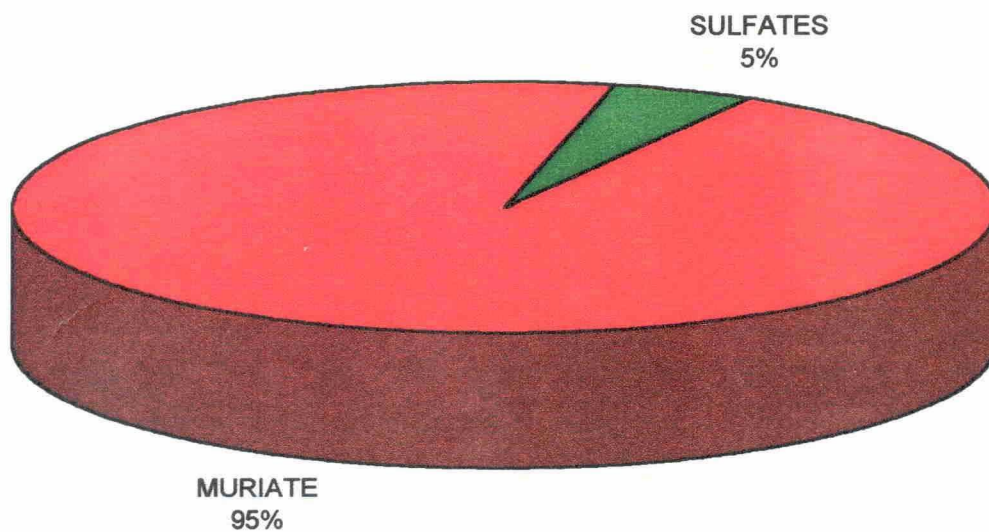


US POTASH PRODUCTION

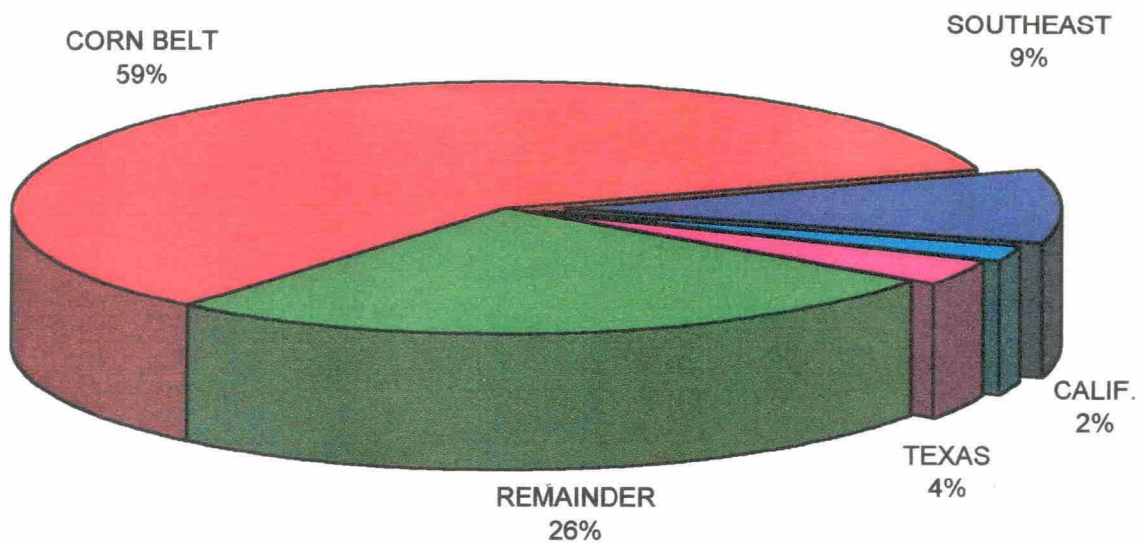


GARY L. HUTCHINSON  
7/95

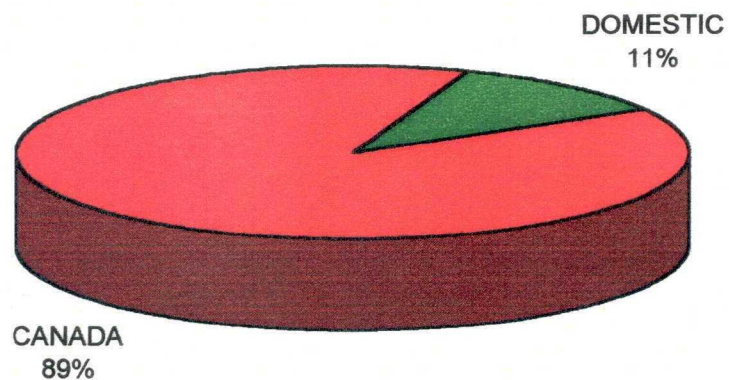
### US FERTILIZER DEMAND



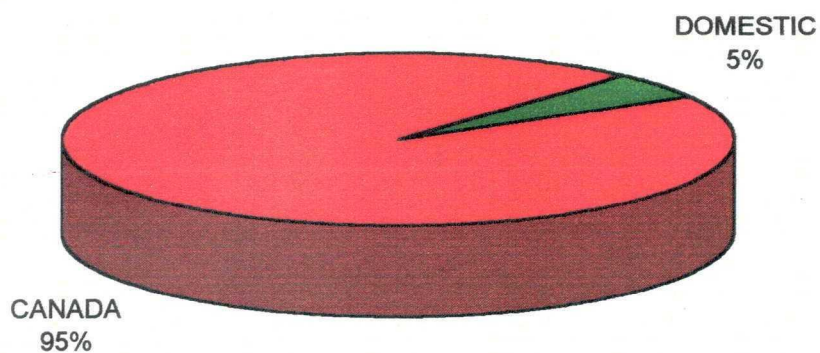
### GEOGRAPHICAL DEMAND



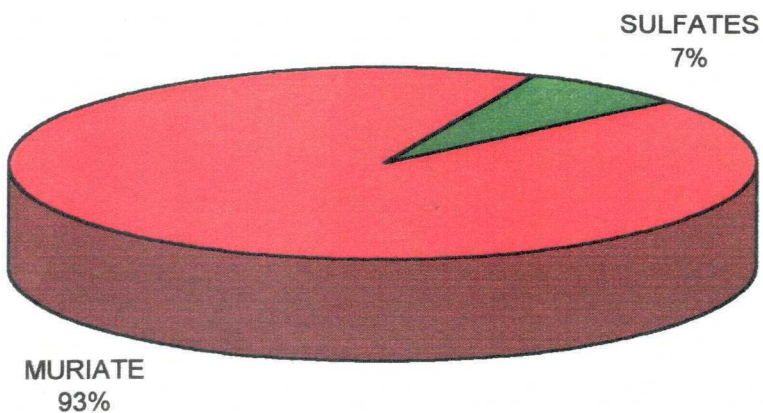
### CORN BELT SOURCES



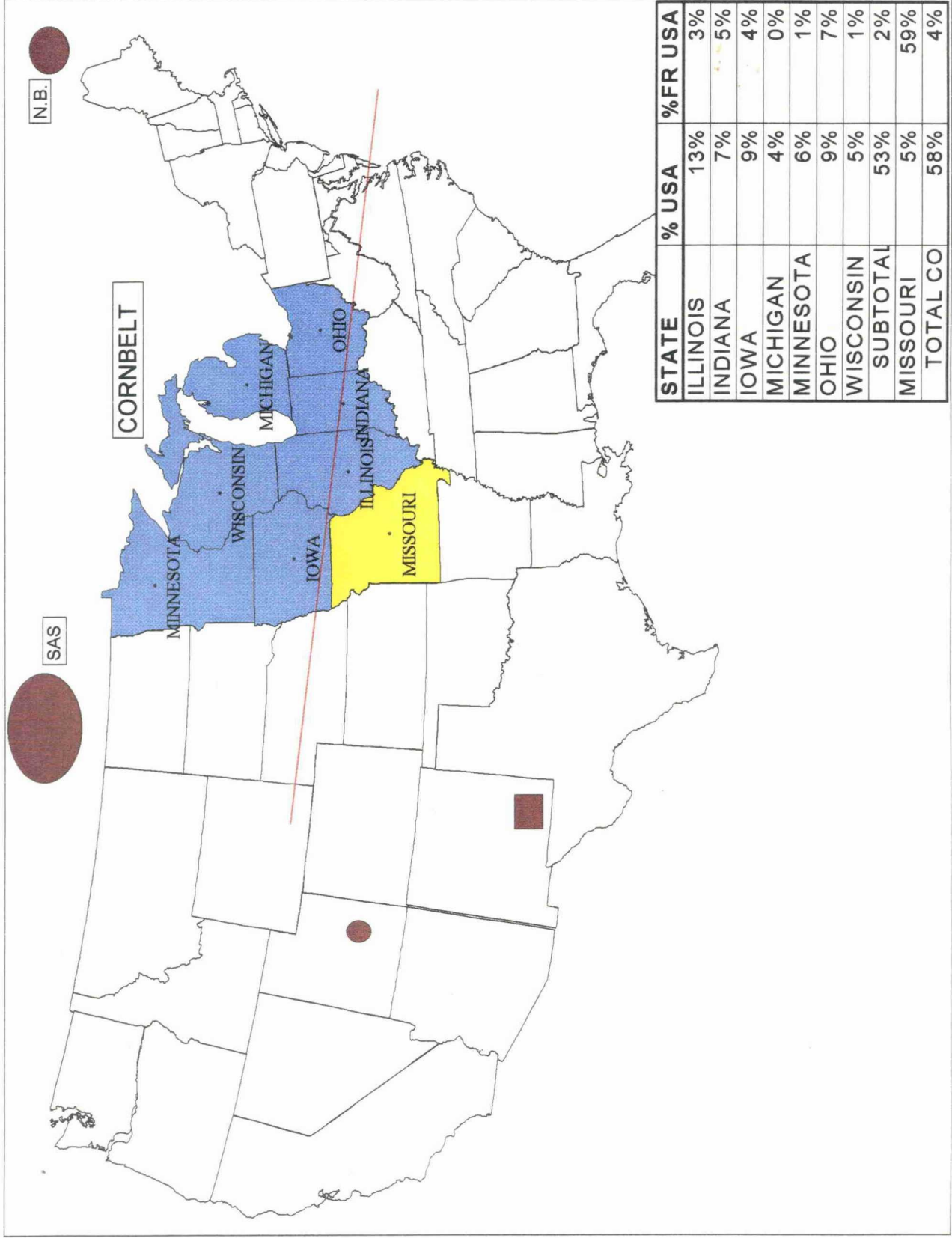
### CORNBELT DEMAND W/O MISSOURI



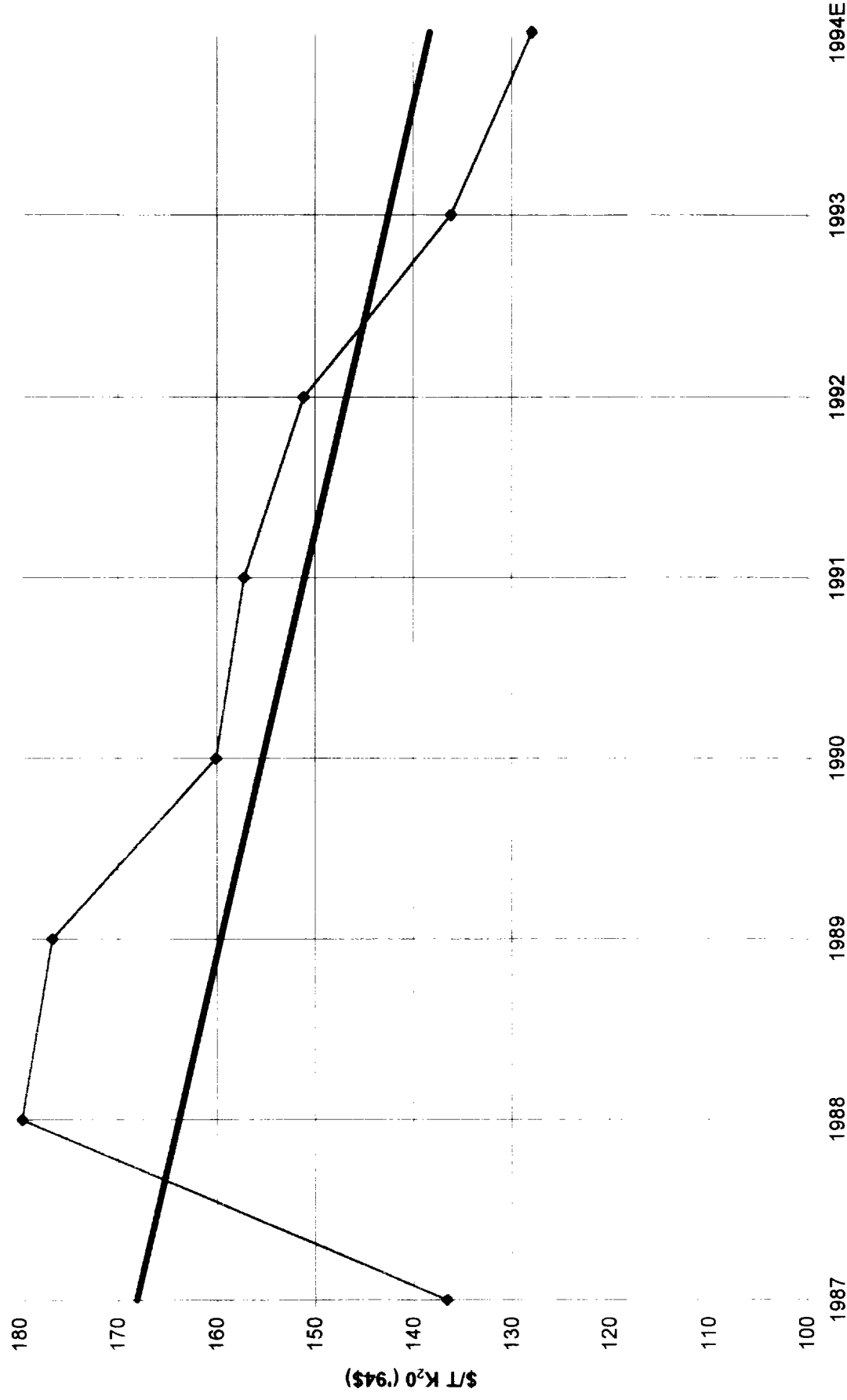
### NEW MEXICO PRODUCTION







MURIATE PRICES



**STEVENS & TULL, INC.**

**WEST TEAS PROJECT**

GARY L. HUTCHINSON  
7/95

**USA AND CANADIAN POTASH COMPARISON**

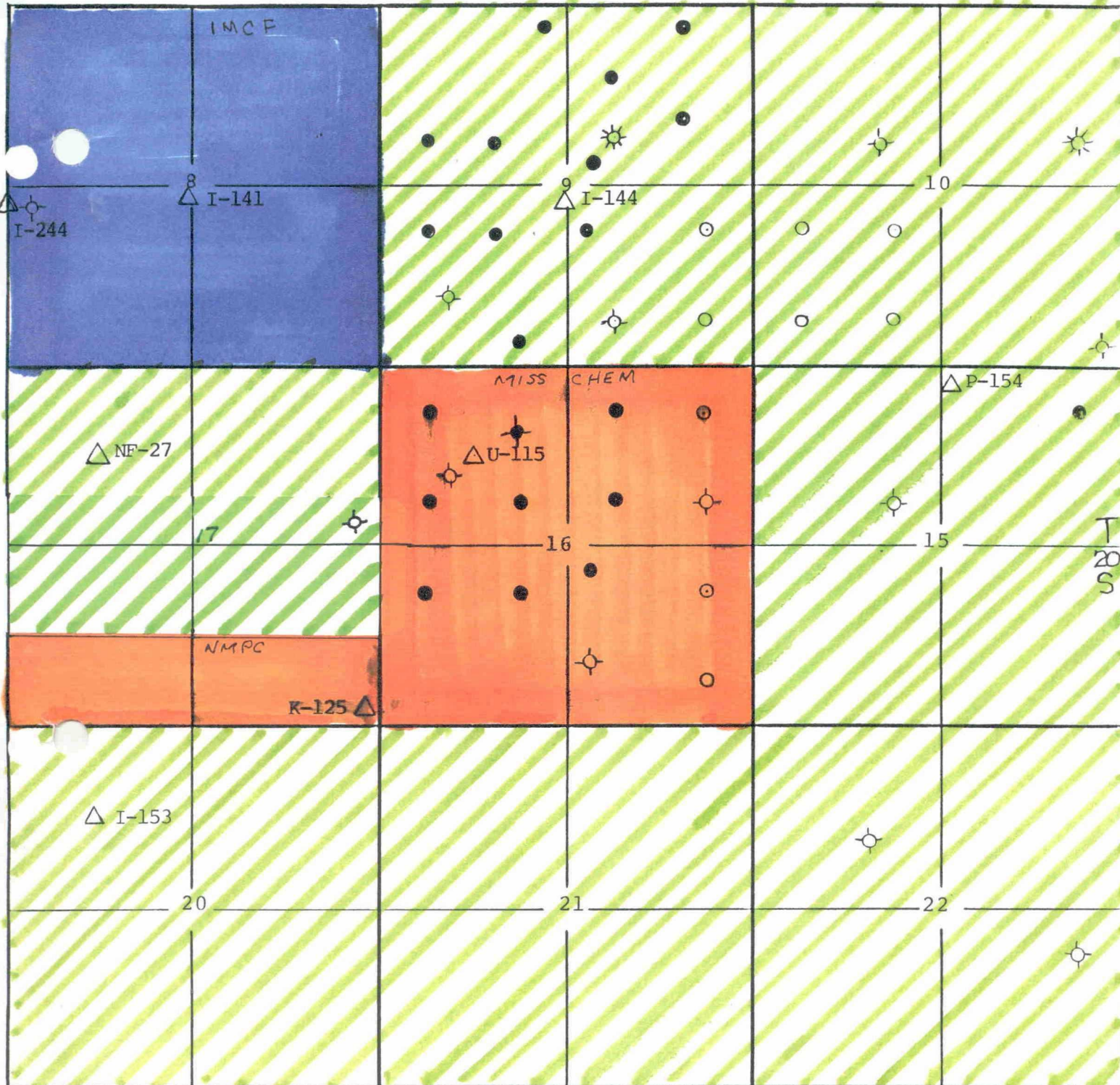
<b>1994 STATISTICS</b>	<b>USA</b>	<b>CANADA</b>
PERCENT OF WORLD PRODUCTION	6.5%	34%
PERCENT OF WORLD RESERVES	< 1%	47%
PERCENT OF WORLD RESOURCE	1.5%	57%

**NEW MEXICO AND CANADIAN MURIATE PRODUCTION COMPARISON**

	<b>NEW MEXICO</b>	<b>CANADA</b>
1993 MURIATE PRODUCTION (000TONS K <sub>2</sub> O)	1029	6850
PRICE FOB MINE	\$124	\$100
CASH COSTS PER TON MINED AND MILLED	± \$14	± \$11
GRADES MINED (%K <sub>2</sub> O)	<15%	>25%
PRODUCTION CAPACITY (MILLION METRIC TONS/YEAR)	1.2	12
ESTIMATED MILL LOSS	20%	12%
COMPARATIVE MINING RATIO	2.27	1.00

EXHIBIT \_\_\_\_\_





R33E

OF-7 Δ

# LEGEND

- LEASED USA LAND
- LEASED STATE LAND
- UNLEASED USA LAND

*Potash  
Core holes*

Contoured On:

Contour Interval:

POTASH LEASE STATUS

STEVENS & TULL, INC.

GARY L. HUTCHINSON

P.O. BOX 110

GOLDEN, COLORADO 80402

Minerals Management Consultant

County: LEA

Geol:

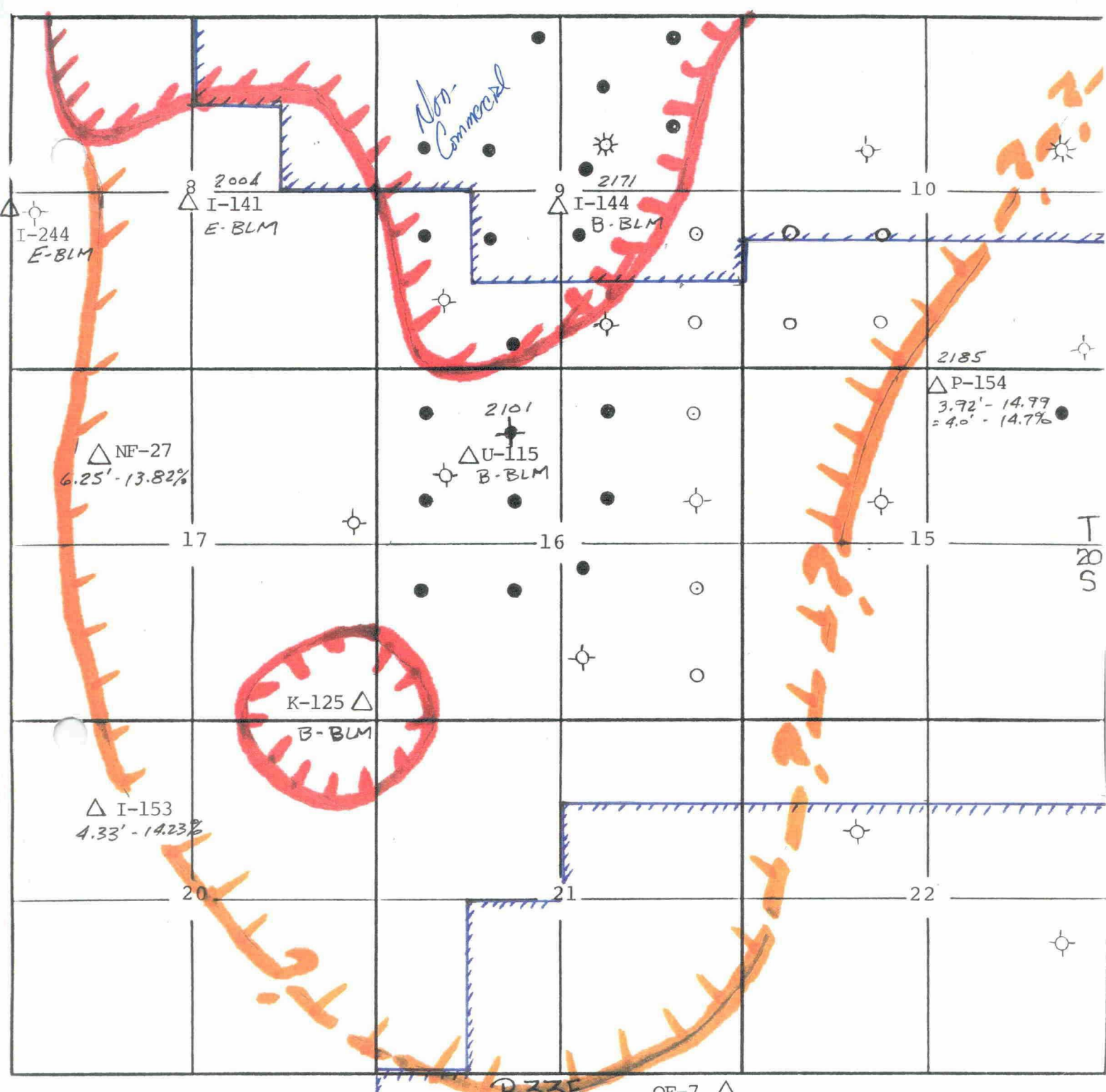
Scale:

State: NM

Date: 7/95

EXHIBIT





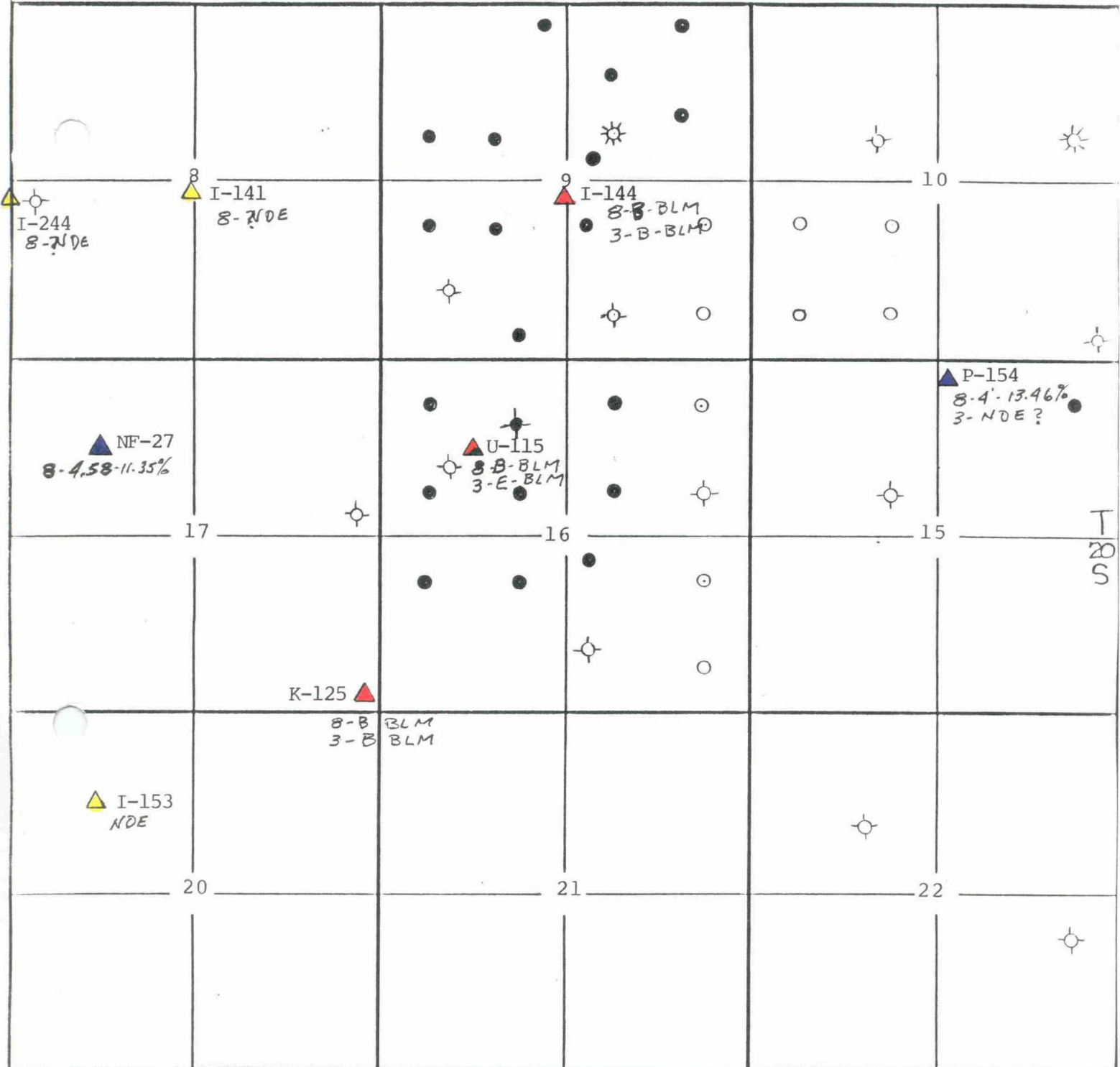
LEGEND

- BLM BARREN-1975 Economics
- R1110 BOUNDARY-1980
- Current Logical Boundary w/ Existing Mine Present
- Depth to Zone
- Core Hole #
- Thickness- Grade %K<sub>2</sub>O
- B= Barren per BLM
- E= Economic per BLM 1975 Standards

Contoured On: 5.5' - 17%  
 Contour Interval: 10<sup>th</sup> POTASH ZONE

STEVENS & TULL, INC	
GARY L. HUTCHINSON P.O. BOX 110 GOLDEN, COLORADO 80402 Minerals Management Consultant	
County: LEA	State: NM
Geol:	Date: 7/95
Scale:	

EXHIBIT \_\_\_\_\_



R33E

OF-7 (yellow triangle) NDE

LEGEND

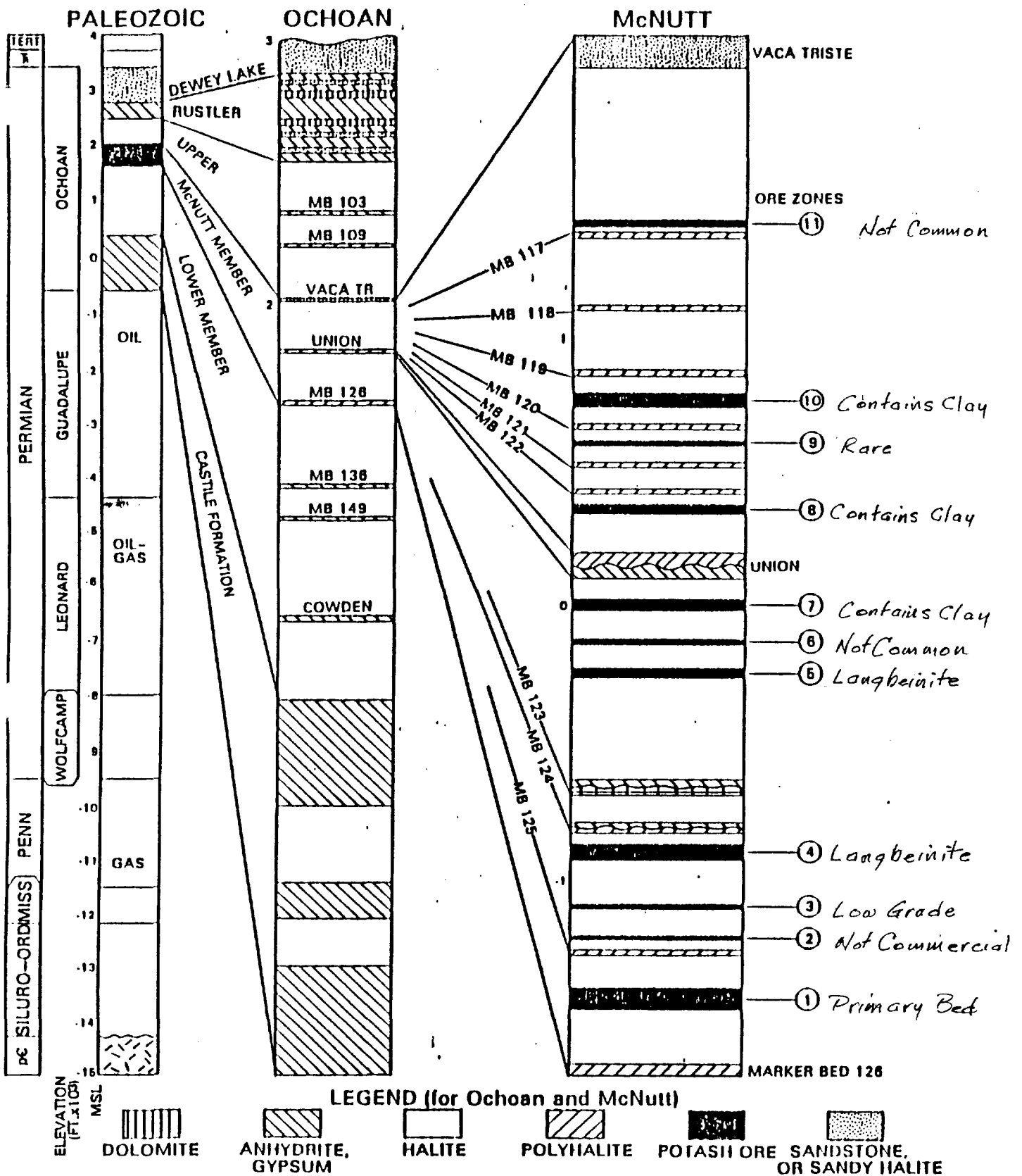
- ▲ BARREN = B
- ▲ ECONOMIC PER BLM 1975 STANDARDS = E
- ▲ NDE = Not Deep Enough = Unknown
- ▲ SUB ECONOMIC CURRENTLY

Note: No indications of continuous economic ore exist in this area

Contoured On: \_\_\_\_\_  
 Contour Interval: OTHER POTASH ZONES

STEVENS & TULL, INC	
GARY L. HUTCHINSON P.O. BOX 110 GOLDEN, COLORADO 80402 Minerals Management Consultant	
County: LEA	State: NM
Geol:	Date: 7/95
Scale:	

EXHIBIT \_\_\_\_\_



Stratigraphic column with expanded sections of the Ochoan Evaporite and McNutt Member of the Salado Formation (after Grisswold, 1982)

GARY L. HUTCHINSON  
P. O. Box 110  
Golden, CO 80402-0110

EXHIBIT \_\_\_\_\_