Form OGC--1a
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UTAH

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL ☒ DEEPEN ☐ PLUG BACK ☐

b. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ OTHER — SINGLE ZONE ☒ MULTIPLE ZONE ☐

2. NAME OF OPERATOR: PENNZOIL COMPANY

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 660' FSL & 825' FWL
At proposed prod. zone: SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: About 5.0 miles Southwest of Neola, Utah

RECEIVED JUL 14 1987
DIVISION OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.: Fee Land
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT AGREEMENT NAME:
8. FARM OR LEASE NAME: Boren
9. WELL NO.: 3-11A2
10. FIELD AND POOL, OR WILDCAT: Bluebell ~~Wasatch~~
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec.11, T1S, R2W.
12. COUNTY OR PARISH: Duchsene
13. STATE: UT

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 660' / 660
16. NO. OF ACRES IN LEASE: 640
17. NO. OF ACRES ASSIGNED TO THIS WELL: 640
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1652'
19. PROPOSED DEPTH: 16,500' Wasatch
20. ROTARY OR CABLE TOOLS: Rotary
21. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GL (UNGRADED)
22. APPROX. DATE WORK WILL START*: 8-5-87

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
~~26"~~	~~20"~~	~~133~~	~~2,000'~~	~~6000 ft3~~
~~14 3/4"~~	~~10 3/4"~~	~~45.5~~	~~4,500'~~	~~5000 ft3~~
9 7/8"	7 5/8"	29,7	12,000'	1900 ft3
6 3/4"	5 1/2"	20.0	11,800'/16,500'	300 ft3

1. Enclosed attachments: a. Certified Location Plat.
   b. Drilling Plan.
   c. BOP Schematic.
   d. Map showing roadway to wellsite.
   e. Schematic showing...rig layout on wellsite.
   ...wellsite cross-sections.

2. Water hauling permit # A59421-43-9466 is on file with the State of Utah.

3. An AFE has been prepared and a copy has been sent to joint interest holders for their approval.

4. This well replaces the Boren No. 2-11A2 (NESW, Sec. 11,T1S,R2W) as a Wasatch/Green River Oil Producer.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
Office (801) 353-4397 Home (801) 781-0620

SIGNED William L. Luna TITLE Drilling Superintendent DATE 7-13-87
William L. Luna

(This space for Federal or State office use)

PERMIT NO. 43-013-31192 APPROVAL DATE APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:

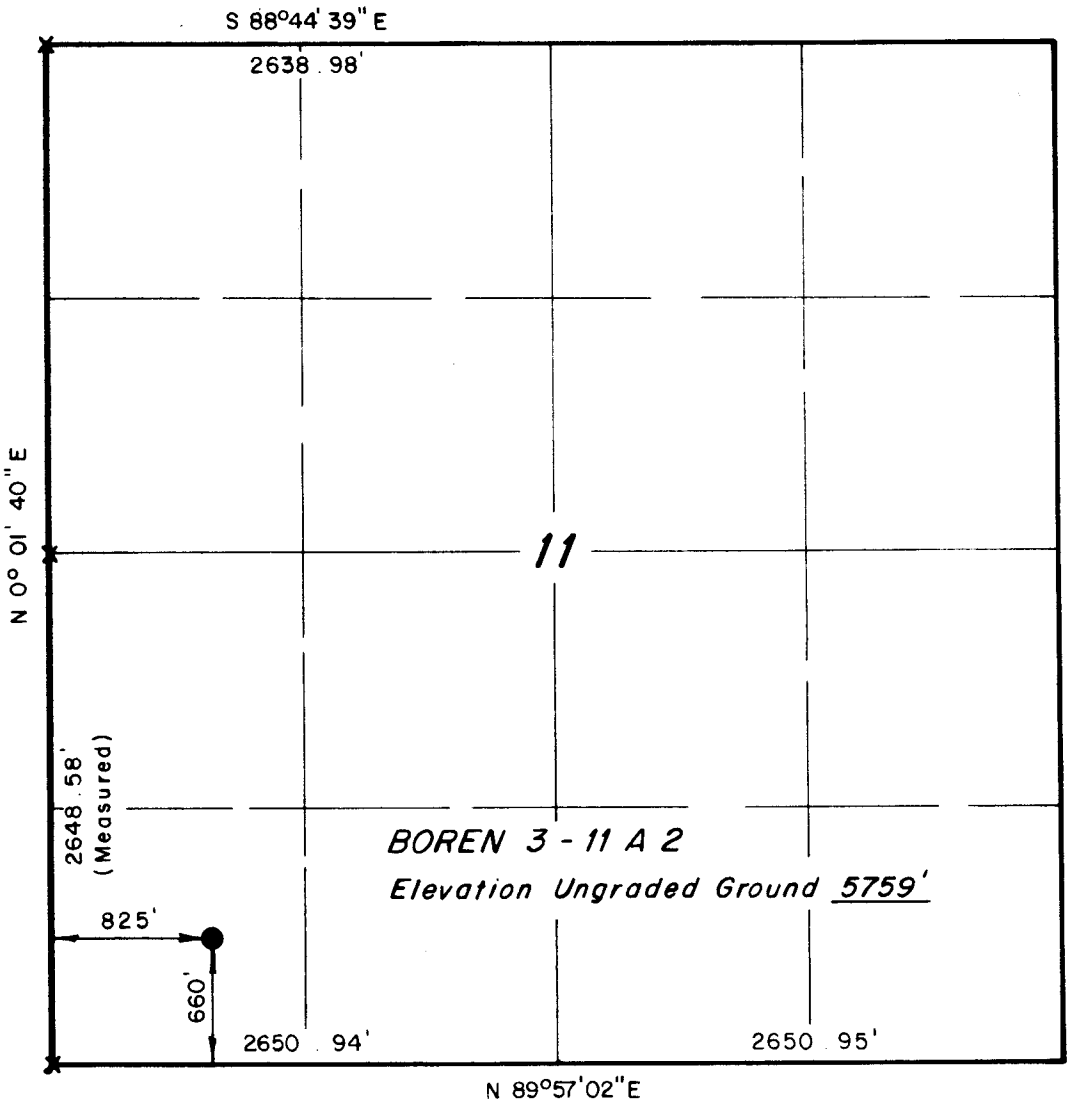
DATE: 7-31-87
BY: John R. Baza
WELL SPACING: 139-42

*See Instructions On Reverse Side

4/17/85

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

T1S, R2W, U.S.B.&M.



X = Section Corners Located

PROJECT

PENNZOIL COMPANY

Well location, *BOREN 3-11 A 2*, located as shown in the SW 1/4 SW 1/4 Section 11, T1S, R2W, U.S.B.&M. Duchesne County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION AT THE MONARCH INTERSECTION LOCATED AT THE NW CORNER OF SECTION 10, T1S, R2W, U.S.B.&M. TAKEN FROM THE NEOLA, UTAH QUADRANGLE, 7.5 MINUTE QUADRANGLE TOPOGRAPHY MAP PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY IN 1965. SAID ELEVATION IS MARKED AS BEING 5925'.

N

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION Nº 2454
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX Q ~ 85 SOUTH ~ 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 7/6/87
PARTY D.A. J.K. BFW	REFERENCES GLO - SUBDIVISION
WEATHER Fair	FILE PENNZOIL

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

RECEIVED
JUL 14 1987
DIVISION OF
OIL, GAS & MINING

July 13, 1987

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Re: APD for:
Boren No. 3-11A2
660' FSL & 825'FWL
SWSW Section 11, T1S, R2W
Duchesne County, Utah

Gentlemen:

Three (3) original copies of captioned APD with attachments are enclosed for your review and I trust your approval. Pennzoil Company requests that this APD and all related information submitted on this well be held confidential for that period of time as permitted by regulations and law.

Should there be any question, please contact the undersigned.

Sincerely,

Pennzoil Company

Wilburn L. Luna

Wilburn L. Luna
Drilling Superintendent

Enclosures

UT-9

DRILLING PLAN

OPERATOR:.....PENNZOIL COMPANY
WELL:.....Boren No. 3-11A2
WELL LOCATION:.660' FSL, 825' FWL
SWSW Section 11, T1S, R2W
Duchesne County, Utah

1. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL FORMATIONS:

Duchesne River	at surface (surface formation)
Green River	6,531'
MB	8,600'
H	9,784'
I	10,187'
K	10,484'
CP 90	11,939'
Red Wedge Top	11,052'
TAP Hi	12,184'
CP 210	13,514'
CP 232	14,544'
Total Depth	16,500'

2. ESTIMATED OIL & WATER DEPTHS:

Water:.....None anticipated
Top Green River production....oil @ 7,021'
Top Wasatch production.....oil @ 12,434'

3. PROPOSED CASING PROGRAM:

A. 30" shallow conductor to be set and cemented at a 80'. 20" deep conductor @ 2,000' & cemented to surface.

B. 10 3/4", 45.5#, K-55, ST&C to be set and cemented at a proposed depth of 4,500'.

Cement: Low density filler cement to surface. Tail-in with 250 sks Cl "G" or "H" tailored for depth and Temp.

C. 7 5/8", 29.7#, S-95/N-80, LT&C/BUTT to be set and cemented at a proposed depth of 12,000' in the transition zone.

Cement: Low density filler cement to surface. Tail in with Cl "G" or "H" tailored to depth and temperature.

D. 5 1/2", 20#, P-110, integral jt, liner to be set and cemented (proposed) from 11,800' to 16,500'.

Cement: Cl "G" or "H" tailored to depth & temperature.

4, OPERATOR`S PRESSURE CONTROL PLAN;

Figure No. 1 is a schematic of minimum BOP equipment.

The BOP equipment will be nippled up on the surface casing and pressure tested prior to drilling out:

A. All rams and choke manifold will be tested to 70% of burst of the surface casing string or 3500 psi (70% of 5,000 psi BOP stack).

B. Bag preventor will be tested to 70% of burst of surface casing or 2500 psi (50% of 5000 psi Bag Preventor) whichever is the lessor.

Record all BOP tests on tour reports.

Retest BOP stack every 28 days.

Before drilling out test casing strings to 0.2 psi per foot of depth or 1,000 psi whichever is the greatest.

Fill-up line above the Bag Type Preventor.

Kill line located below the BOP rams.

Operational Checks:

Pipe rams will be closed and opened once each 24 hours.

Blind rams will be closed and opened each time the drill string is pulled from the wellbore.

Auxiliary well control and monitoring equipment:

A. Upper and lower kelly cocks will be utilized.

B. A full-opening drill pipe stabbing valve with proper drill pipe fittings will be utillized when the kelly is not on the string.

C. PVT equipment will be used to monitor the mud system from the top of the transition zone to Total Depth.

5. PROPOSED DRILLING FLUID PROGRAM:

A. 20" conductor & surface hole: Drill this interval of the wellbore with clear fresh water. Drill solids will be flocculated to keep the water as clean as possible. Lime & bentonite will be used as needed.

Should a water flow be encountered, it will be killed and drilling will continue.

B. Intermediate hole: Start drilling this interval with fresh water from the surface hole. Use viscous sweeps to keep the wellbore clean and a flocculant to keep the water clean.

When wellbore conditions dictate (tight hole, bridging & etc.) mud up with a low solids, non-dispersed drilling fluid.

Final fluid properties: 10.5/12.5#, 35/45 Vis, 10/12 WL.

C. For the 6 3/4" wellbore a weighted, deflocculated mud system will be used. the viscosity and mud weight will be maintained at low but safe levels. The yield point will be high enough to support barite as needed for the required fluid weight.

Final fluid properties: 12.5/14.5#, 40/50 Vis, 10/15 WL and a YP of 10/20.

6. WELLBORE EVALUATION:

a. DRILL STEM TESTING:.....One or two from 7,100'/7,500'.

B. CORING:.....One or two from 7,100'/7,500'.

C. LOGGING: Surface Hole:.....None.

Intermediate Hole:.....DLL-GR
FDC-CNL
BHC-SONIC

Productive interval:....DIL-GR
FDC-CNL
BHC-SONIC

D. COMPLETION: The objective formation is the Wasatch. Selected zones will be perforated and evaluated for stimulation work.

7. PRESSURES & TEMPERATURES:

A. PRESSURE:

At the intermediate casing seat the mud weight will probably be 12.5# and the formation pressure 6000psi.

At Total Depth the mud weight will probably be 14.2# and the formation pressure 11,750Psi.

B. TEMPERATURE:

Temperatures are normal for this area and well depth, 230 degrees at 13,500'.

8. ANTICIPATED STARTING DATE:

Construction of road and location will probably start within ten (10) to twenty (20) days of permit approval.

9. This well will be drilled per regulations as set forth by the:

State of Utah Natural Resource
Oil,Gas & Mining Division

BOP SCHEMATIC

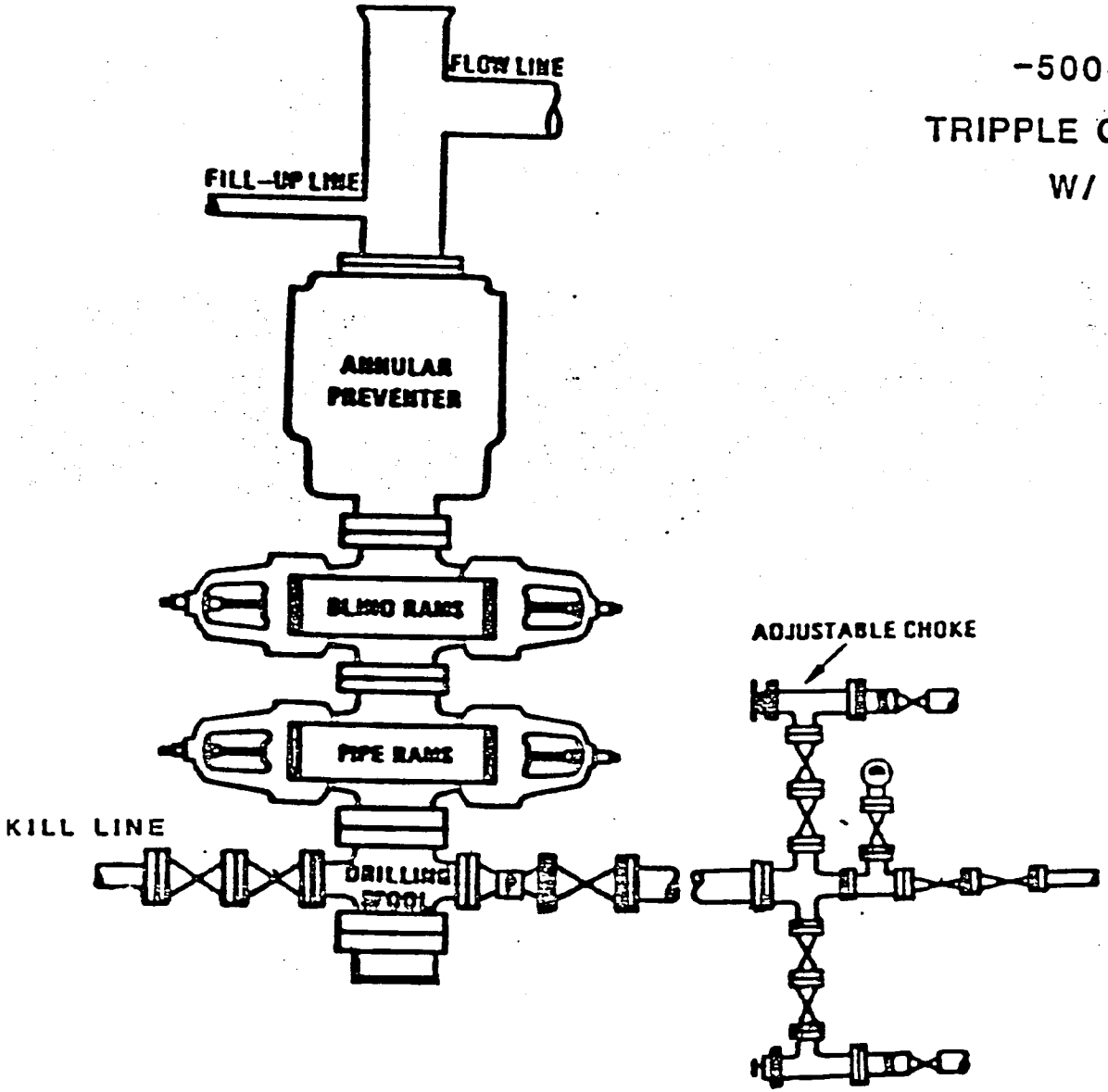
-5000 PSI - WORKING PRESSURE

TRIPPLE GATE - BAG TYPE - BOP STACK

W/ HYDAULIC CHOKE MANIFOLD

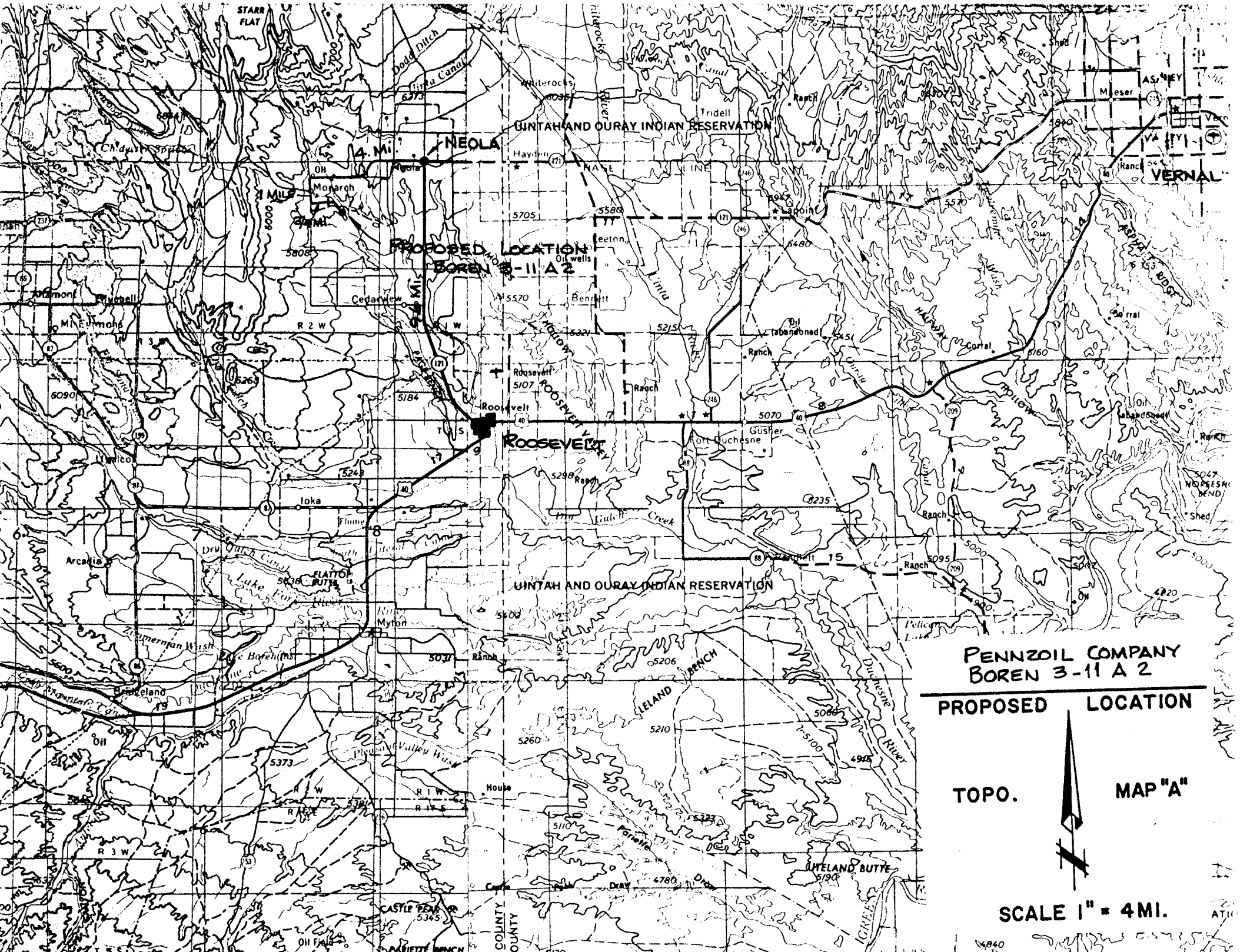
for:

BOREN No. 3-11A2



BOP STACK

CHOKE MANIFOLD


PENNZOIL COMPANY
BOREN 3-11 A 2
PROPOSED LOCATION
TOPO.
MAP "A"
SCALE 1" = 4MI.
PROPOSED LOCATION
BOREN 3-11 A2
NEOLA
ROOSEVELT
VERNAL
UINTAH AND OURAY INDIAN RESERVATION
UINTAH AND OURAY INDIAN RESERVATION
4 Mi.
1 MILE
1/4 MI.
2 Mi.
STARR FLAT
Dodd Ditch
Uinta Canal
Whiterocks
Tridell
Haydn
Monarch
Lapoint
Leeton
Bennett
Cedarview
Roosevelt
Fort Duchesne
Gusher
Ioka
Arcadia
FLATTOP BUTTE
Myton
Bridgeland
Pleasant Valley Wash
House
LELAND BENCH
LELAND BUTTE
CASTLE PEAK
Oil Field
Duchesne River
Uinta River
Whiterocks River
Lake Fork River
Dry Gulch Canal
Zimmerman Wash
Pariette Draw
Castle Draw
Pelican Lake
HORSESHOE BEND
ASHLEY
Maeser
Corral
Shed
Ranch
Oil
R 2 W
R 1 W
R 3 W
T 1 S
T 2 S
T 3 S
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T 6 S
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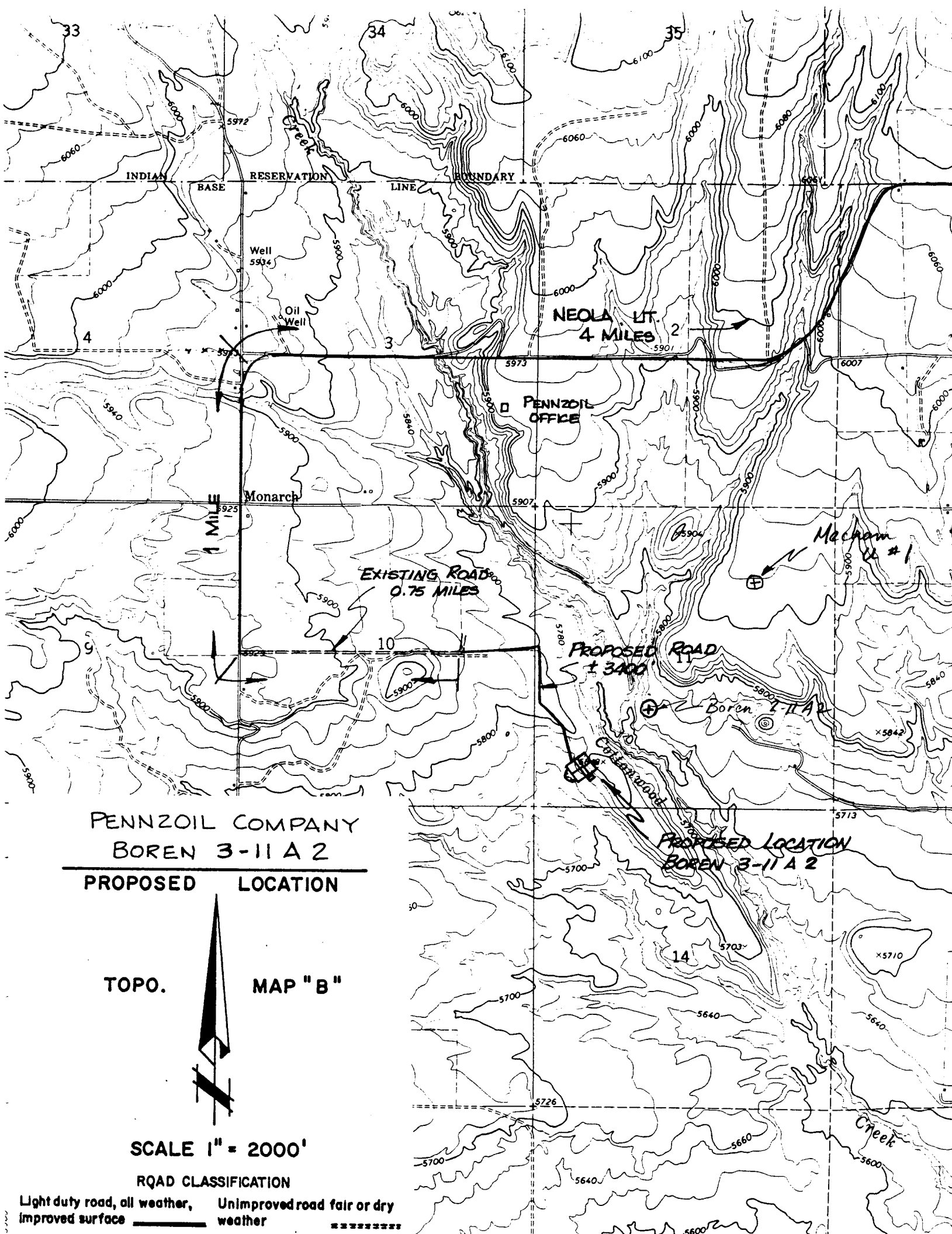
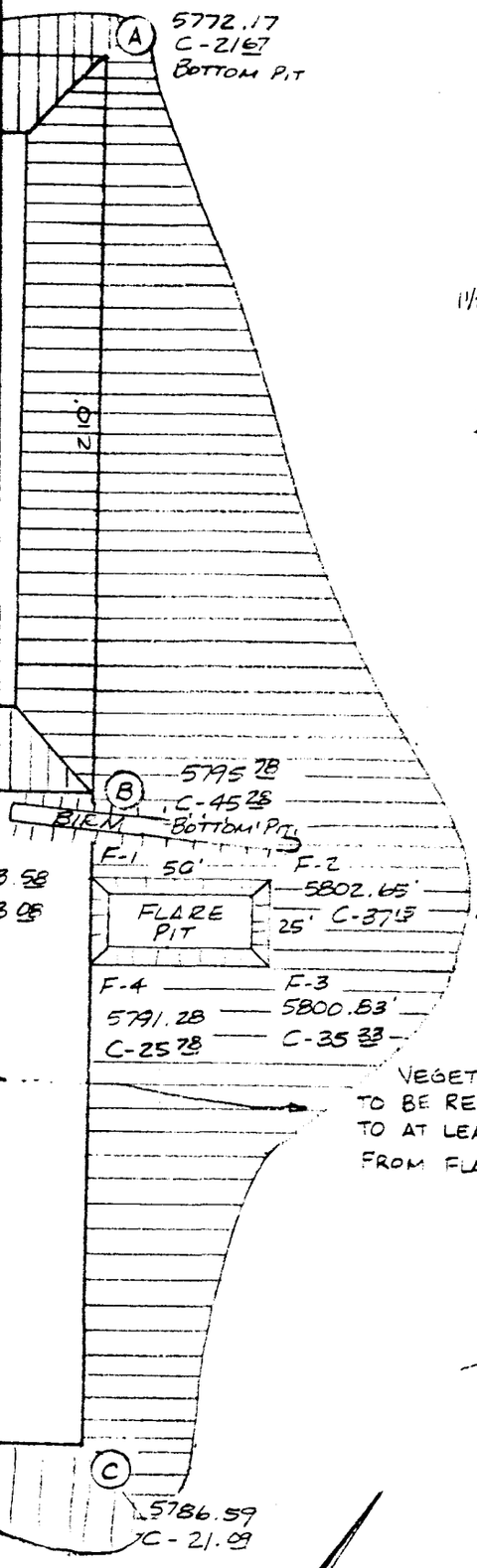
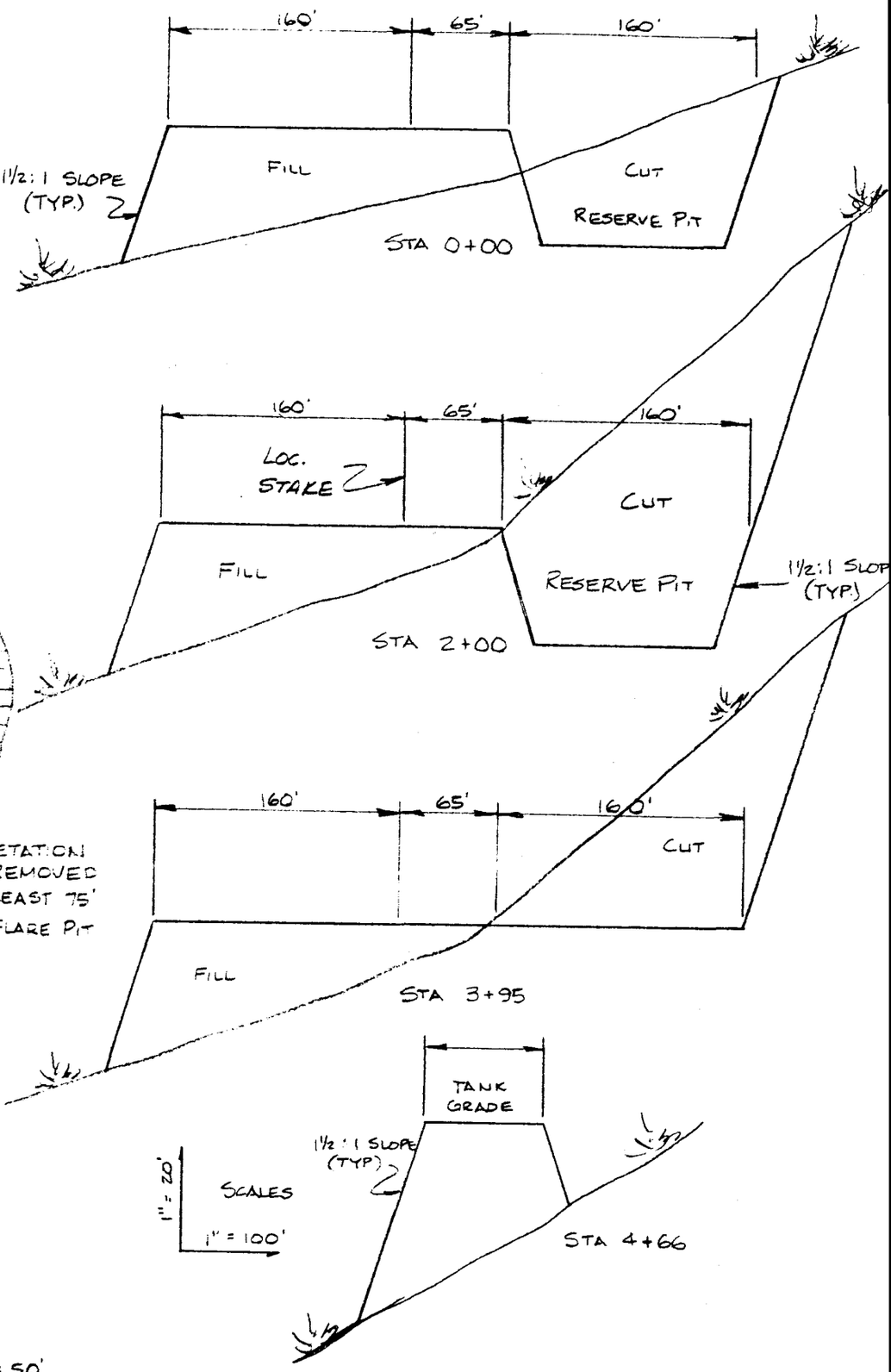
T 11 S
T 12 S
T 13 S
T


PENNZOIL COMPANY
BOREN 3-11 A 2
PROPOSED LOCATION
TOPO. MAP "B"
SCALE 1" = 2000'
ROAD CLASSIFICATION
Light duty road, all weather, improved surface
Unimproved road fair or dry weather
INDIAN BASE RESERVATION BOUNDARY LINE
Creek
Well 5934
Oil Well
NEOLA LT. 4 MILES
PENNZOIL OFFICE
Monarch
1 MILE
EXISTING ROAD 0.75 MILES
PROPOSED ROAD ± 3400'
Machem U #1
Boren 3-11 A2
Cottonwood
PROPOSED LOCATION BOREN 3-11 A 2
Creek

PENNZOIL COMPANY
BOREN 3-11 A2

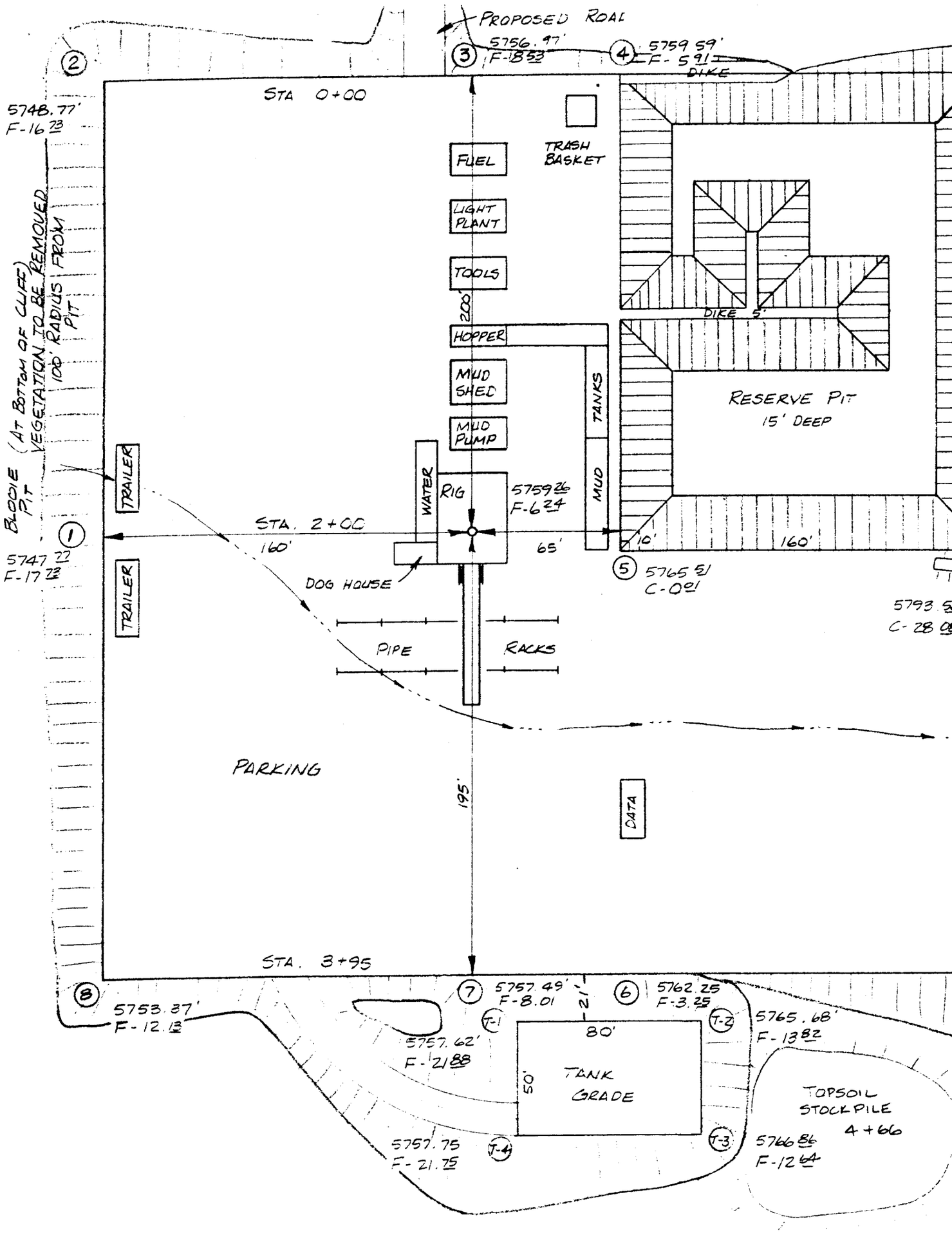




SCALE 1" = 50'
DATE 7-6-87

APPROX. YARDAGES

CU. YDS. CUT 50.732
CU YDS. FILL 42.158


PROPOSED ROAD
5756.97'
F-18.53
5759.59'
F-5.91
DIKE
STA 0+00
5748.77'
F-16.73
TRASH BASKET
FUEL
LIGHT PLANT
TOOLS
200'
HOPPER
MUD SHED
MUD PUMP
TANKS
MUD
WATER
RIG
5759.26
F-6.24
DIKE 5'
RESERVE PIT
15' DEEP
VEGETATION TO BE REMOVED FROM 100' RADIUS PIT
BLOOIE PIT (AT BOTTOM OF CLIFF)
TRAILER
TRAILER
STA. 2+00
160'
65'
10'
160'
5747.77
F-17.73
DOG HOUSE
5765.51
C-0.01
5793.5
C-28.0
PIPE
RACKS
PARKING
195'
DATA
STA. 3+95
5753.87'
F-12.13
5757.49'
F-8.01
21'
5762.25
F-3.25
5765.68'
F-13.82
T-1
T-2
80'
5757.62'
F-21.88
50'
TANK GRADE
TOPSOIL STOCKPILE
4+66
5757.75
F-21.75
T-4
T-3
5766.86
F-12.64

AGREEMENT

The undersigned hereby agree that the Boren 2-11A2 Well located in T1S, R2W, Section 11, Duchesne County, Utah is covered by and is subject to that certain Joint Operating Agreement dated November 1, 1973 covering Section 11: All, Township 1 South - Range 2 West, Duchesne County, Utah, until such time as the State of Utah Oil, Gas and Mining Board may determine that said well is producing from strata not presently covered by said agreement. If the Oil, Gas and Mining Board so finds, then said well shall remain subject to that Joint Operating Agreement until an agreement or amendment which complies with the order of the Oil, Gas and Mining Board is executed by the parties hereto, and at such time as said agreement or amendment becomes effective then this Agreement shall automatically terminate .

This Agreement may be executed in counterparts and the covenants contained herein shall be binding on and shall inure to the benefit of all signers hereto, their heirs, successors, and assigns, whether or not it is executed by all parties named herein, and all the provisions herein contained shall apply to each of the undersigned as if they had signed the original instrument.

Executed this _____ day of July, 1987, but effective between the parties hereto as of 7:00 a.m. on May 17, 1987.

PROVEN PROPERTIES, INC.

By:_____

EXXON CORPORATION

By:_____

ANR LIMITED,INC.

By:_____

CSX OIL AND GAS CORPORATION

By:_____

CONVEST ENERGY CORPORATION

By:_____

LEHNDORFF/L.G.B. MINERALS, INC.

By:_____

G.I.D. ENERGY DEVELOPMENT COMPANY

By:_____

UTEX OIL COMPANY

By:_____

FORCENERGY, INC.

By:_____

PENNZOIL COMPANY

By:_____

STATE OF _____)
_____) ss.
COUNTY OF_____)

On the _____ day of _____, 1987, personally appeared before me, _____ who, being by me duly sworn, did say that he is the _____ of _____ and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said _____ acknowledged to me that said corporation executed the same.

My commission expires:

_____

_____
Notary Public

Residing at:

_____

STATE OF _____)
_____) ss.
COUNTY OF_____)

On the _____ day of _____, 1987, personally appeared before me, _____ who, being by me duly sworn, did say that he is the _____ of _____ and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said _____ acknowledged to me that said corporation executed the same.

My commission expires:

_____

_____
Notary Public

Residing at:

_____

STATE OF _____)
_____) ss.
COUNTY OF_____)

On the _____ day of _____, 1987, personally appeared before me, _____ who, being by me duly sworn, did say that he is the _____ of _____ and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said _____ acknowledged to me that said corporation executed the same.

My commission expires:

_____

_____
Notary Public

Residing at:

_____

PENNZOIL COMPANY

INDEMNIFYING
GAS DIVISION ORDER

NO. 73019-00

TO: Pennzoil Company
Land-Lease Records Department
P.O. Box 2967
Houston, Texas 77252-2967

Effective 7 A.M. May 17, 1987

Each of the undersigned warrants that he is the legal owner of the interest set out below opposite his name in the proceeds of the gas sold from or used off the lease owned by you or allocated to the land described in said lease which is included in whole or part in the following described lands covering 640.00 acres, more or less, located in Duchesne County, Utah, and which is the subject of that certain letter dated July 27, 1987, and Agreement dated effective May 17, 1987, pertaining to the L. Boren 2-11A2 Well, hereinafter referred to as "property,":

ALL OF SECTION 11, T1S-R2W.
Duchesne County, Utah

Credit To	Division of Interest	Address
	SEE EXHIBIT "A"	

Pennzoil Company, hereinafter called "Company," may pay to the parties as set out below for all gas produced and saved from said property under said lease as follows:

1. Company is authorized for its own account to receive such gas into its possession or to deliver same to any party designated by it, the gas so received to be run and measured in accordance with customary pipeline rules and regulations, including those of the governmental agency having recognized jurisdiction over or control of the production and handling of gas proceeds is such area.

2. The word "GAS" as used herein is hereby declared to include all gaseous substances, including oil well gas (casinghead gas).

3. In case of an adverse claim or dispute which affects the title of any ownership credited hereunder, the parties credited hereon with such affected ownership severally authorize Company to withhold payments accruing to such affected ownership without obligation to pay interest on the amount so withheld until corporate indemnity bond acceptable to Company shall be furnished or until the claim or dispute is settled.

4. Company is authorized, at its election, to withhold from the proceeds of production the amount of any tax placed thereon, or on the production thereof, by any governmental authority, and to pay the same on behalf of the undersigned.

5. This division order may be executed in counterparts and the covenants contained herein shall be binding on and shall inure to the benefit of all signers hereto, their heirs, successors, and assign, whether or not it is executed by all parties named herein, and all of the provisions herein contained shall apply to each of the undersigned separately and not jointly.

6. This Agreement is expressly made subject to that certain letter dated July 27, 1987 and Agreement dated effective May 17, 1987.

WITNESSES: (Two for Each Signature)	Signatures of Owners (Show address above and Social Security or Tax Account Number)
_____	PROVEN PROPERTIES , INC.
_____	By: _____
_____	EXXON CORPORATION
_____	By: _____
_____	ANR LIMITED, INC.
_____	By: _____
_____	CSX OIL AND GAS CORPORATION
_____	By: _____
_____	CONVEST ENERGY CORPORATION
_____	By: _____
_____	LEHNDORFF/L.G.B. MINERALS, INC.
_____	By: _____
_____	G.I.D. ENERGY DEVELOPMENT COMPANY
_____	By: _____
_____	UTEX OIL COMPANY
_____	By: _____
_____	FORCENERGY, INC.
_____	By: _____

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Jerry L. Brown Suc Adm Charles E. Ackerman Est	50 S Main Street Suite 1600 Salt Lake City, Utah 84111	.000020 R.I.
Arthur Bud Anderton	Route #1 Roosevelt, Utah 84066	.000976 R.I.
Samuel Ted Anderton	487 E 650 N (95 - 15) Roosevelt, Utah 84066	.000976 R.I.
Tom I. Anderton	Star Route Bridgeland, Utah 84012	.000976 R.I.
Ray Arnold and Isabelle W. Arnold	P. O. Box 30020 Salt Lake City, Utah 84130	.000020 R.I.
Maybelle M. Arthur	P. O. Box 1318 Dillon, MT 59725	.000002 R.I.
Joyce J. Aubrey	38643 SE 70th Street Washougal, WA 98671	.003418 R.I.
ANR Limited Inc. C/O ANR Production Co.	P. O. Box 201583 Houston, Texas 77216 Houston, Texas 77216	.001283 R.I.
Pauline Pack Beckstead	5 Rollingwood Lane Sand City, Utah 84070	.002197 R.I.
Duane Boren and Sherron Lee Boren	Route 1, Box 1390 Roosevelt, Utah 84066	.016493 R.I.
Leonard Earl Boren	180 29 1/2 Road Grand Jct, Colorado 81501	.002170 R.I.
Ora C. Berg	1906 Yale Avenue Salt Lake City, Utah 84108	.000040 R.I.
Margaret E. Block	65 W 30th Avenue #416 Eugene, OR 97405	.000012 R.I.
Stella M. Boren	119 E 2500 S Vernal, Utah 84078	.002170 R.I.
Cecil L. Boren and Velma Boren JT	Route 1, Box 1379 Roosevelt, Utah 84066	.002170 R.I.
Bow Valley Petroleum Inc.	1675 Broadway Suite 2100 Denver, Colorado 80202	.000050 R.I.
E. C. Bowman	207 Promontory Drive West Newport, Louisiana 92660	.000008 R.I.
CSX Oil & Gas Corp.	P. O. Box 4326 Houston, Texas 77210-4326	.000513 R.I.
Thomas Leigh Casey	401 W. Columbine Avenue Santa Ana, California 92707	.000004 R.I.
Laura B. Collins	65 West 30th Avenue #412 Eugene, Oregon 97405	.000004 R.I.

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Pauline B. Cook	761 Douglas Street Salt Lake City, Utah 84102	.000011 R.I.
Tracy-Collins Bank & TR Trustee Charles W. Cook TR ATTN: Mr. Ben Rietveld	P. O. Box 90 Salt Lake City, Utah 84110	.000006 R.I.
Garnita L. Cook	2255 South 2200 East Salt Lake City, Utah 84109	.000006 R.I.
Frank L. Cook and Margaret V. C. Cook	745 Hiawatha Way Twin Falls, Idaho 83301-6861	.000005 R.I.
First Interstate Bank of Utah NA Trustee of The Eveleyn Cook Trust	P. O. Box 30169 Salt Lake City, UT 84142	.000006 R.I.
1st Interstate Bank of Utah, Trustee Robert J. Cook Tr Trust Division	P. O. Box 30169 Salt Lake City, UT 84142-0205	.000006 R.I.
Deanne Cooper	908 Old National Building Spokane, WA 99201	.000040 R.I.
Richard Cornaby	Route 1, Box 1171 Roosevelt, Utah 84066	.009766 R.I.
First Interstate Bank Acct of Croff Oil Co.	Energy Banking Group 633 Seventeeth Street Denver, Colorado 80270	.000897 R.I.
Covey Minerals Inc. C/O Irene C. Gaddis	3000 Conner Street #13 Salt Lake City, Utah 84109	.000256 R.I.
Convest Energy Corp.	2401 Fountain View Drive #700 Houston, Texas 77057	.000256 R.I.
Jack E. Daniels & Julienne M. Daniels	1048 Oak Hills Way Salt Lake City, Utah 84108	.000008 R.I.
Miles Dillman	500 East 2550 North Provo, Utah 84604	.000057 R.I.
Miles Dillman and Helen Dillman	500 East 2550 North Provo, Utah 84604	.000285 R.I.
R. Earl Dillman	261 E. Broadway Suite 300 Salt Lake City, Utah 84111	.000057 R.I.
R. Earl Dillman & Lejeune Dillman	261 E Broadway Suite 300 Salt Lake City, Utah 84111	.001196 R.I.
Mary Eldredge	4818 Hardison Court Fair Oaks, California 95628	.000342 R.I.
Leslie M. Eskuche Trustee of Leslie M. Eskuche Revocable Living Trust	The Continental Bank and Trust Company 200 South Main Salt Lake City, Utah 84101	.000008 R.I.

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Oral Fenn	Route 1, Box 1665 Roosevelt, Utah 84066	.002170 R.I.
Rhonda Patience Fisher	7949 Davinci Drive Salt Lake City, Utah 84121	.000020 R.I.
Gertrude Featherstone	2278 Carriage Lane No. 68 Salt Lake City, UT 84117	.000020 R.I.
Richard E. Geesaman	1235 Mariposa Boulder, Colorado 80302	.000549 R.I.
Henry M. Grether	6721 Rexford Drive Lincoln, NE 68506	.000040 R.I.
Joyce R. Goff	355 Wilson Midvale, Utah 84047	.000020 R.I.
Forcenergy Inc.	640 Sunset Circle Key Biscayne, Florida 33149	.000128 R.I.
G I D Energy Dev Company LP C/O G I D Energy Inc GP	16801 Greenspoint Park Drive Suite 110 Houston, Texas 77060	.000128 R.I.
Claud B. Hamill and Marie Garrett Hamill	2306 First City National Bank Building Houston, Texas 77002	.005127 R.I. .001709 ORRI
Lorie Hartwell	545 N University Avenue Provo, Utah 84601	.000002 R.I.
Sharon L. Herbert	11250 S 154th Place Gilbert, Arizona 85234	.000020 R.I.
Dorothy Hunsaker	P. O. Box 157 Idyllwild, CA 92349	.000342 R.I.
Mable J. Hamilton	20 Hazel Street Sherwood Park Alberta, Canada T8A 1H6	.000002 R.I.
Herman Janssen and Frances Janssen	6448 Jefferson Murray, Utah 84107	.000002 R.I.
First Interstate Bank of Utah TR of the Thomas E. Jeremy Family Trust	P. O. Box 30169 Salt Lake City, Utah 84142	.000128 R.I.
Paula Joehnke	110 Long Grove Road Barrington, IL 60010	.000020 R.I.
William Frank Kelsey and Ida Mae Kelsey	1871 Severn Drive Salt Lake City, Utah 84117	.000002 R.I.
D M Kemp and Fontella Kemp	551 Cheyenne Salt Lake City, Utah 84104	.000002 R.I.
Letha C Ham James	1480 E MUms Circle Sandy, Utah 84092	.000004 R.I.

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Mabel Killeen	708 Easy Street Las Vegas, Nevada 89107	.000004 R.I.
Raymond King & Elizabeth Ann King	945 Salem Drive Redlands, California 92373	.000080 R.I.
George C. Kohlert	14520 SW Rainbow Drive Lake Oswego, OR 97034	.000017 R.I.
Glen E. Mohlman & Florence C. Mohlman	5079 Sawyer Avenue Las Vegas, Nevada 89108	.000977 R.I.
Louis F. Livingston	700 Flagstaff Star Rte Boulder, Colorado 80302	.000549 R.I.
Minerals Management Bureau of Indian Affairs Uintah & Ouray Agency Allocated Payor ID 44383	170 S. 500 E. Vernal, Utah 84078	.010417 R.I.
Steven D. Kohlert	2785 Blue Spruce Drive Holladay, Utah 84117	.000017 R.I.
Keldon Oil Company	629 Camino De Los Mares #304 San Clemente, California 92672	.001282 R.I.
Roy A. Johnson	P. O. Box 417 Sangudo Alberta Canada TOE 2A0	.000002 R.I.
Lehndorff/LGB Minerals Inc.	2501 Cedar Springs Suite 340 Lock Box #2 Dallas, Texas 75201	.000128 R.I.
Clarence V. Lanier and Mary L. Lanier	721 Ashland Drive Huntington Beach, CA 92648	.000122 R.I.
Naomi D. Lunt	150 W Center Cedar City, Utah 84720	.000342 R.I.
Grace A. McPolin Life Estate	P. O. Box 21293 Cottonwood BR Salt Lake City, Utah 84121	.000147 R.I.
Virgil B. Mecham	Route 1 Box 1541 Roosevelt, Utah 84060	.015625 R.I.
Elvira Meeker	1930 W 350 N Provo, Utah 84601	.000002 R.I.
Ramona H. Payne	530 Downington Avenue Salt Lake City, Utah 84105	.000146 R.I.
Hazel Anderton Reed	P. O. Box 312 Roosevelt, Utah 84066	.019531 R.I.
Lavone Robbins & Floyd J. Robbins Jr.	2051 W 500 N. Vernal, Utah 84078	.002170 R.I.

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Hazel M. Robertson	875 Donner Way Apt. 703 Salt Lake City, Utah 84108	.010032 R.I.
Linda Kohlert Rutledge	5496 Bengal CT. San Diego, CA 92124	.000017 R.I.
Paul Serdar and Harriet Serdar	P. O. Box 5 Wadsworth, IL 60083	.000004 R.I.
Marjorie L. Sprowl	2709 123rd Ave SE Bellevue, WA 98005	.000020 R.I.
Ladean Ham Stanley	ST RT 2 Box 166 Randlett, Utah 84063	.000004 R.I.
Barr Smedley	3807 Highland Cove Lane #10 Salt Lake City, Utah 84106	.000195 R.I.
State of Utah Div of St Lands & Forestry	P. O. Box 30007 Salt Lake City, Utah 84180-1204	.007813 R.I.
First Security Bank - Utah, Personal Rep of Allen H. Tibbals Estate	P. O. Box 30007 Salt Lake City, Utah 84130	.000020 R.I.
Utex Oil Company and Neilson Elggren and Co-Examiners	445 E. 4500 S - Suite 220 Salt Lake City, Utah 84107	.000128 R.I.
Ross Walker	536 Park Heights Circle Tyler, Texas 75701	.001392 R.I.
Lynn A. Vance	Route 2, Box 3186 Lopez IS, WA 98261	.000244 R.I.
Rex Ross Walker	3100 Airport Road Box A Boulder, CO 80301	.000366 R.I.
First Security Bank - Utah, Personal Rep Emerson C. Willey Estate	P. O. Box 30007 Salt Lake City, UT 84130	.000221 R.I.
Ernie Wilson & Edna L. Wilson	3305 Newland Street Wheat Ridge, CO 80033	.000146 R.I.
Gene B. Woolley	625 Western Blvd. Jonestown Taqmuning, Guam 96911	.000008 R.I.
	Working Interest	
ANR Limited Inc.	c/o ANR Production Co P. O. Box 201583 Houston, Texas 77216	.027344 W.I.
CSX Oil & Gas Corp.	P.O. Box 100258 Houston, Texas 77212	.010938 W.I.
Exxon Company	P. O. Box 100963 Houston, Texas 77212	.060338 W.I.

EXHIBIT "A"
LEASE NO. 73019-00
BOREN 2-11 A2

NAME	ADDRESS	DECIMAL INTEREST
Forcenergy Inc.	640 Sunset Circle Key Biscayne, Florida 33149	.002734 W.I.
GID Energy Development Company	16801 Greenspoint Park Drive Suite 110 Houston, Texas 77060	.002734 W.I.
Lehndorff/LGB Minerals Inc.	2501 Cedar Springs Suite 340 Lock Box #2 Dallas, Texas 75201	.002734 W.I.
Pennzoil Company	P. O. Box 2967 Houston, Texas 77252-2967	.377831 W.I.
Proven Properties Inc.	P. O. Box 2049 Houston, Texas 77252-2049	.377831 W.I.
Utex Oil Company and Neilson Elggren and Co-Examiners	445 E 4500 S., Suite 220 Salt Lake City, Utah 84107	.002734 W.I.
Convest Energy Corp.	2401 Fountainview Drive #700 Houston, Texas 77057	.005469 W.I.

Answering Service Unit Numbers
789-4200 6376
722-4501 0621
1622

BOREN ELECTRIC, INC.

P.O. Box 610 ★ West Highway 40
Roosevelt, Utah 84066
Phone (801) 722-5594

789-7514
1366 East 1100 South
Vernal, Utah 84078

№ 10521

CUSTOMER PENNZOIL EXPL. & PROD. COMP. DATE MAY 28, 87
ADDRESS BOX 290, NEOLA, UTAH 84053

Lease BOREN 2-11A2 AFE #7628737 Customer P.O. No. Job No.

From	To	Hours	Work Performed
10:00	5:30	7	INSTALLATION OF CONDUIT, FITTINGS, CONTROLLER & DEVICES FOR FLOW-LINE PUMP & STARTER EQUIPMENT.

Employees Name	Classification	Hours Reg.	Hours O.T.	Rate	Amount	Equipment	Hours	Miles	Rate	Amount
JEFF GOODRICH		7		18.00	$126.00	TRUCK 1625	7		7.00	49.00
SCOTT MUIRHEAD		7		16.00	112.00					
GERALD MOBLEY		2		18.00	36.00					
					$274.00					
TOTAL						TOTAL				

Quan.	Material	Price	Amount	Quan.	Material	Price	Amount
1	RS BOX		135.00	3	3/4X4 NIPPLES	1.70	5.10
2	BLANK COVERS	13.00	26.00	2	3/4X2 1/2 "	1.37	2.74
2	2" HUB "	17.00	34.00	2	3/4X CL "	1.07	2.14
1	3-2 RE BUSHING		21.80	5	3/4 PARL CLAMPS	4.00	20.00
1	2-1 " "		8.72	1	2"X3" NIPPLE		3.95
2	1-3/4 " "	1.75	3.50	2	SCOTCH 33	4.15	8.30
1	3/4 EDS		12.90				650.25
1	3/4 EUS		12.90		less 30%		-195.08
1	3/4 GRJS		34.00				455.17
2	3/4 LB	7.50	15.00				
1	3/4 LBY		12.90				
2	3/4 UNY	12.90	25.80				
1	OPL-HABP 20' MURPHY		265.50				

TERMS AND CONDITIONS OF SALE: 1. Invoice terms are net 30 days due and payable to **Boren Electric, Inc.**, Roosevelt, Utah. Interest will be charged on overdue accounts at the rate of 1¾% per month, plus a monthly service charge of $10.00 per month will also be assessed. 2. Special order goods can only be returned upon written consent by seller. Regular stock order goods can be returned within sixty (60) days after delivery without written approval. Any regular stock order goods can only be returned after sixty (60) days from delivery upon seller's written consent. All returned goods shall be subject to a restocking charge of twenty percent (20%), unless a higher or lesser re-stocking charge assessed by agreement of the parties. In no event shall re-stocking charge be less than the re-stocking charge assessed by the manufacturer, plus ten percent (10%). All returned goods must be deemed in saleable condition by seller and/or manufacturer's representative. 3. Seller does not express or imply any guarantee or warranties beyond those expressly granted by manufacturer. 4. All items are F.O.B. Roosevelt, Utah, and subject to all State and Local Taxes. 5. Time is of the essence of this agreement and the Buyer agrees to strictly perform all obligations herein imposed, and in the event of default, to pay all cost of enforcing this agreement, including a reasonable attorney's fee. 6. This bill becomes due immediately if the purchaser suspends payment, removes, sells out, becomes insolvent or bankrupt or is sued. 7. Not responsible for loss by Fire or Theft.

The INK SPOT - Roosevelt, Utah

SUB TOTAL	778.17
SALES TAX	
FREIGHT	
TICKET TOTAL	778.17

Approved D. J. Hardock
For Customer

Approved Gerald Mobley

DataChem

INVOICE

INVOICE NO. 87- 2157

Original Date 15-JUN-1987
Modified Date 15-JUN-1987

Pennzoil
12th Floor
Box 2967
Houston, TX 77252-2967
Attention : Mike Ishimoto

Payor's Reference : P.O.
Company Contact : Mike Ishimoto

Set ID : S87-0247 Account : 03018 Billing ID : 586-01 Terms : Net 30

Analyte Name	Sample Type	Method	No. of Samples	Unit Price	Analyte Total
Digestion			3	$ 40.00	$ 120.00
Barium	WATER	208.1	3	$ 13.00	$ 39.00
Zinc	WATER	289.1	3	$ 13.00	$ 39.00

	XX	XXX	XXX	XX
INVOICE AMOUNT			198	00
DISCOUNT				
NET AMOUNT			198	00
VOUCHER NUMBER	681 3436			
DUE DATE	Due			
VENDOR NUMBER			148740	

Invoice Total : $ 198.00

Total Due : $ 198.00

UBTL

DataChem was formerly known as UBTL

25-1-810-699-76-287-371

SHOULD BE BILLED TO
BLUEBELL-ALTAMONT FIELD
WELL BIREN 2-11A2 (BLOWOUT)

Approved for Payment

TERMS: A 1.5% finance charge will be made on the account if not paid within 30 days from date of invoice. Customer agrees to pay all collection costs and reasonable attorney's fees.

DataChem / 520 Wakara Way / Salt Lake City, Utah 84108 1-801-583-3600

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

INVOICE

129

Customer Name
Pennzoil Company
P.O. Box 290
Neola, Utah 84053

Date June 19, 1987

JUN 29 87
PE... NY

REMIT-TO:
Double-Jack Testing & Services Inc.
P.O. Box 2097
Evanston, Wy. 82930

Field Ticket No.	Description	Amount
1019	Charges for air compressor rental on location Boren 2-1-A2 from 5-14-87 thru 5-31-87 18 days @ $55 per day	990.00
	Subtotal	990.00
	Tax	
	Total Invoice	990.00

RECEIVED
JUN 30 87
PENNZOIL COMPANY
DENVER, COLO.

CUSTOMER ORIGINAL INVOICE

	XX	XXX	XXX	
INVOICE AMOUNT			990	00
DISCOUNT				
NET AMOUNT			990	00
VOUCHER NUMBER	G287558			
DUE DATE	7-19-87			
VENDOR NUMBER				

RJ Hadlock
AFE # 4628737

Terms: Net 30 Days. A finance charge of 1½% per month (18% annual) will be charged to all past due accounts. Customer agrees to pay all costs of collection and reasonable attorney fees should collection become necessary.

INVOICE

BI-CO RENTAL INC.
A Wholly Owned Subsidiary of H & H Oil Tool Co., Inc.
TRADEMARK OF SERVICE

Remittance Address
P.O. Box 31
Santa Paula, Ca. 93060

Accounting Office
1150 East 1500 South
Vernal, Utah 84078
Telephone (801) 789-7791

INVOICE # 222
INVOICE DATE 06/19/87
CUSTOMER # 33072
DELIVERY TICKET # 13459

BILL TO
PENNZOIL COMPANY
P.O. BOX 290
NEOLA, UT 84053

RECEIVED
JUN 25 87
PENNZOIL COMPANY
DUCHESNE, UTAH

06/16/87

• BLOWOUT EQUIPMENT • DRILLING EQUIPMENT • TUBING & CASING TOOLS • POWER SWIVELS • PRODUCTION TOOLS • PUMPS • TANKS • GENERATORS • SPOOLS • TRUCKING •

SHIP TO	WELL NAME OR NUMBER	RIG #	CUSTOMER P.O. #
PENNZOIL COMPANY	BOREN 2-11-A2		

BRANCH	DATE SHIPPED	ORDER TAKEN BY	ORDERED BY	SHIP VIA	A.F.E. NUMBER
52	05/11/87	K. JONES	JESS D.		

LN #	QUANTITY	TOOL #	ITEM #	DAYS	MINIMUM AMOUNT	EACH ADDL. DAY	DATE RETURN	TOTAL DAYS	DAYS / HRS. CHARGED	$ TOTAL
10	6		99140		.00	60.00				360.00
			BI-CO TO DELIVER & SET TANKS #889							
			6 HRS @ $60.00 HR							
13	1		98000		.00	60.00			18.00	1080.00
			BI-CO TO RETURN							
			18 HRS @ $60.00 HR							
15	DUCHESNE COUNTY									
	RENTAL 5/11/87 THRU 5/18/87									

N L Luna

	XX	XXX	XXX	
INVOICE AMOUNT		2676	50	
DISCOUNT				
NET AMOUNT		2676	50	
VOUCHER NUMBER	G287556			
DUE DATE	7-19-87			
VENDOR NUMBER	7 1 3 1 1 9			

7628737
810-610
6-29-87

PAGE 2

NOTICE: Written descriptions of equipment may vary slightly between the attached Delivery Ticket and this invoice. This invoice uses the general price book description while the Delivery Ticket may use a more specific / precise description of the tool actually used.

TAXABLE AMOUNT 2525.00

TERMS: Due upon receipt. 1½% a month service charge will be assessed on all accounts over 30 days which is 18% per annum.

SUBTOTAL	2525.00
DISCOUNT	.00
SALES TAX	151.50
GRAND TOTAL	2676.50

ORIGINAL INVOICE

FORM 25 - 150 (4)

Date 7-9-87

PENNZOIL COMPANY

CASH VOUCHER

Voucher No. G287721

Month

Originator: CO. DIST.

DESCRIPTION AREA												CO.	Department	ACCOUNT		LOCATION			Billing Code	DETAIL	ATR	QUANTITY				AMOUNT			
Lease		Sub	Yr.	Product		Dist.	Alloc.		FIELD	Organiz.						Lease		Sub											
PC	Code									Vendor						PC	Code												
Payor		Mo.									BS			Maj	Sub		AFE												
xx	xxx	xx	xx	x	x	xx	x	x	xxxx	x	xx	xx	x	xxx	xxx	xx	xxx	xx	x	xxxx	x	x	xxx	xxx	xx	xx	xxx	xxx	xx
														TABULATE FROM DETAIL															
Redman		Pipe	Boren 2-1							1A2		25	1	810	612	76	287	37	1								182	15	

Coded by	Checked by	Special Handling Notes	TOTAL	182 15

FORM 25-150(3)

Voucher No. G287812

Date 7-9-87

CASH VOUCHER
PENNZOIL EXPLORATION AND PRODUCTION COMPANY

Month

Originator: CO. DIST.

DESCRIPTION AREA														ACCOUNT		LOCATION													
Lease		Sub								Organiz.						Lease		Sub											
PC	Code									Vendor						PC	Code												
Payor		Mo.	Yr.	Product		Dist.	Alloc.		FIELD		BS	CO.	Department	Maj	Sub		AFE		Billing Code	DETAIL	ATR	QUANTITY			AMOUNT				
xx	xxx	xx	xx	x	x	xx	x	x	xxxx	x	xx	xx	x	xxx	xxx	xx	xxx	xx	x	xxxx	x	x	xxx	xxx	xx	xx	xxx	xxx	xx
														TABULATE FROM DETAIL															
Boren Eliz						Boren 2-11A2						25	1	810	612	76	287	371									778	17

Coded by LM

Checked by

Special Handling Notes

TOTAL 778 17

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00984-0	40706323	2

CUSTOMER ORDER NO.	ORDERED BY:	SHIPPED FROM:	TAX CODE	DATE SHIPPED	INVOICE DATE
NOR	VAN	VERNAL, UTAH	080002	06/24/87	07/06/87

LOCATION REFERENCE	FREIGHT	TERMS
BOREN 2-11A2	PREPAID	Net 30 days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	DEST	C/F

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

JUL 0 8 87

SHIP TO:
NEOLA UTAH

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART I.D.	UNIT PRICE	UNITS	DISC. %	AMOUNT PAYABLE
		TAXABLE TOTAL					$172.04
		TAXES 5.875% 5.875% UT COMBINED RATE AS OF 4/1/87					$10.11
		NON-TAXABLE TOTAL					$.00
		FREIGHT					$.00
		TOTAL AMOUNT DUE					$182.15

	XX	XX	XX	
INVOICE AMOUNT			182.15	
DISCOUNT				
NET AMOUNT			182.15	
VOUCHER NUMBER	G287721			
DUE DATE	8-06-87			
VENDOR NUMBER	125939			

V.J. Hadlock
AFE #7628737

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON—MOSS WARRANTY—FEDERAL TRADE COMMISSION IMPROVEMENT ACT.

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00984-0	40706323	1

CUSTOMER ORDER NO.	ORDERED BY	SHIPPED FROM	TAX CODE	DATE ORDERED	DATE SHIPPED
NOR	VAN	VERNAL, UTAH	080002	06/24/87	07/06/87

LOCATION REFERENCE: BOREN 2-11A2

FREIGHT: PREPAID

TERMS: Net 30 days

CUSTOMER NUMBER: 40276001

FOB: DEST

SHIP VIA: C/F

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

SHIP TO:
NEOLA UTAH

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART ID	UNIT PRICE	UNITS	DISC %	AMOUNT PAYABLE
001	2.00	1-QT CAN BESTOLIFE SUPER COPPER THREAD COMPOUND - BT CAN	3728540	$12.35	EA	10.00%	$22.23
002	1.00	2 X 3 XH SMLS NIPPLE	3477980	$7.50	EA	70.00%	$2.25
003	1.00	2 X 4 XH SMLS NIPPLE	3478000	$8.85	EA	70.00%	$2.66
004	1.00	2 X 6 XH SMLS NIPPLE	3478020	$11.90	EA	70.00%	$3.57
005	1.00	2 X 8 XH SMLS NIPPLE	3478040	$18.78	EA	70.00%	$5.63
006	2.00	2 XH LR 90 DEG WELD ELL	2995050	$19.20	EA	70.47%	$11.33
007	1.00	2 STD SMLS BULL PLUG	2767230	$17.96	EA	50.00%	$8.98
008	1.00	4 X 12 XH SMLS NIPPLE	3478300	$72.32	EA	70.00%	$21.70
009	2.00	1 X 3 XH SMLS NIPPLE	3477630	$4.45	EA	70.00%	$2.67
010	3.00	1 X 4 XH SMLS NIPPLE	3477650	$5.41	EA	70.00%	$4.87
011	3.00	1 2000# FS TEE	3352930	$16.22	EA	70.00%	$14.60
012	1.00	1 B136-CS-03 WKM BALL VALVE	4769410	$67.80	EA	38.00%	$42.04
013	2.00	2 2000# FS TEE	3352960	$49.18	EA	70.00%	$29.51

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON-MOSS WARRANTY-FEDERAL TRADE COMMISSION IMPROVEMENT ACT

Ned Ross Welding

Rt. 2 Box 2145
Roosevelt, Utah 84066
(801) 722-3720

RECEIVED
JUL 0 3 87
PENNZOIL COMPANY
DENVER, COLO.

INVOICE No. 1114

TO: Pennzoil Company
Box 290
Neola, Utah

DATE 7-1-87

SERVICE ORDER

TERMS: NET 30 DAYS

DATE	LOCATION	ticket #	HOURS	RATE		AMOUNT	
6-22-87	Boren 2-11A2	1652	2	31	00	62	00
6-23-87	Boren 2-11A2	1653	7	31	00	217	00

	XX	XXX	XXX	
INVOICE AMOUNT			279	00
DISCOUNT				
NET AMOUNT			279	00
VOUCHER NUMBER	G287585			
DUE DATE	8-1-87			
VENDOR NUMBER	1267551			

B J Hadlock
AFE

SERVICE CHARGE: 1½% PER MONTH ON OVERDUE ACCOUNTS. **TOTAL** 279 00

The INK SPOT - Roosevelt, Utah

DIAMOND WELDING

Rt. 1 Box 1389
Roosevelt, Utah 84066

Phone (801)353-4629

RECEIVED
JUL 0 3 87
PENNZOIL COMPANY
DENVER, COLO.

Service Order No.

In Account With: PENNZOIL COMPANY

Invoice Date: JUNE 30, 1987

Invoice No.: 80-P

Terms: Net Cash

PART I — TICKET SUMMARY

DATE	TICKET NO.	LOCATION	HRS.	RATE	AMOUNT
6-27-87	3133	BOREN #2-11A2	1	28.00	$ 28.00
			TOTAL — PART I **		$ 28.00

PART II — CLASSIFICATION BREAKDOWN

CLASSIFICATION	STRT. TIME HOURS	RATE	AMOUNT
Welder & Welding Truck	1 @	$28.00	$ 28.00
		TOTAL — PART II **	$ 28.00

** PAY THIS AMOUNT

The INK SPOT -Roosevelt, Utah

	XX	XXX	XXX	
INVOICE AMOUNT			28	00
DISCOUNT				
NET AMOUNT			28	00
VOUCHER NUMBER	G287583			
DUE DATE	7-30-87			
VENDOR NUMBER	1101819016			

AFE

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00910-0	40706256	1

CUSTOMER ORDER NO.	ORDERED BY:	SHIPPED FROM:	TAX CODE	DATE SHIPPED	INVOICE DATE
NOR	HAROLD	VERNAL, UTAH	080002	06/17/87	06/29/87

LOCATION REFERENCE	FREIGHT	TERMS
BOREN 2-11A2	PREPAID	Net 30 days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	DEST	O/T

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

SHIP TO:
NEOLA UTAH

RECEIVED
JUL 0 3 '87
PEN

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART I.D.	UNIT PRICE	UNITS	DISC. %	AMOUNT PAYABLE
001	1.00	WESTERN GAS OPERATED CHEM PUMP W/TANK	EO	$839.00	EA	00.00%	$839.00
002	12.00	6CM4 316SS GYROLOK 3/8X1/4 ST CONNECTION	3968830	$7.25	EA	10.00%	$78.30
003	12.00	6LM4 316SS GYROLOK 3/8X1/4 90 DEG ELL	3968860	$14.00	EA	10.00%	$151.20
004	12.00	6LU 316SS GYROLOCK 3/8 TUBING FITTING	3968880	$11.71	EA	09.99%	$126.47
005	100.00	FT 3/8 X .035 316SS SMLS TUBING	3958540	$1.30	FT	00.00%	$130.00
006	4.00	1/2 X 1/4 FS HEX BUSHING	3336770	$1.59	EA	70.00%	$1.91
		TAXABLE TOTAL					$1,326.88
		TAXES 5.875% 5.875% UT COMBINED RATE AS OF 4/1/87					$77.95
		NON-TAXABLE TOTAL					$.00
		FREIGHT					$.00
		TOTAL AMOUNT DUE					$1,404.83

ORIGINAL INVOICE

	XX	XXX	XXX	
INVOICE AMOUNT	---	1	404	83
DISCOUNT				
NET AMOUNT		1	404	83
VOUCHER NUMBER	G287584			
DUE DATE	7-29-87			
VENDOR NUMBER	1	2	5	9 3 9 1

L J Hadlock
AFE

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON—MOSS WARRANTY—FEDERAL TRADE COMMISSION IMPROVEMENT ACT.

Oil Field Rentals Service Company

713/672-1601 P.O. BOX 1331
HOUSTON, TEXAS 77251

PLEASE REMIT TO:
P.O. BOX 200501
HOUSTON, TEXAS 77216

INVOICE NUMBER: 3570130

To
Pennzoil
P.O. Box 290
Neola, Utah 84053

LOCATION: Boren
WELL NO.: 2-1A2
RIG NO.:
DESTINATION: Neola, Utah

RENTAL COMPLETE ☐
STILL RENTING ☐
PARTIAL RETURN ☐

INVOICE DATE: 6-24-87
RENTAL PERIOD (1): 5-14-6-14
SHIPPED VIA: Jack Klun
CHG ☐ N.C ☐
DELIVERY TICKET NO.: 13534

RETURNED VIA (1): CHG ☐ N.C ☐

ORDER NO./ORDERED BY: Bill Allen & Jess Dullnig
DATE SHIPPED: 5/14/87
SHIPPED FROM: Vernal

QUANTITY DELIVERED	DESCRIPTION (2,4)	POSTED IN	POSTED OUT	QUANTITY RETURNED	DATE RETURNED	DAYS CHARGED	MINIMUM RENTAL DAYS	MINIMUM RENTAL AMOUNT	EACH ADDITIONAL DAYS	AMOUNT
4	2 1/16" 15,000# gate valves #97555,21263,106461									
	#106497,1065000,22903,21671,52062,79254,22941,22924									
	#307030,39306,67999									
4	4 1/16" 10,000# manul gate valves #104906,60047,60451,75648									
2	2 1/16" 15,000# 22933,93257 crosses									
2	4 1/16" 10,000# crosses #66172,54839									
2	4 1/16" 10,000# weld flanges #91533,82190									
7	2 1/16" X 2 1/16" 15,000# spools #125210,125209,125205									
	#125208,17164,96961,125207									
5	3 1/16" X 2 1/16" 15,000# DSA's #82265,86912									
	#25171,25206,55072									
7	2 1/16" 15,000# weld flanges #125249,77881,61601,									
	#98269,125248,56544,27718									

RETURNS: I, the undersigned, do hereby certify receipt by Oil Field Rentals Service Company of items indicated in "Quantity Returned" column on this date.

DELIVERY: I, the undersigned, do hereby certify that the listed tools were delivered to me upon the terms and conditions for rentals printed upon the back of this form received by (lessee or his agent).

BY X

TERMS: Net Cash—No Discount. All charges are due and payable at the office of lessor in Houston, Texas, on the 30th of the month following date of invoice. Interest will be charged on all invoices not paid within terms.

INVOICE 1

...voices not paid within terms.

INVOICE

Oil Field Rental Service Company

713/672-1601 P.O. BOX 1331
HOUSTON, TEXAS 77251

JUN 29 87

PLEASE REMIT TO:
P. O. BOX 200501
HOUSTON, TEXAS 77216

To
Pennzoil
P.O. Box 290
Neola, Utah 84053

LOCATION	RENTAL COMPLETE	INVOICE DATE	INVOICE NUMBER
Boren		6-24-87	35-20150
WELL NO. / RIG NO.	STILL RENTING	RENTAL PERIOD (1)	
2-11A2	XX	5/14-6/14/87	
DESTINATION	PARTIAL RETURN	SHIPPED VIA	
Neola, Utah		Jack Klun	CHG N/C

ORDER NO./ORDERED BY	DATE SHIPPED	SHIPPED FROM	RETURNED VIA (1)	DELIVERY TICKET NO.
Bill Allen & Jess Dullnig	5/14/87	Vernal	CHG N/C	13540 VU 1

QUANTITY RED	DESCRIPTION (2,4)	POSTED	QUANTITY RETURNED	DATE RETURNED	DAYS CHARGED	MINIMUM RENTAL DAYS	MINIMUM RENTAL AMOUNT	EACH ADDITIONAL DAYS	AMOUNT
	Sub Total								53,544.74
	.05875% Utah State Sales Tax								3,145.76
	Total Invoice								56,690.50

J H Magee

INVOICE AMOUNT	XX	XXX	XXX 56,690.50
DISCOUNT			
NET AMOUNT			56,690.50
VOUCHER NUMBER	G287553		
DUE DATE	7-24-87		
VENDOR NUMBER	222785		

G J Hadlock
AFE # 762 8737

RETURNS: I, the undersigned, do hereby certify receipt by Oil Field Rentals Service Company of items indicated in "Quantity Returned" column on this date.

DELIVERY: I, the undersigned, do hereby certify that the listed tools were delivered to me upon the terms and conditions for rentals printed upon the back of this form received by (lessee or his agent).

BY X

TERMS: Net Cash—No Discount. All charges are due and payable at the office of lessor in Houston, Texas, on the 30th of the month following date of invoice. Interest will be charged on all invoices not paid within terms.

INVOICE

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	PAGE
40-00984-0	1

CUSTOMER ORDER NO.	ORDERED BY:	SHIPPED FROM	TAX CODE	DATE SHIPPED
NOR	Van	Vernal,Utah	080002	6/24/87

LOCATION REFERENCE	FREIGHT	TERMS
Boren 2-11A2	ppd	02 Net 30 Days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	Dest	C/F

SOLD TO	SHIP TO
Pennzoil	Neola Utah

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART NO.	UNIT PRICE	UNITS	DISC.	AMOUNT PAID
001	2	1 Qt. Supr-Copr thrd Compound	3728540	12.35	ea	10.00	22.23
002	1	2" X 3" XH Smls Nipple	3477980	7.50	ea	70.00	2.25
003	1	2" X 4" ditto	3478000	8.85	ea	70.00	2.66
004	1	2" X 6" ditto	3478020	11.90	ea	70.00	3.57
005	1	2" X 8" ditto	3478040	18.90	ea	[illegible]	5.63
006	2	2" XH LR 90 Weld Ell	2995050	19.20	ea	70.00	11.33
007	1	2" Std. Smls Bull Plug	2767230	17.96	ea	70.00	5.39
008	1	4" X 12" XH Smls Nipple	3478300	72.32	ea	70.00	21.70
009	2	1" X 3" ditto	3477630	4.45	ea	[illegible]	2.67
010	3	1" X 4" ditto	3477650	5.21	ea	70.00	4.69
011	3	1" FS #2000 Tee	3352730	16.[illegible]	ea	70.00	14.60
012	1	1" B-136 CS 03 WKM Ball Valve	4769410	[illegible]	ea	38.00	42.90
013	2	2" FS #2000 Tee	3352960	[illegible]	ea	70.00	39.51
							172.69
							10.11
							182.13

SIGNATURE Van Jensen

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON-MOSS WARRANTY-FEDERAL TRADE COMMISSION IMPROVEMENT ACT

RICHENS CONSTRUCTION, INC.

4140 South 500 East
VERNAL, UTAH 84078

Service Order No.

In Account With: Pennzoil Company

RECEIVED
JUN 25 87
PENNZOIL COMPANY
DENVER, COLO.

Invoice Date: 6-23-87 ~~5027~~

Invoice No.: 5027

Terms: Net Cash

DATE	TICKET #	LEASE	AMOUNT	TOTAL
6-1-87	8269	Boren 2-11A2	$ 111.30	
2	8272	"	510.10	
2	6999	"	192.80	
3	8130	"	222.60	
3	8274	"	413.00	
3	7000	"	192.80	
4	8301	"	192.80	
4	8277	"	401.80	
10	8349	"	270.20	$2,507.40
		Total		$2,507.40

AFE

	XX	XXX	XXX	
INVOICE AMOUNT		2507	40	
DISCOUNT				
NET AMOUNT		2507	40	
VOUCHER NUMBER	G287557			
DUE DATE	7-23-87			
VENDOR NUMBER	1216	21921		

G J Hadlock
AFE # 628737

Boren Electric Inc.

Kent Boren
P.O. Box 610
Roosevelt, Utah 84066
Phone 722-5594

JUL 0 8 87

Invoice
№ 9083

Date 6-22-87

Sold To Pennzoil Exploration & Production Co.
P.O. Box 290
Neola, Utah 84053

AFE# 7628737

Date	LOCATION	Ticket No.	HOURS	Amount	
5-28-87	Boren 2-11A2	10621	7	778	17
			Total	$778	17

7628737
810-612
7-9-87

AAA XXX
778 17
NET
778 17
G287812
Due
VENDOR NUMBER 1C3786

1307
07-17-87

PENNZOIL COMPANY
PENNZOIL PLACE
17TH FLOOR
P.O. BOX 2967
HOUSTON, TEXAS 77001

INVOICE NO. 28-06-7301900
PLEASE INDICATE INVOICE NUMBER ON YOUR CHECK

JOINT OPERATIONS INVOICE

MONTH OF JUNE 19 87

PROPERTY 7301900
NAME L BOREN 2-11A2 UNIT

REMIT TO: PENNZOIL COMPANY
P.O. BOX 200099
HOUSTON, TEXAS 77216

DESCRIPTION		INTEREST	AMOUNT	AMOUNT
00000	PENNZOIL COMPANY	.4330391	$123,358.31	
02896	ANR PRODUCTION COMPANY	.0312500	8,902.08	
10966	CSX OIL & GAS CORP.	.0125000	3,560.83	
15483	CONVEST ENERGY CORP	.0062500	1,780.42	
24163	EXXON COMPANY USA	.0714218	20,345.68	
30921	FORCENERGY INC	.0031250	890.21	
32906	GID ENERGY DEVELOPMENT CO	.0031250	890.21	
54926	LEHNDORFF/LGB MINERALS	.0031250	890.21	
68043	PROVEN PROPERTIES INC	.4330391	123,358.32	
92063	UTEX OIL COMPANY	.0031250	890.21	
	TOTAL	1.0000000	$284,866.48	
OPERATION				
	SALARIES & WAGES			$504.01
	PAYROLL BURDEN			126.37
	CONTRACT SERVICE & EQUIP			281.67
	MATERIALS & SUPPLIES			211.78
	SAFETY & HEALTH			1.01
	RENTS			17.99
	COMMUNICATION SERVICE			9.02
	UTILITIES			1,284.91
	EXPENSES OF EMPLOYEES			29.56
	FUEL & POWER			1,501.99
	AUTO AND TRUCK TRANSPOR.			926.67
	SALT WATER DISP EXP DISTD			1,466.00
	OVERHEAD			1,015.85
	MISCELLANEOUS EXPENSE			23.42
MAINTENANCE				

1307
07-17-87

PENNZOIL COMPANY
PENNZOIL PLACE
17TH FLOOR
P.O. BOX 2967
HOUSTON, TEXAS 77001

JOINT OPERATIONS INVOICE

INVOICE NO. 28-06-7301900
PLEASE INDICATE INVOICE NUMBER ON YOUR CHECK

MONTH OF JUNE 19 87

PROPERTY 7301900
NAME L BOREN 2-11A2 UNIT

REMIT TO: PENNZOIL COMPANY
P.O. BOX 200099
HOUSTON, TEXAS 77216

DESCRIPTION	AMOUNT
CONTRACT SERVICES & EQUIP	693.73
MATERIALS & SUPPLIES	1,068.67
TOTAL	$9,162.65
AFE 76-28737 - W/O BOREN 2-11 BLOW OUT	
WORK OVER	
SALARIES & WAGES	$1,704.69
PAYROLL BURDEN	470.80
CONTRACT SERVICES & EQUIP	190,571.63
MATERIALS & SUPPLIES	34,580.05
AUTO AND TRUCK TRANSPOR.	27,183.11
CONTRACT WELL SERVICE	19,982.78
OTHER	1,210.77
TOTAL AFE 76-28737	275,703.83
GRAND TOTAL	$284,866.48

6-87

PENNZOIL COMPANY
PENNZOIL PLACE
17TH FLOOR
P.O. BOX 2967
HOUSTON, TEXAS 77001

JOINT OPERATIONS INVOICE

INVOICE NO. 28-05-73019
PLEASE INDICATE INVOICE NUMBER ON YOUR CHECK

MONTH OF MAY 19

PROPERTY 7301900
NAME L BOREN 2-11A2 UNIT

REMIT TO: PENNZOIL COMPANY
P.O. BOX 200099
HOUSTON, TEXAS 77216

DESCRIPTION	AMOUNT
MAINTENANCE	
CONTRACT SERVICES & EQUIP	531.15
MATERIALS & SUPPLIES	358.95
CORROSION CONTROL	37.33
PUMP REPAIRS	318.00
MISCELLANEOUS EXPENSE	1.92
TOTAL	$9,476.26
AFE 76-28737 - W/O BOREN 2-11 BLOW OUT	
WORK OVER	
SALARIES & WAGES	$8,887.20
PAYROLL BURDEN	2,303.57
OTHER	20,000.00
TOTAL AFE 76-28737	31,190.77
GRAND TOTAL	$40,667.03

F1307
06-16-87

PENNZOIL COMPANY
PENNZOIL PLACE
17TH FLOOR
P.O. BOX 2967
HOUSTON, TEXAS 77001

INVOICE NO. 28-05-730190
PLEASE INDICATE INVOICE
NUMBER ON YOUR CHECK

JOINT OPERATIONS INVOICE

MONTH OF MAY 19 8

PROPERTY 7301900
NAME L BOREN 2-11A2 UNIT

REMIT TO: PENNZOIL COMPANY
P.O. BOX 200099
HOUSTON, TEXAS 77216

DESCRIPTION				AMOUNT
		INTEREST	AMOUNT	
00000	PENNZOIL COMPANY	.4330391	$17,610.44	
02896	ANR PRODUCTION COMPANY	.0312500	1,270.84	
10966	CSX OIL & GAS CORP.	.0125000	508.34	
15483	CONVEST ENERGY CORP	.0062500	254.17	
24163	EXXON COMPANY USA	.0714218	2,904.51	
30921	FORCENERGY INC	.0031250	127.08	
32906	GID ENERGY DEVELOPMENT CO	.0031250	127.08	
54926	LEHNDORFF/LGB MINERALS	.0031250	127.08	
68043	PROVEN PROPERTIES INC	.4330391	17,610.41	
92063	UTEX OIL COMPANY	.0031250	127.08	
	TOTAL	1.0000000	$40,667.03	
OPERATION				
	SALARIES & WAGES			$434.20
	PAYROLL BURDEN			112.54
	CONTRACT SERVICE & EQUIP			763.09
	MATERIALS & SUPPLIES			182.00
	OFFICE SUPPLIES & EXPENSE			9.91
	RENTS			29.51
	TELEPHONE & TELEGRAPH			13.00
	COMMUNICATION SERVICE			1.02
	UTILITIES			1,510.13
	EXPENSES OF EMPLOYEES			1.56
	FUEL & POWER			2,547.16
	AUTO AND TRUCK TRANSPOR.			897.98
	SALT WATER DISP EXP DISTD			710.15
	OVERHEAD			1,015.85
	MISCELLANEOUS EXPENSE			0.81

PAMPA, TEXAS
ARDMORE, OKLA.
HENNESSEY, OKLA.

THURMOND-McGLOTHLIN, INC.

Gas Testing and Measurement
P.O. Box 2358 806/665-5792
Pampa, Texas 79066-2358

MIDLAND, TEXAS
SONORA, TEXAS
WILLISTON, N. DAKOTA

MAY 22 87

INVOICE NO. 6-1436-87

May 18, 1987

P. O. NO. COMPANY Pennzoil Company P.O.Box 266 Neola, UT. 84053

DATE	LEASE	WELL OR STA. NO.	TYPE OF TEST	PRICE PER TEST	EXPENSES	TOTAL
5-11-87 5-12-87	Boren 2-11A2 (Blow out gas)		Fractional analysis (Gas)	$44.00/ea.	Four (4)	$176.00

AFE

	XX	XXX	XXX	
			176	00
ACCOUNT				
NET AMOUNT			176	00
VOUCHER NUMBER	F286699			
DUE DATE	6-12-87			
VENDOR NUMBER	1130	71814		

Cyg Hadlock
AFE # 7628737
810-610
5-29-87

Customer account no. 7007
516-001 = $176.00

TOTAL TESTING AND EXPENSES $176.00

APPROVED BY _____ TITLE _____

TERMS: NET UPON RECEIPT. FINANCE CHARGES OF 1½% PER MONTH. 18% ANNUAL RATE. WILL BE ADDED TO UNPAID BALANCE.

1:15 Departure time from Yard 1:45 Arrival time on Job ~~1:55~~ 2:10 Finished Pouring

1½% Interest per month charged on all accounts past 30 days. By my signature, if collection is made by suit or otherwise, I agree to pay interest until paid, also collection costs including a reasonable attorney's fee. I agree to terms of sale and delivery and accept the concrete as is. Due to important factors which are out of our control after delivery, this Company will not accept any responsibility for the finished results. **No Credit** is allowed for returned concrete. All concrete is air entrained unless otherwise specified.

UINTAH BASIN CONCRETE
P.O. Box 1388 — Ph. 722-3621
ROOSEVELT, UTAH 84066

№ 23941

DATE 5-18-87

CAUTION: The addition of water at place of delivery adversely affects the quality and strength of concrete. _____ **Gallons of water authorized by** _____ **added at job site.**

SOLD TO Pennzoil

JUN 0 5 87

PE

SHIPPED TO Boren 2-11A2

NOTICE: Our drivers will make every effort to place materials where customer designates, but the company assumes **NO** responsibility for damages inside the curb or property lines. Five (5) minutes per yard unloading allowed. Overtime unloading charge $45.00 per hour or fraction thereof.

THIS CONCRETE USED FOR:

Footings ☐ Wall ☐ Floor ☐
Foundations ☐ Forms ☐ Driveway ☐
Steps ☐ Patio ☐ Test ☐
Sidewalk ☐ Curb and Gutter ☐ Other ☐

YOUR ORDER NO.
SHIPPED VIA #57 Craig
SALESMAN

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	PRICE	PER	AMOUNT
74	74	60 Bag Concrete	6.08		451.50
		TAX			27.09
		478.59 by J Hadlock			478.59
		478.59 AFE # 7628737			
		VOUCHER NUMBER F286993			
		DUE DATE 6-30-87			
		Van Jensen			
		VENDOR NUMBER 132 3460			

The INK SPOT -Roosevelt, Utah

MATERIAL	UNIT	PRICE	COST

MAY 18 87

		210 00
		210 00
NUMBER	F286532	
DUE DATE	6-15-87	
VENDOR NUMBER	133996	

C J Hadlock

AFE 76-287-37

Thank you!

The undersigned purchaser or company hereby agrees to pay for any damages that occur on location, also to pay the following account at Roosevelt, Utah on or before the 15th day of the succeeding calendar month, and if not paid when due to pay interest thereon at the rate of ten per cent per annum, both before and after judgment until paid, though this account is placed in the hands of an attorney for collection, either with or without suit, plus a reasonable attorney's fee.

SIGNATURE C J Hadlock

Welborn Welding

24 HR. Service

616 W. Miller dr 67-3 ~~RT. 1, BOX 179~~
ROOSEVELT, UTAH 84066

Phone (801) 722-4470

INVOICE NO. 0044 DATE 5-15-87

NAME Pennzoil

ADDRESS P.O. Box 290 Neola, UT 84053

P. O. NO. LEASE

DESCRIPTION	AMOUNT
5-15-87 Boren 3-11-A2	
Run 2" seamless pipe from	
back side of wellhead to	
manifold & tie in. Run	
2" dry gas line from wellhead	
to Separator 7 HRS	210.00
Welder Jeff Wellow rate 30.00/hr	

ORDERED BY

NOT RESPONSIBLE FOR LOSS BY FIRE OR THEFT.

TOTAL LABOR	210 00
TOTAL PARTS	/
TAX	
TOTAL AMOUNT	210 00

GREAT LAKE TIMBER COMPANY

Fort Duchesne, Utah 84026
Phone 247-2321

OUR INVOICE NO. 9899

5-14-87

RECEIVED MAY 18 87

YOUR ORDER NO.

HAULED BY

INVOICED TO
Pennzoil Corp.
P.O. Box 290
Neola, Utah 84053

SHIPPED FROM

Terms: **Net** due 10th of month following date of purchase. Legal rate of interest charged on all past due accounts.

DELIVERED TO Boren 211A2

TERMS:

Date	No. Pieces	Description	Extension	Price	Total
	6	8x8-10	320	390	124.80
	6	6x8-10	240	305	73.20
	12	3x12-12	432	390	168.48
			992		366.48
		Taxes			21.99
					388.47

	XX	XXX	XXX	
INVOICE AMOUNT			388	47
DISCOUNT				
NET AMOUNT			388	47
VOUCHER NUMBER	F286627			
DUE DATE	~~6-14-87~~ 6-12			
VENDOR NUMBER	112703			

Rwd

G J Hadlock
Boren #2-NA2
AFE

Shipping Lumber
All Sizes
Creosote Treated
Materials

Light Poles
Telephone Poles
Stubs
Anchor Logs

Mining Timbers
Wedges
Cap Pieces
Lumber

Mine Props
Ties
Railroad
Mining

Welborn Welding

24 HR. Service

616 W. Miller Dr 67-3

~~RT. 1, BOX 179~~

ROOSEVELT, UTAH 84066

Phone (801) 722-4470

INVOICE NO. 0043

DATE 5-13-87

NAME Pennzoil

ADDRESS P.O. Box 2?, Neola, UT. 84053

P. O. NO.

LEASE

DESCRIPTION	AMOUNT
5-13-87 (Boren 11-A2)	
Fabricate & Weld Flare	
System Candle stick and	
pipe. 4½ hrs	
	135 00
Boren #2-11A2	
Welder Jeff Welborn	
TOTAL LABOR	135 00
TOTAL PARTS	
TAX	
TOTAL AMOUNT	135 00

ORDERED BY

NOT RESPONSIBLE FOR LOSS BY FIRE OR THEFT.

MATERIAL	UNIT	PRICE	COST

MAY 18 87

135 00

135 00

F286533

6-12-87

133996

AFE

The undersigned purchaser or company hereby agrees to pay for any damages that occur on location, also to pay the following account at Roosevelt, Utah on or before the 15th day of the succeeding calendar month, and if not paid when due to pay interest thereon at the rate of ten per cent per annum, both before and after judgment until paid, though this account is placed in the hands of an attorney for collection, either with or without suit, plus a reasonable attorney's fee.

SIGNATURE C J Hadlock

Bright Swabbing Service, Inc.
Box 355
Roosevelt, Utah 84066
Telephone: (801) 722-4892

INVOICE № 3795

Date 2/15/87
Order No. _____ Date _____
Lease Lewis Well No. 2-11A2
Company Supervisor _____

Account of Lonngren
MAR 2 8 87
Address _____ NY
Utah State Unemployment No. _____
Federal S.S. No.

Depth of Well	
Distance Motel/Yard	

I HEREBY ACKNOWLEDGE BY MY SIGNATURE THAT ALL OF MY WORK AND TRAVEL TIME HAS BEEN PROPERLY REPORTED FOR THIS DAY ACCORDING TO THE COMPANY'S ACCEPTED POLICY.

Employee's Signature	Travel Time To Job	Work Time On Job	Travel Time From Job
Operator Craig Phillips		8	
Floor Hand Frank Lewis		8	
Rig No. 2		8	

DESCRIPTION OF WORK Stand by for rig & Crew.

AFE

	XX	XXX	XXX	
INVOICE AMOUNT			560	00
DISCOUNT				
NET AMOUNT			560	00
VOUCHER NUMBER	F286506			
DUE DATE	6-12 DUE			
VENDOR NUMBER	148303			

G J Hadlock
AFE #1628737
810.610

87-0425585
a
NEW VENDOR

	HOURS	RATE	AMOUNT
Rig and Crew	8	70.00	560.00
Crew Travel Time			
Crew Transportation			

Equipment Rentals	AMOUNT RENTAL
Hydraulic Jars	
Pump Overshot	
Standing Valve Fishing Tool	
Bulldog Spear	
Shear Down Tool	

Rubber Goods Furnished	MAKE	KIND	SIZE	NO. USED
Oil Saver Rubbers				
Swab Cups				

Other Material Sales	NO.	PRICE
Fuel - No. of Gallons		

TOTAL $ 560.00

G J Hadlock
Company Agent/Representative

TERMS: Per current published rate sheets. The conclusion of each tour constitutes acceptance of our work and charges.

The Ink Spot

Bright Swabbing Service, Inc.
Box 355
Roosevelt, Utah 84066
Telephone: (801) 722-4892

INVOICE № 3794

Date 5/11/87

Account of Pennzoil

MAY 18 87

Order No. _____ Date _____

Lease Larsen Well No. 2-11

Company Supervisor _____

Address _____ NY

Utah State Unemployment No.

Federal S.S. No.

I HEREBY ACKNOWLEDGE BY MY SIGNATURE THAT ALL OF MY WORK AND TRAVEL TIME HAS BEEN PROPERLY REPORTED FOR THIS DAY ACCORDING TO THE COMPANY'S ACCEPTED POLICY.

Employee's Signature	Travel Time To Job	Work Time On Job	Travel Time From Job
Operator Craig Phillips		10	
Floor Hand Frank Larson		10	
Rig No. 2		10	

Depth of Well	
Distance Motel/Yard	

DESCRIPTION OF WORK Stand by for rig & crew

	XX	XXX	XXX	
INVOICE AMOUNT			700	00
DISCOUNT				
NET AMOUNT			700	00
VOUCHER NUMBER	F286507			
DUE DATE	6-1 DUE			
VENDOR NUMBER	1 1	1 4 8 3 1 0 3		

AFE 810-610

C J Haddock
AFE #7628737

	HOURS	RATE	AMOUNT
Rig and Crew	10	70.00	$ 700.00
Crew Travel Time			
Crew Transportation			

NEW VENDOR

Equipment Rentals	AMOUNT RENTAL
Hydraulic Jars	
Pump Overshot	
Standing Valve Fishing Tool	
Bulldog Spear	
Shear Down Tool	

Rubber Goods Furnished	MAKE	KIND	SIZE	NO. USED
Oil Saver Rubbers				
Swab Cups				

Other Material Sales	NO.	PRICE
Fuel - No. of Gallons		

TOTAL $ 700.00

C J Haddock
Company Agent/Representative

TERMS: Per current published rate sheets. The conclusion of each tour constitutes acceptance of our work and charges.

The Ink Spot Roosevelt, Utah

INVOICE

R.W. JONES TRUCKING CO.

OILFIELD RIG-UP AND HEAVY HAUL

P. O. BOX 1785 ~~P.O. DRAWER I~~ • VERNAL, UTAH 84078

PHONE (801) 789-1231

SOLD TO PENNZOIL COMPANY
P. O. BOX 290
9200 NEOLA UT 84053

FROM VERNAL
TO BOREN 2-11A2

MAY 18 87
PE
DENVER, COLO.

TERMS	CUSTOMER P.O.	VENDOR NO.	FROM DATE	TO DATE	INVOICE DATE	INVOICE NO.
			05/10/87	05/10/87	05/11/87	705028

WORK TICKET	UNIT	DESCRIPTION	HOURS/WEIGHT	RATE	AMOUNT
		PULLED ONE FRACMASTER TANK FROM H&H BI-CO RENTAL'S VERNAL YARD TO BOREN 2-11A2.			
60292	61	TRUCK 61	4.00	58.96	235.84
		TOTAL INVOICE AMOUNT			235.84

	XX	XXX	XXX	
GROSS AMOUNT			235	84
DISCOUNT				
NET AMOUNT			235	84
VOUCHER NUMBER	F286613			
DUE DATE	6-11-87			
VENDOR NUMBER	1116	2231		

AFE
DR Lambton 1

DUE AND PAYABLE WITHIN 30 DAYS OF INVOICE DATE

T & N Spoolers & Cable Service
P.O. Box 1415
Vernal, Utah 84078-1415
(801) 789-6092

INVOICE
515

DATE ENTERED: MAY 11, 1987
DATE CLOSED: MAY 15, 1987
CUSTOMER I.D. NO.: BOREN 2-11A2 SANDLINE
TICKET NO.: BOREN 1-14A2 CABLE
2074 and 2075

CHARGE: PENNZOIL OIL COMPANY
ADDRESS: P.O. BOX 290
NEOLA, UT 84053
WELL NO: BOREN 2-11A2 SANDLINE-BASIN WIRELINE YARD
BOREN 1-14A2 BLUEBELL-ALTAMONT
Unit No.: 10 and 7 100002
Ship From: VERNAL, UT 84078

TERMS: NET 30 DAYS
RECEIVED BY

OPERATORS: DARREN

DESCRIPTION	AMOUNT	EACH	NET
SPOOLER TO SPOOL SANDLINE AT BASIN WIRELINE YARD	2 hrs.	4000	80 00
MAN TO CHECK CABLE FOR BOREN 1-14A2	6 hrs.	2500	150 00
TRAVEL TIME	2 hrs.	4000	80 00
TRAVEL TIME TO CHECK CABLE FOR BOREN 1-14A2	2 hrs.	2500	50 00
OVERNIGHT EXPENSE			
LANDER			
BANDS			
OTHER SURFACE REPAIR	ONE	2600	26 00
			$ 386 00

INVOICE AMOUNT		386	00
DISCOUNT			
NET AMOUNT		386	00
VOUCHER NUMBER	F286698		
DUE DATE			
VENDOR NUMBER	13003		

G J Hadlock
AFE # 762813 7

MONTH	YEAR	HOURS LABOR	MON.	TUES.	WED.	THURS.	FRI.	SAT.	SUN.
			11				15		
MAY	1987	2 + 6	2				6		

TOTAL

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00748-0	40706176	1

CUSTOMER ORDER NO.	ORDERED BY	SHIPPED FROM	TAX CODE	DATE SHIPPED	INVOICE DATE
NOR	HAROLD	VERNAL, UTAH	080002	06/03/87	06/23/87

LOCATION REFERENCE	FREIGHT	TERMS
BOREN 2 11 A2	PREPAID	Net 30 days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	DEST	O/T

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

SHIP TO:
NEOLA UTAH

JUN 29 87

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART ID	UNIT PRICE	UNITS	DISC %	AMOUNT EXTAMT
001	1.00	3 8V X 2-1/2 EUE 8RD XH SMLS TUBING SWAGE NIPPLE	2786920	$143.05	EA	50.00%	$71.53
002	2.00	2-1/2 IN #213 0-3000# WIKA GAUGE W/1/4 LC	3529470	$29.65	EA	15.00%	$50.40
		TAXABLE TOTAL					$121.93
		TAXES 5.875% 5.875% UT COMBINED RATE AS OF 4/1/87					$7.16
		NON-TAXABLE TOTAL					$.00
		FREIGHT					$.00
		TOTAL AMOUNT DUE					$129.09

	XX	XX		
INVOICE AMOUNT			129	09
DISCOUNT				
NET AMOUNT			129	09
VOUCHER NUMBER	G287552			
DUE DATE	7-23-87			
VENDOR NUMBER	1215713191			

G J Hadlock
AFE #628737
810612
6-30-87

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON—MOSS WARRANTY—FEDERAL TRADE COMMISSION IMPROVEMENT ACT.

Bluebell Hot Oil Service

HOT OIL DEWAXING & STEAM CLEANING

Phone 353-4324 Rt. 1 Box ~~499~~ 1229

ROOSEVELT, UTAH 84066

Customer's Order No.

Invoice Date
June 18, 1987

Invoice No.
933

In Account With
Pennzoil Company
P.O. Box 290
Pennzoil Company

Terms: Net Cash

Date	Ticket No.	Well No.	Description	Hours	Amount
			As noted on work tickets		
6-2-87	9495	Boren #2-11A2		10	$ 555.00
6-4-87	9499	Boren #2-11A2		4	$ 211.00
			Balance due		$ 766.00

JUN 19 87

7628137
810-610
6-19-87

Craig Cordant
AFE.

	XX	XXX	XXX
Invoice			76600
			76600

F287317
7-18-87
103634

PAMPA, TEXAS
ARDMORE, OKLA.
HENNESSEY, OKLA.

THURMOND-McGLOTHLIN, INC.

Gas Testing and Measurement
P.O. Box 2358 806/665-5792
Pampa, Texas 79066-2358

MIDLAND, TEXAS
SONORA, TEXAS
WILLISTON, N. DAKOTA

INVOICE NO. 6-1444-87

June 12, 1987

P. O. NO. COMPANY Pennzoil Company P.O.Box 266 Neola, UT. 84053

DATE	LEASE	WELL OR STA. NO.	TYPE OF TEST	PRICE PER TEST	EXPENSES	TOTAL
5-19-87	BOren	2-11A2	Fractional analysis (Gas)	$32.50		$32.50

RECEIVED
JUN 15 87
PENNZOIL COMPANY
DENVER, COLO.

AFE. Craig Coolard

GROSS AMOUNT	32.50
DISCOUNT	
NET AMOUNT	32.50
VOUCHER NUMBER	F287199
DUE DATE	7-12-87
VENDOR NUMBER	138984

76287 37
6-17-87

Customer account no. 7007

516-001 = $32.50

TOTAL TESTING AND EXPENSES $32.50

APPROVED BY _____ TITLE _____

TERMS: NET UPON RECEIPT. FINANCE CHARGES OF 1½% PER MONTH. 18% ANNUAL RATE. WILL BE ADDED TO UNPAID BALANCE.

FORM TM-110

DIRECT DIAL PHONES
PHONE 722-2201

TIME TO EAT!

060415

Frontier Motel & Grill

MR. & MRS. GORDON HARMSTON
OWNERS-MGRS.
75 SOUTH 200 EAST ★ ROOSEVELT, UTAH 84066

AAA

RECEIVED
JUN 05 87
PENNZOIL
DENVER, COLO.

June 3 19 87

ACCOUNT OF

FIRM PeNNZOIL

AMOUNT	110	77
DISCOUNT		
RATE PLUS TAX	6	77
VOUCHER NUMBER	F287164	
DUE DATE	7-3-87	
VENDOR NUMBER	145061	

FROM	TO	ROOM NO.
	G. Hadlock	

BORer 2-11A2

TELEPHONE (LOCAL)

AFE 7628737

LONG DISTANCE

MEALS per ticket	110	77
LAUNDRY		
TOTAL	110	77

Two Good Places to Sleep and Eat - - Here and At Home

On Job Site Meal.

RECEIVED

JUN 15 1987

ACCOUNTS PAYABLE
PENNZOIL PRODUCING CO.

FORM 25-210(1)

REQUEST FOR CHECK

ORIGINATOR:

Co.	Dist.

C. V. REFERENCE F826952

TO ACCOUNTING DEPARTMENT:

Date June 12 19 87

Please issue check of (Company) PENNZOIL COMPANY

In the amount of $ 500.00

Payable to Roosevelt Seventh Ward, Latter-Day Saints

VENDOR NUMBER

Whose address is P. O. Box 850 Attn: Bishop Michael Barneck

Roosevelt, Utah 84066

For Contribution - services provided during well blow-out

Please send check to:
Mary Sue Fiorillo, 33rd floor.

FOR ACCOUNTING DEPARTMENT USE

DESCRIPTION AREA: Lease	Sub	PC	Code	Payor	Mo	Yr	Prod.		Dist.	Alloc.		Field	Organiz. Vendor	BS	Co	Dept.	ACCOUNT Maj	Sub	LOCATION Lease	Sub	PC	Code AFE		Billing Code	Detail	ATR	QUANTITY			AMOUNT		
XX	XXX				XX	XX	X	X	XX	X	X	XXXX	X	XX	XX	X	XXX	XXX	XX		XX	XXX	XX	X	XXXX	X	XXX	XXX	XX	X	XXX	XXX	XX
															25	1	810	699	76			287	37	1								500.00

Submitted by Mary Sue Fiorillo

TOTAL→ 500.00

Checked by

Checked by

Approved for payment

B. C. Sinclair

RECEIVED

JUN 15 1987

ACCOUNTS PAYABLE
PENNZOIL PRODUCING CO.

FORM 25-210(1)

REQUEST FOR CHECK

ORIGINATOR:

Co.	Dist.

C. V. REFERENCE: T826954

TO ACCOUNTING DEPARTMENT:

Date: June 12 19 87

Please issue check of (Company): PENNZOIL COMPANY

In the amount of: $ 300.00

Payable to: Neola First Ward, Latter-Day Saints

VENDOR NUMBER:

Whose address is: Box 348 Attn: Bishop Parley D. Smart

Neola, Utah 84054

For: Contribution: Services provided during well blow-out.

Please send check to:
Mary Sue Fiorillo, 33rd floor.

FOR ACCOUNTING DEPARTMENT USE

DESCRIPTION AREA																													
Lease		Sub								Organiz.				ACCOUNT		LOCATION													
PC	Code			Prod.		Dist.	Alloc.			Vendor						Lease		Sub	Billing Code	Detail	ATR	QUANTITY			AMOUNT				
Payor		Mo	Yr						Field		BS	Co	Dept.	Maj	Sub	PC	Code AFE												
XX	XXX	XX	XX	X	X	XX	X	X	XXXX	X	XX	XX	X	XXX	XXX	XX	XXX	XX	X	XXXX	X	XXX	XXX	XX	X	XXX	XXX	XX	
												25	1	810	699	76	287	37	1								300	00	

Submitted by: Mary Sue Fiorillo

TOTAL → 300.00

Checked by

Checked by

Approved for payment

B. C. Sinclair

RECEIVED

JUN 15 1987

ACCOUNTS PAYABLE
PENNZOIL PRODUCING CO

FORM 25-210(1)

REQUEST FOR CHECK

TO ACCOUNTING DEPARTMENT:

ORIGINATOR:

Co.	Dist.

C. V. REFERENCE: F826953

Date: June 12 19 87

Please issue check of (Company): PENNZOIL COMPANY

In the amount of: $ 300.00

Payable to: Neola Volunteer Fire Department

VENDOR NUMBER:

Whose address is:
c/o Mr. Ervin Zager
Neola, Utah 84053

For: Contribution - services provided during well blow-out.

Please send check to:
Mary Sue Fiorillo, 33rd floor

FOR ACCOUNTING DEPARTMENT USE

DESCRIPTION AREA																															
Lease		Sub								Organiz.				ACCOUNT		LOCATION															
PC	Code			Prod.		Dist.	Alloc.			Vendor						Lease		Sub													
Payor		Mo	Yr						Field		BS	Co		Maj	Sub	PC	Code AFE		Billing Code	Detail	ATR	QUANTITY				AMOUNT			
XX	XXX	XX	XX	X	X	XX	X	X	XXXX	X	XX	XX	X	XXX	XXX	XX	XXX	XX	X	XXXX	X	XXX	XXX	XX	X	XXX	XXX	XX
												251	1	810	699	76	287	37	1								300	.00

Submitted by: Mary Sue Fiorillo

TOTAL → 300.00

Checked by

Checked by

Approved for payment

B. C. Sinclair

IN ACCOUNT WITH

Duchesne County

RECEIVED JUN 15 87 FEN... U...

DUCHESNE, UTAH June 8, 1987

Pennzoil Oil Corp
P.O. Box 290
Neola, Utah 84053

AFE Craig Cowdent
Boren 2-11A2

Fire Run by the Roosevelt Fire Department
May 10, 1987. 2:00 A.M.
Gas Well Leak. Amount Due $250.00

Fire run by the Roosevelt Fire Department
May 10, 1987 8:30 A.M.
Gas Well Leak Amount Due $250.00

Total Due $500.00

Please make your check payable to:

Duchesne County
Drawer 910
Duchesne, Utah 84021

INVOICE	XX	XXX	XXX	
DISCOUNT				
NET AMOUNT			50000	
VOUCHER NUMBER	F287204			
DUE DATE	DUE			
VENDOR NUMBER				

7628737
810-645
6-17-87

722-4501
789-4200
Unit 1622
Unit 1624

Basin Wireline Service
Box ~~623~~ 268
Neola, Utah 84053

722-9073

Invoice

№ 11498

JUN 12 87

Sold To Pennzoil Exploration & Production
P O Box 290
Neola, Utah 84053

Date June 9, 1987

AFE# 7628737

Date	Location	Ticket No.	Amount	
5-12-87	Boren 2-11A2	4025	$ 2,250	00
		TOTAL	$ 2,250	00

	XX	XXX	XXX
INVOICE AMOUNT		2	250 00
DISCOUNT			
NET AMOUNT		2250 00	
VOUCHER NUMBER	F287200		
PAID DATE	7-9-87		
NUMBER	102919		

Dig Headback
AFE #7628737

The INK SPOT - Roosevelt, Utah

Ned Ross Welding
Rt. 2 Box 2145
Roosevelt, Utah 84066
(801) 722-3720

JUN 0 5 87
DENVER, COLO.

INVOICE No. 1108

DATE 6-4-87

TO: Pennzoil Company
Box 290
Neola, Utah

SERVICE ORDER

TERMS: NET 30 DAYS

DATE	LOCATION	ticket #	HOURS	RATE	AMOUNT
5-14-87	Boren 2-11A2	1619	16	31 00	496 00
5-18-87	Boren 2-11A2	1621	8	31 00	248 00
5-19-87	Boren 2-11A2	1622	8	31 00	248 00
5-20-87	Boren 2-11A2	1623	8	31 00	248 00
5-21-87	Boren 2-11A2	1624	6	31 00	186 00

1 426 00
1 426 00
F286995
DUE DATE 7-4-87
VENDOR NUMBER 126755

L J Hadlock
AFE # 762873
810-610
6-8-87

SERVICE CHARGE: 1½% PER MONTH ON OVERDUE ACCOUNTS. **TOTAL** 1426 00

The INK SPOT - Roosevelt, Utah

ORIGINAL Page_____ of_____

COPY

FILE

Sivalls

INVOICE

Customer's Order No. Verbal

Invoice No. UT-23471

Date 6-10-87

RECEIVED JUN 15 87

SOLD TO

Pennzoil 16-0500
P.O Box 290
Neola, UT 84053

Destination Boren 2-11-A2 AFE #7628737

Quotation No.

County Duchesne State Utah

Date Shipped 5-27-87 FOB Point Branch Branch Vernal

How Shipped Zanes OFS Delivery Tkt. No. 54166

Qty.	Description	Net Each	Total Net
1	API painted stairway, go-in, brackets and 4' landing for 20' high tank, material only, knocked down.		$577.00
	6% Utah State and County Sales Tax		34.62
			$611.62

Craig Coolbaugh

AFE

	XX	XXX	XXX	
INVOICE AMOUNT			611	62
DISCOUNT				
NET AMOUNT			611	62
VOUCHER NUMBER	F287197			
DUE DATE	7-10-87			
VENDOR NUMBER	1218349			

7628737
810612
6-17-87

Sivalls, Inc. • Box 2792 • Odessa, Texas 79760 • 915/337-3571

TERMS: Net and due upon receipt of invoice. Interest at the legal rate from date of invoice will accrue and be charged monthly on all amounts not paid within thirty (30) days. The equipment, material and/or labor listed hereinabove was sold, delivered and/or performed subject to the "General terms and conditions of sale of products" attached hereto and made a part hereof for all purposes.

ORIGINAL Page_____ of_____

COPY

FILE

Sivalls

INVOICE

Customer's Order No. Verbal

Invoice No. UT-23637

Date 6-25-87

RECEIVED JUN 30 87 PENNZOIL COMPANY DENVER, COLO.

SOLD TO

Pennzoil 16-0500
P.O. Box 290
Neola, UT 84053

Destination Boren 2-11-A2

Quotation No.

County Duchesne State Utah

Date Shipped 6-16-87 FOB Point Branch Branch Vernal

How Shipped Called for. Delivery Tkt. No. 54206

Qty.	Description	Net Each	Total Net
1	OGP 14-N-4 54 hole firetube gasket:		$75.00
	6% Utah State and County Sales Tax		4.50
			$79.50

	XX	XXX	XXX	
INVOICE AMOUNT			79	50
DISCOUNT				
NET AMOUNT			79	50
VOUCHER NUMBER	G287555			
DUE DATE	7-25-87			
VENDOR NUMBER	128349			

B J Hadlock
AFE# 7628737

Sivalls, Inc. • Box 2792 • Odessa, Texas 79760 • 915/337-3571

TERMS: Net and due upon receipt of invoice. Interest at the legal rate from date of invoice will accrue and be charged monthly on all amounts not paid within thirty (30) days. The equipment, material and/or labor listed hereinabove was sold, delivered and/or performed subject to the "General terms and conditions of sale of products" attached hereto and made a part hereof for all purposes.

Oil Field Rental Service Company

713/672-1601 P.O. BOX 1331
HOUSTON, TEXAS 77251

ORIGINAL INVOICE

PLEASE REMIT TO:
P.O. BOX 200501
HOUSTON, TEXAS 77216

To	Pennzoil	LOCATION: Boren	RENTAL COMPLETE ☐	INVOICE DATE: 6-24-87
	P.O. Box 290	WELL NO.: 2-11A2 RIG NO.	STILL RENTING ☐	RENTAL PERIOD (1): 5/14- 6-14-87
	Neola, Utah 84053	DESTINATION: Neola, Utah	PARTIAL RETURN ☐	SHIPPED VIA: Jack Klun CHG ☐ N.C ☐

INVOICE NUMBER: 3570630

ORDER NO./ORDERED BY	DATE SHIPPED	SHIPPED FROM	RETURNED VIA (1)	DELIVERY TICKET NO
Bill Allen & Jess Dullnig	5/14/87	Vernal	CHG ☐ N.C ☐	13533XX

QUANTITY DELIVERED	DESCRIPTION (2,4)	POSTED IN	POSTED OUT	QUANTITY RETURNED	DATE RETURNED	DAYS CHARGED	MINIMUM RENTAL DAYS	MINIMUM RENTAL AMOUNT	EACH ADDITIONAL DAYS	AMOUNT
1	11" 5000# Cameron type "U" dbl. BOP #39896									
	w/blind rams top #72693 blind rams bottom #50534									
1	5 valve accumalator Koomey 60 gallon w/8 1000 hoses #104204									
1	spool 11" 5000# X 11" 5000# w/2 6" 5000# outlets (Boots & Coots)									
1	spool 10 5000# X 10" 5000# #102950									
1	spool 10" 3000# X 10" 5000# #92387									
2	6" 5000# manuel gate valves #(Boots & Coots)			Jeff Magee						
2	6" 5000# HCR valves (hydralic operated) #471,85445									
2	6" 5000# weld flanges #112306,112305									
3	sets (12 ea. set) 1 7/3" X 14½" bolts w/2 nuts ea.								NCIR	
3 X4	sets (12 ea. set) 1 3/8" X 11¼" bolts w/2 nuts ea.								NCIR	
1	set (16) 1 3/8" X 10" bolts w/2 nuts ea.								NCIR	

RETURNS: I, the undersigned, do hereby certify receipt by Oil Field Rentals Service Company of items indicated in "Quantity Returned" column on this date.

DELIVERY: I, the undersigned, do hereby certify that the listed tools were delivered to me upon the terms and conditions for rentals printed upon the back of this form received by (lessee or his agent).

BY X

TERMS: Net Cash—No Discount. All charges are due and payable at the office of lessor in Houston, Texas, on the 30th of the month following date of invoice. Interest will be charged on all invoices not paid within terms.

INVOICE 1

Oil Field Rental Service Company

713/672-1601 P.O. BOX 1331
HOUSTON, TEXAS 77251

PLEASE REMIT TO
P. O. BOX 200501
HOUSTON, TEXAS 77216

To
Pennzoil
P.O. Box 290
Neola, Utah 84053

LOCATION: Boren
WELL NO: 2-11A2
RIG NO.:
DESTINATION: Neola, Utah
RENTAL COMPLETE ☐
STILL RENTING ☐
PARTIAL RETURN ☐
RETURNED VIA (1): CHG ☐ N.C ☐

INVOICE DATE: 6-24-87
INVOICE NUMBER: 3570130
RENTAL PERIOD (1): 5/14-6/14/87
SHIPPED VIA: Jack Klun CHG ☐ N.C ☐
DELIVERY TICKET NO.: 13540

ORDER NO./ORDERED BY: Bill Allen & Jess Dullnig
DATE SHIPPED: 5/14/87
SHIPPED FROM: Vernal

QUANTITY DELIVERED	DESCRIPTION (2,4)	POSTED	QUANTITY RETURNED	DATE RETURNED	DAYS CHARGED	MINIMUM RENTAL DAYS	MINIMUM RENTAL AMOUNT	EACH ADDITIONAL DAYS	AMOUNT
2	3 1/16" 10,000# adjustable chokes #109094,109085								
2	2 1/16" 15,000# Master Chokes w/control panel #125218				30	Special Quote	1,479.00		44,370.00
4	BX 155 ring gaskets					Sale	103.26ea.		413.04
5	BX-152 ring gaskets					Sale	62.57ea.		312.85
1	R-53-S ring gasket					Sale	29.07		29.07
6	R-46-S ring gaskets					Sale	21.99ea.		131.94
4	R-54-S ring gaskets					Sale	43.55ea.		174.20
1	airline ticket for Super Choke man								480.00
1	hot shot ticket 10" BOP from Casper								639.00
1	hot shot ticket 5 valve accumlator from Evanston								556.00
1	hot shot ticket Super Choke and equipment from Houston								4,338.64
7	days @ 12 hours per day for Super Choke man						25.00	per hr.	2,100.00

Jeff Magee

RETURNS: I, the undersigned, do hereby certify receipt by Oil Field Rentals Service Company of items indicated in "Quantity Returned" column on this date.

DELIVERY: I, the undersigned, do hereby certify that the listed tools were delivered to me upon the terms and conditions for rentals printed upon the back of this form received by (lessee or his agent).

BY X

TERMS: Net Cash—No Discount. All charges are due and payable at the office of lessor in Houston, Texas, on the 30th of the month following date of invoice. Interest will be charged on all invoices not paid within terms.

INVOICE 1

INVOICE
210683

Tank Rental

A-1 Service

Brine Water

P.O. Box 1167

Phone 789-0742 VERNAL, UTAH 84078

PENNZOIL COMPANY

PURCHASE ORDER NO.

DATE 06/23/87

DATE	TICKET NO.	HOURS @	TOTAL	LOCATION
05/20/87 06/20/87	10847		853.39	BOREN #2-11A2

500 BBL FRAC TANK ON RENTAL AT $25/DAY FOR 14 DAYS
HAULED TO LOC 2 HRS AT $54/HR
HAULED FROM LOC TO YARD 2 HRS AT $54/HR
CLEANING CHARGE 4 HRS AT $60/HR

RECEIVED
JUN 29 87
PENNZOIL COMPANY

BALANCE DUE THIS INVOICE --- $853.39

	XX	XXX	XXX	
INVOICE AMOUNT			853	39
DISCOUNT				
NET AMOUNT			853	39
VOUCHER NUMBER	G287554			
DUE DATE	7-23-87			
VENDOR NUMBER	1010	11911		

AFE # 7628737
810.610
6-30-87

FLINT Engineering & Construction Co.

324 PETROLEUM BUILDING BILLINGS, MONTANA 59101

REMIT TO:
POST OFFICE BOX 97417
DALLAS, TEXAS 75397

RECEIVED
19
JUN 22 87
PENNZOIL COMPANY
DENVER, COLO.

SOLD TO • PENNZOIL COMPANY
• P. O. Box 266
• Neola, Utah 84053
DELIVERED AT •
DELIVERED TO •

INVOICE No. • 11317
JOB No. • H54011
ORDER No. •
INVOICE DATE • 6-17-87
DATE STARTED • 5-25-87
DATE COMPLETED • 5-31-87

DATE	TKT. NO.	LEASE	AMOUNT	TOTAL
5-26-87	732573	Boren Well No. 2-11A2	338.40	
27	732574	"	338.40	
28	732575	"	362.90	
5-29-87	732428	"	338.40	1,378.10

TOTAL INVOICE AMOUNT $ 1,378.10

Craig Cardwell
AFE

INVOICE AMOUNT		1 378 10
DISCOUNT		
NET AMOUNT		1 378 10
VOUCHER NUMBER		F287429
DUE DATE		7-17-87
VENDOR NUMBER	11110340	

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FLINT 9-7

FLINT Engineering & Construction Co.

324 PETROLEUM BUILDING BILLINGS, MONTANA 59101

REMIT TO:
POST OFFICE BOX 97417
DALLAS, TEXAS 75397

SOLD TO • PENNZOIL COMPANY
P. O. Box 266
Neola, Utah 84053

DELIVERED AT •
DELIVERED TO •

RECEIVED
JUN 19 20 87
PENNZOIL COMPANY
DENVER, COLO.

INVOICE No. • 11000
JOB No. • H01U11
ORDER No. •
INVOICE DATE • 6-17-87
DATE STARTED • 6-01-87
DATE COMPLETED • 6-07-87

DATE	TKT. NO.	LEASE	AMOUNT	TOTAL
6-01-87	732430	Boren Well No. 2-11A2	460.90	
02	732431	"	460.90	921.80
		TOTAL INVOICE AMOUNT		$ 921.80

Craig Cardwell
AFE

	XX	XXX	XXX	
INVOICE AMOUNT			921	80
DISCOUNT				
NET AMOUNT			921	80
VOUCHER NUMBER	F287428			
DUE DATE	7-17-87			
VENDOR NUMBER	111034			

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FLINT F-9

INVOICE

Hamilton Production Equipment, Inc.
710 Osage
Midland, Texas 79701

(915) 683-4608 (915) 683-1785

JUN 16 87

SOLD TO: Pennzoil Exploration & Production
P.O. Box 290
Neola, Utah 84053

SHIPPED TO:

LEASE: Boren # 2-11 A2

DATE	DATE SHIPPED	SHIPPED VIA	YOUR ORDER NO.	F O B.	TERMS	INVOICE NO.
6/12/87	5/15/ & 5/18 1987	UPS & Fed. Express		Neola,Utah	net 30	1426

QUANTITY	DESCRIPTION	PRICE	AMOUNT
1	2"-4000PSI hammer union type rupture disc head assembly	$	252.30
6	2"-2000 PSI manuel rupture discs @ $	26.60/ea.	159.60
6	2"-2500 PSI 316SS rupture discs @	26.60/ea.	159.60
6	2"-3000 PSI 316 SS rupture discs @	26.60/ea.	159.60
	Freight		28.30
	Net amount	$	759.40
	6.25% tax		47.46
	Total amount	$	806.86

AFE Carry Cardwell

806.86

806.86

F287308

7-12-87

113274

TRI PIPE AND SUPPLY CORP.

Oil Country Tubular Goods

P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

№ 9538

Sold To: PENNZOIL PRODUCING CO.
P.O. BOX 290
NEOLA, UTAH 84040

Date JUNE 12, 1987

Shipped To SAME -
BOREN 2-11-A2

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	TERRY / PICKED UP		JW/BOB
DATE SHIPPED	SHIPPED VIA	F.O.B.	TERMS
5-26/6-1			NET 30 DAYS

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount	
4	4	4" 3000# W.P. F.S. COUPLING	149.43	EA	60	239	09
3	3	4"x3" STD. SWAGES	40.07	EA	35	78	14
2	2	4" STD. BULL PLUGS	41.26	EA	35	53	64
4	4	3" 175# W.P. S.E. PLUG VALVE	145.00	EA	10	522	00
2	2	3"x4" XHS BLK. NIPPLE	31.13	EA	60	24	90
2	2	3"x6" " " "	37.95	EA	60	30	36
2	2	3"x8" " " "	46.76	EA	60	37	41
2	2	3"x10" " " "	54.26	EA	60	43	41
2	2	3"x12" " " "	61.04	EA	60	48	83
1	1	3" x2" STD. SWAGE	27.53	EA	35	17	89
2	2	2" FIG 100 HAMMER UNION	27.83	EA	20	44	53
1	1	3" FIG 100 " "	65.16	EA	20	52	13
1	1	3" 300 W.O.G S.E. SWING CHECK	108.00	EA	10	97	20
4	4	2" 3000# W.P. F.S. COUPLING	20.62	EA	60	32	90
1	1	4"x3" STD. CONC. WELD REDUCER	33.00	EA	55	14	85
1	1	3" x2" XH " " "	31.00	EA	55	13	95
2	2	1" STD. 90° L/R WELD ELL	14.00	EA	55	12	60
16	16	2" STD. 90° L/R WELD ELL	16.00	EA	55	115	20

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Sub Total	
Sales Tax	
Total Amount	

Thank You

Received by _____ Date _____
Purchaser's Representative

TRI W PIPE AND SUPPLY CORP.

Oil Country Tubular Goods

P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

JUN 15 87

INVOICE
NO. 9538

Page 3 of 3 pages.

Sold To: PENNZOIL PRODUCING CO.

Date JUNE 12, 1987

Shipped To SAME –
BOREN 2-11A2

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	CRAIG		BOB/JN
DATE SHIPPED	SHIPPED VIA	F.O.B.	TERMS
6/1/87			NET 30 DAYS

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount	
2	2	1/4" x Cs STD. BLK NIPPLES	.70	EA	60		56

Craig Cardwell
AFE.

	XX	XXX	XXX	
INVOICE AMOUNT		2	267	66
DISCOUNT				
NET AMOUNT		2	267	66
VOUCHER NUMBER	F287198			
DUE DATE	7-12-87			
VENDOR NUMBER	1131	3196		

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	2,139	30
Sales Tax	128	36
Total Amount	2,267	66

Received by _____ Date _____
Purchaser's Representative

VETCO GRAY HUGHES

ORIGINAL

VETCO GRAY INC.

INVOICE NO.	INVOICE DATE	OUR ORDER NO.	DATE ORDER RECEIVED	PC. NO.
76901300	06/11/87	76901300	05/13/87	PC-76

OUR CODE	CUSTOMER'S CHARGE	CUST. ORDER NO.	REQ. NO.	FILE NO.
9 1700		N.O.R.		

BILL TO
PENNZOIL COMPANY
P.O. BOX 290
NEOLA, UTAH 84053

RECEIVED
JUN 15 87
PENNZOIL COMPANY

PAGE 1

SHIP TO
PENNZOIL
BOREN 2-112A
DUCHESNE COUNTY, UTAH

AFE

CUST. NO.	AREA	ORDERED BY	SALESMAN	DEL. DATE	ROUTING	B/L NO. OR D.T.
58980645		DULLNIG	HOFFMAN	05/13/87		

ITEM NO	QTY. ORDERED	QTY. SHIPPED	STOCK NO.	DESCRIPTION	UNIT PRICE	% DISC.	EXTENDED NET
			0000165	PLEASE SEND REMITTANCE TO: VETCO GRAY INC. BOX 910052 DALLAS, TEXAS 75391			
1	8	8	0000182	ONSHORE SERVICE CHARGE	35.00		280.00
2	80	80	0000179	MILES-GRAY WHSE TO DOCK/JOBSITE	1.10		88.00
			0000645	UTAH SALES TAX			21.62
				* TOTAL INVOICE *			389.62

INVOICE AMOUNT	389 62
DISCOUNT	
NET AMOUNT	389 62
VOUCHER NUMBER	F287203
DUE DATE	7-11-87
VENDOR NUMBER	V12673

SETTLEMENTS MUST BE MADE MONTHLY. INTEREST CHARGED AFTER 30 DAYS. Any claims for shortage or deduction for erroneous charges must be made within thirty days after receipt of the goods.

PAY THIS AMOUNT ▶ 389.62

ESSE
INTERNATIONAL, INC.

H2S SAFETY

Invoice No. 004322
Invoice Date 6/10/87
P.O. Number

Customer:

PENNZOIL CO
P O BOX 290
NEOLA UT 84053

JUN 1 2 '87
PENNZOIL COMPANY
DUCHESNE, UTAH

Job Reference:

PENNZOIL
BOREN #2-11A2
DUCHESNE COUNTY
UTAH

FOB	VIA	TERMS	CUSTOMER NO.	FIELD TICKET
EVANSTON	ESSE TRUCK	NET 30 DAYS	404502-00	114498

REGION NAME AND NUMBER	TAX CODE	SALES CODE	SERVICE DATES
51 - EVANSTON, WYOMING	0530	35	FROM: 5/10/87 TO: 5/14/87

QUANTITY	PRODUCT CODE	SALES/SERVICE DESCRIPTION	RATE PER DAY EACH	RATE PER DAY TOTAL	NO. DAYS	AMOUNT
1	001-1101	H2S SAFETY PLAN IA(NORTH ONLY) CONSISTS OF:	100.00	100.00	5	500.0
		1 SAFETY TRAILER W/10 BOTTLE				
		20 50' L.P.HOSE W/COUPLINGS				
		2 AIR LINE MANIFOLD, S/S				
		6 5 MIN P/D SKA PACK W/ESCAPE				
		7 30 MIN P/D S.C.B.A. W/CASE				
		3 WIND SOCK W/FRAME				
		1 FIRST AID KIT - 36 UNIT				
		1 20/30 LBS FIRE EXTINGUISHER				
		1 STRETCHER				
		1 OXYGEN POWERED RESUSCITATOR				
		1 GAS DETECTOR, PUMP TYPE				
		1 WELL CONDITION SIGN & FLAGS				
		1 3 CH H2S ELECTRONIC MONITOR				
12	008-2500	DETECTOR TUBES, EACH	3.00	36.00		36.0
		SUB-TOTAL TAXABLE ITEMS-				536.0
		5.500% SALES TAX-				29.4
1	010-1000	H2S SAFETY SUPERVISOR/CONSULT	250.00	250.00	9	2250.0
1	015-1000	SUBSISTENCE	25.00	25.00	9	225.0
1	015-2000	ACCOMMODATIONS	38.00	38.00	9	342.0

NOTATION

Past due balances are subject to a late charge of 1.5% per month (18% APR)

Total

CONTINUE

REMIT TO:

ESSE INTERNATIONAL, INC.
P.O. BOX 100219
HOUSTON, TEXAS 77212

(713) 266-4141
OUT OF STATE 1-800-231-6578
TEXAS 1-800-392-3935

OTHER CORRESPONDENCE:

ESSE INTERNATIONAL, INC.
P.O. BOX 770489
HOUSTON, TEXAS 77215

FLINT Engineering & Construction Co.

324 PETROLEUM BUILDING BILLINGS, MONTANA 59101

REMIT TO:
POST OFFICE BOX 97417
DALLAS, TEXAS 75397

SOLD TO: PENNZOIL COMPANY
P. O. Box 266
Neola, Utah 84053

DELIVERED AT:
DELIVERED TO:

JUN 05 87
PENNZOIL COMPANY
DENVER, COLO.

INVOICE No. 11314
JOB No. H53U11
ORDER No.
INVOICE DATE 6-04-87
DATE STARTED 5-11-87
DATE COMPLETED 5-23-87

DATE	TKT. NO.	LEASE	AMOUNT	TOTAL
5-15-87	732561	Boren Well No. 2-11A2	485.40	
18	564	"	482.05	
19	565	"	387.40	
20	566	"	387.40	
21	567	"	387.40	
5-22-87	732569	"	84.60	2,214.25
		TOTAL INVOICE AMOUNT		$ 2,214.25

2,214.25

2214.25

F286999
7-04-87
VOUCHER NUMBER 1110341

by J. Hadlock
AFE # 7628737
810-610
6-8-87

PLEASE PAY FROM THIS INVOICE. TERMS NET. STATEMENTS MAILED ONLY UPON REQUEST.

FLINT 8-3

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00701-0	40706102	2

CUSTOMER ORDER NO.	ORDERED BY	SHIPPED FROM	TAX CODE	DATE SHIPPED	INVOICE DATE
NOR	JERRY LUCK	VERNAL, UTAH	080002	05/29/87	06/16/87

LOCATION REFERENCE	FREIGHT	TERMS
BOREN 2-11A2	PREPAID	Net 30 days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	DEST	O/T

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

SHIP TO:
NEOLA UTAH

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART ID	UNIT PRICE	UNITS	DISC %	AMOUNT PAYABLE
014	2.00	1/2 X 520 ROLL TEFLON THREAD TAPE	3728940	$1.90	EA	36.00%	$2.43
015	1.00	1-QT CAN BESTOLIFE SUPER COPPER THREAD COMPOUND - BT CAN	3728540	$12.35	EA	10.00%	$11.12
		TAXABLE TOTAL					$561.11
		TAXES 5.875% 5.875% UT COMBINED RATE AS OF 4/1/87					$32.97
		NON-TAXABLE TOTAL					$.00
		FREIGHT					$.00
		TOTAL AMOUNT DUE					$594.08

RECEIVED
JUN 22 87
PENNZOIL

ORIGINAL INVOICE

810-612
6-24-87

	XX	XXX	XXX
INVOICE AMOUNT			594 08
DISCOUNT			
NET AMOUNT			594 08
VOUCHER NUMBER	F287426		
DUE DATE	7-16-87		
VENDOR NUMBER	125937		

OJ Hadlock
AFE # 7628737

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMER IN THE MAGNUSON—MOSS WARRANTY—FEDERAL TRADE COMMISSION IMPROVEMENT ACT.

RED MAN PIPE AND SUPPLY COMPANY

P.O. Box 35632 • Tulsa, Oklahoma 74153-0632 • (918) 250-8541

RED MAN ORDER NUMBER	INVOICE NUMBER	PAGE
40-00520-0	40705266	6

CUSTOMER ORDER NO	ORDERED BY	SHIPPED FROM	TAX CODE	DATE SHIPPED	INVOICE DATE
NOR	HAROLD	VERNAL, UTAH.	080002	05/13/87	06/06/87

LOCATION REFERENCE	FREIGHT	TERMS
BOREN 2-11A2	PREPAID	Net 30 days

CUSTOMER NUMBER	FOB	SHIP VIA
40276001	DEST	O/T

SOLD TO:
PENNZOIL COMPANY
P. O. BOX 290
NEOLA UT 84053

SHIP TO:
NEOLA UTAH

ITEM	QUANTITY	DESCRIPTION AND COMMENTS	PART NO.	UNIT PRICE	UNITS	DISC. %	AMOUNT PAYABLE
066	1.00	2 22514-STS ARROW 1480# SE CHECK VALVE	5061040	$203.00	EA	15.00%	$172.55
067	1.00	2 X 12 XH SMLS NIPPLE	3478090	$24.99	EA	70.00%	$7.50
		TAXABLE TOTAL					$9,270.56
		TAXES 5.875% 5.875% UT COMBINED RATE AS OF 4/1/87					$544.65
		NON-TAXABLE TOTAL					$.00
		FREIGHT					$209.61
		TOTAL AMOUNT DUE					$10,024.82

INVOICE COPY

10 024 82

10 024 82

7-6-87
125939

G J Hadlock
AFE # 7628737

810-612
76-287-37
6-16-87

RED MAN MAKES NO WARRANTIES TO THOSE DEFINED AS CONSUMERS IN THE MAGNUSON—MOSS WARRANTY—FEDERAL TRADE COMMISSION IMPROVEMENT ACT.

RICHENS CONSTRUCTION, INC.

4140 South 500 East
VERNAL, UTAH 84078

Service Order No.

In Account With: Pennzoil Company

JUN 16 87

Invoice Date: 6-8-87

Invoice No.: 5012

Terms: Net Cash

DATE	TICKET #	LEASE	AMOUNT	TOTAL
5-19-87	8064	Boren 2-11A2	$ 115.80	$ 115.80
		Total		$ 115.80

AFE. Craig Cowdrick
762873 7
810-610
6-17-87

115 80
115 80
F287309
7-8-87
126292

_____ Departure time from Yard _____ Arrival time on Job _____ Finished Pouring

1½% Interest per month charged on all accounts past 30 days. By my signature, if collection is made by suit or otherwise, I agree to pay interest until paid, also collection costs including a reasonable attorney's fee. I agree to terms of sale and delivery and accept the concrete as is. Due to important factors which are out of our control after delivery, this Company will not accept any responsibility for the finished results. **No Credit** is allowed for returned concrete. All concrete is air entrained unless otherwise specified.

UINTAH BASIN CONCRETE
P.O. Box 1388 — Ph. 722-3621
ROOSEVELT, UTAH 84066

№ 23893

CAUTION: The addition of water at place of delivery adversely affects the quality and strength of concrete. _____ Gallons of water authorized by _____ added at job site.

DATE 5-12-87

SOLD TO PENNZOIL

JUN 05 87

SHIPPED TO BOREN #2-11AX
South of Central Battery

NOTICE: Our drivers will make every effort to place materials where customer designates, but the company assumes **NO** responsibility for damages inside the curb or property lines. Five (5) minutes per yard unloading allowed. Overtime unloading charge $45.00 per hour or fraction thereof.

THIS CONCRETE USED FOR:

Footings	☐	Wall	☐	Floor	☐
Foundations	☐	Forms	☐	Driveway	☐
Steps	☐	Patio	☐	Test	☐
Sidewalk	☐	Curb and Gutter	☐	Other	☐

YOUR ORDER NO.

SHIPPED VIA #28 #29 #20 FOLD

SALESMAN BOB-JOE-DANNIE

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION		PRICE		PER	AMOUNT	
20y	20y	Reject SAND	INVOICE AMOUNT 1	466	40	00	120	00
40g	40g	Roadbase	DISCOUNT		8	00	320	00
g	g		VOUCHER	466	40		440	00
1½hrs		Truck Time	DUE DATE	F286990 Due	1AX		26	40
		J E Daniel	VENDOR	132360			466	40
				L J Hadlock				
			AFE # 7628737			810	6-12-87	

The INK SPOT -Roosevelt, Utah

INVOICE

R.W. JONES TRUCKING CO.

OILFIELD RIG-UP AND HEAVY HAUL

P. O. BOX 1785 ~~P.O. DRAWER T~~ VERNAL, UTAH 84078

PHONE (801) 789-1231

MAY 27 87

SOLD TO PENNZOIL COMPANY
P. O. BOX 290

9200 NEOLA UT 84053

FROM

TO BOREN 2-11A2

TERMS	CUSTOMER P.O.	VENDOR NO.	FROM DATE	TO DATE	INVOICE DATE	INVOICE NO.
			05/10/87	05/15/87	05/18/87	705045

WORK TICKET	UNIT	DESCRIPTION	HOURS	WEIGHT	RATE	AMOUNT
3783,63790		TRUCK 153	10.00		57.96	579.60
3783,63790		LOBOY TRAILER	10.00		11.47	114.70
3783		TRUCK HELPER	5.00		14.26	71.30
194,63787,63788		TRUCK 153 (LOCATION WORK)	24.00		57.96	1391.04
196		TRUCK 182	5.00		53.14	265.70
196		LOBOY TRAILER	5.00		17.50	87.50
652		TRUCK 183	5.00		53.14	265.70
652		LOBOY TRAILER	5.00		17.50	87.50
		TOTAL INVOICE AMOUNT				13673.54

INVOICE AMOUNT	13673	54
DISCOUNT		
NET	13673	54
CHECK NUMBER	F286514	
DUE DATE	6-18-87	
VENDOR NUMBER	1V162213	

L J Hadlock
AFE #7628737
810645
5-29-87

DUE AND PAYABLE WITHIN 30 DAYS OF INVOICE DATE

INVOICE

R.W. JONES TRUCKING CO.

OILFIELD RIG-UP AND HEAVY HAUL

P. O. BOX 1785 ~~P.O. DRAWER T~~ • VERNAL, UTAH 84078

PHONE (801) 789-1231

RECEIVED JUN 0 5 87 PENNZOIL COMPANY

FROM BOREN 2-11A2

TO VERNAL

SOLD TO PENNZOIL COMPANY
P. O. BOX 290

NEOLA UT 84053

69200

TERMS	CUSTOMER P.O.	VENDOR NO.	FROM DATE	TO DATE	INVOICE DATE	INVOICE NO.
			05/18/87	05/18/87	05/31/87	705071

WORK TICKET	UNIT	DESCRIPTION	HOURS/WEIGHT	RATE	AMOUNT
64501	166	LOADED & HAULED TOOL BOXES FROM BOREN 2-11A2 BLOWOUT WELL TO OILFIELD RENTAL'S VERNAL YARD. TRUCK 154	3.00	50.00	150.0
		TOTAL INVOICE AMOUNT			150

	XX	XXX	XXX	
INVOICE AMOUNT			150	00
DISCOUNT				
NET AMOUNT			150	00
VOUCHER NUMBER	F286997			
DUE DATE	6-30-87			
VENDOR NUMBER	1/1/6	2223		

O.J. Hadlock
AFE #7628737
810-610
6-8-87

DUE AND PAYABLE WITHIN 30 DAYS OF INVOICE DATE

INVOICE

R.W. JONES TRUCKING CO.

OILFIELD RIG-UP AND HEAVY HAUL

P. O. BOX 1785 ~~P.O. DRAWER T~~ • VERNAL, UTAH 84078

PHONE (801) 789-1231

JUN 0 5 87

SOLD TO PENNZOIL COMPANY
P. O. BOX 290

FROM VERNAL

TO BOREN 2-11A2

59200 NEOLA UT 84053

TERMS	CUSTOMER P.O.	VENDOR NO.	FROM DATE	TO DATE	INVOICE DATE	INVOICE NO.
			05/14/87	05/14/87	05/31/87	705070

WORK TICKET	UNIT	DESCRIPTION	HOURS/WEIGHT	RATE	AMOUNT
		LOADED & HAULED B.O.P. & WELLHEAD EQUIPMENT FROM OILFIELD RENTAL'S VERNAL YARD TO BOREN 2-11A2 WELL BLOWOUT.			
60293	61	TRUCK 61 & FLOAT	11.00	64.62	710.82
60293	61	TRUCK 61-2 & FLOAT	6.00	64.62	387.72
60293	9961	TRUCK HELPER	6.00	14.26	85.56
		TOTAL INVOICE AMOUNT			1184.10

INVOICE AMOUNT		1	184	10
DISCOUNT				
NET AMOUNT		1	184	10
VOUCHER NUMBER	F286998			
DUE DATE	6-30-87			
VENDOR NUMBER	116223			

G.J. Hadlock
AFE #7628737
810-645
6-8-87

DUE AND PAYABLE WITHIN 30 DAYS OF INVOICE DATE

Dalbo, Inc.

Oil and Water Service
P.O. Box 1168 • Vernal, Utah 84078 • (801) 789-0743

INVOICE 219144 DI

JUN 11 87

ENNZOIL COMPANY

PURCHASE ORDER NO. _____ DATE 05/31/87

DATE	TICKET NO.	HOURS @	TOTAL	LOCATION
5/10/87	35651	48.0	1,920.00	BOREN 2-11A2
5/11/87	35660	16.50	660.00	BOREN 2-11A2
5/13/87	35686	8.0	320.00	BOREN 2-11A2
5/17/87	35750	12.0	480.00	BOREN 2-11A2
5/18/87	35774	5.5	220.00	BOREN 2-11A2
5/19/87	35793	4.0	220.00	BOREN 2-11A2
5/20/87	35811	5.5	256.00	BOREN 2-11A2
5/21/87	35846	3.5	155.00	BOREN 2-11A2
5/22/87	35864	3.5	170.00	BOREN 2-11A2
5/23/87	35876	3.5	165.50	BOREN 2-11A2
5/24/87	35884	3.5	170.00	BOREN 2-11A2
5/25/87	35906	3.5	140.00	BOREN 2-11A2
5/26/87	35925	3.5	164.00	BOREN 2-11A2
5/27/87	35944	3.5	164.00	BOREN 2-11A2
5/28/87	35956	3.5	165.50	BOREN 2-11A2
5/29/87	35975	2.5	128.50	BOREN 2-11A2
5/30/87	35992	3.5	170.00	BOREN 2-11A2
5/31/87	36007	3.5	140.00	BOREN 2-11A2

ALANCE DUE THIS INVOICE --- $5,808.50

6 10 645
6-12-87

	XX	XXX	XXX
INVOICE AMOUNT		5 808 50	
DISCOUNT			
NET		5 808 50	
CHECK NO.	F287105		
DUE DATE	6-30-87		
VENDOR NUMBER	1 0 8 2 7 5 1		

AFE # 7628737

INVOICE

219138 DI

Dalbo, Inc.

Oil and Water Service

P.O. Box 1168 • Vernal, Utah 84078 • (801) 789-0743

JUN 1 1 87

'ENNZOIL COMPANY

PURCHASE ORDER NO. _____ DATE 05/31/87

DATE	TICKET NO.	HOURS @	TOTAL	LOCATION
)5/16/87	35739	5	200.00	BOREN 1-24A2 (BLOWOUT)

3ALANCE DUE THIS INVOICE --- $200.00

Craig Cardwell
Boren 2-11A2 AFE.

200.00

200.00

F287147

6-30-87

108273

7628737
410.645
6-18-87

INVOICE

219136 DI

Dalbo, Inc.

Oil and Water Service

P.O. Box 1168 • Vernal, Utah 84078 • (801) 789-0743

JUN 11 87

PENNZOIL COMPANY

PURCHASE ORDER NO. _____ DATE 05/31/87

DATE	TICKET NO.	HOURS @	TOTAL	LOCATION
05/15/87	35726	5	200.00	BOREN ~~3-15~~ 2-11A2 (BLOWOUT)

BALANCE DUE THIS INVOICE --- $200.00

728737
810-643
6-16-87

Craig Cardwell.
Boren #2-11A2 AFE.

20000
200 00
F287148
6-30-87
108273

INVOICE

Dalbo, Inc.

Oil and Water Service

P.O. Box 1168 • Vernal, Utah 84078 • (801) 789-0743

JUN 1 1 87

210135 DI

PENNZOIL COMPANY

PURCHASE ORDER NO.

DATE 05/31/87

DATE	TICKET NO.	HOURS	TOTAL	LOCATION
05/15/87	35725	13	520.00	BOREN 2-14A2 (BLOWOUT)

BALANCE DUE THIS INVOICE --- $520.00

Craig Woodbury
Boren # 2-11A2 AFE.

520 00
520 00
F287149
6-30-87
108273

762873J
810-645
6-10-87

INVOICE

Dalbo, Inc.

JUN 1 1 87

213134 DI

Oil and Water Service

P.O. Box 1168 • Vernal, Utah 84078 • (801) 789-0743

'ENNZOIL COMPANY

PURCHASE ORDER NO.

DATE 05/31/87

DATE	TICKET NO.	HOURS	TOTAL	LOCATION
05/15/87	35724	4	160.00	BOREN ~~5-22A2~~ 2-11A2 (BLOWOUT)

BALANCE DUE THIS INVOICE --- $160.00

Craig Cardwell
Boren # 2-11A2 A.F.E.

160 00

160 00

F287150

B-6-30-87

108273

7628737

810-610

6-16-87

RICHENS CONSTRUCTION, INC.

4140 South 500 East
VERNAL, UTAH 84078

RECEIVED
MAY 27 87
PENNZOIL COMPANY
DENVER, COLO.

Service Order No.

In Account With: Pennzoil Company

Invoice Date: 5-26-87

Invoice No.: 5000

Terms: Net Cash

DATE	TICKET #	LEASE	AMOUNT	TOTAL
5-9-87	8049	Boren 2-11-A2	$ 694.80	
10	8102	"	519.40	
10	6983	"	371.00	
10	8212	"	296.80	
10	8051	"	1,069.95	
10	8201	"	296.80	
11	6984	"	241.00	
11	8052	"	772.00	
11	7966	"	66.00	
11	8023	"	270.90	
12	6426	"	385.60	
12	6985	"	241.00	
12	8053	"	617.60	
12	8024	"	409.70	
12	8105	"	296.80	
13	6986	"	241.00	
13	8209	"	296.80	
13	8211	"	494.50	
13	8055	"	1,104.55	
14	6987	"	385.60	
14	8109	"	714.70	
14	8056	"	1,019.00	
15	6988	"	241.00	
15	8057	"	309.75	
17	8059	"	203.80	
18	8060	"	115.80	$11,675.85
		Total		$11,675.85

AFE

	XX	XXX	XXX	
INVOICE AMOUNT		11	675	85
DISCOUNT				
NET AMOUNT		11	675	85
VOUCHER NUMBER	F286517			
DUE DATE	6-26-87			
VENDOR NUMBER	1216	2191		

D.J. Hadlock
AFE #7628

810610
5-29-87

RICHENS CONSTRUCTION, INC.

4140 South 500 East
VERNAL, UTAH 84078

Service Order No.

In Account With: Pennzoil Company

RECEIVED
MAY 27 87
PENNZOIL COMPANY
DENVER, COLO.

Invoice Date: 5-26-87

Invoice No.: 5001

Terms: Net Cash

DATE	TICKET #	LEASE	AMOUNT	TOTAL
5-15-87	8113	Boren #2-11A2	$ 333.90	
15	803o	"	296.70	
15	8031	"	197.80	$ 828.40
		Total		$ 828.40

AFE

	XX	XXX	XXX	
INVOICE AMOUNT			828	40
DISCOUNT				
NET AMOUNT			828	40
VOUCHER NUMBER	F286516			
DUE DATE	6-26-87			
VENDOR NUMBER	1126	21921		

L J Hadlock
AFE #7628737
5-29-87
810-610

INVOICE

Hamilton Production Equipment, Inc.
710 Osage
Midland, Texas 79701

(915) 683-4608 (915) 683-1785

SOLD TO: Pennzoil Exploration & Production
P.O. Deawer 1828
Midland, Texas 79702=1828

SHIPPED TO:

LEASE: Boren #2 - 11 A2
Neola, Utah

DATE	DATE SHIPPED	SHIPPED VIA	YOUR ORDER NO.	F.O.B.	TERMS	INVOICE NO.
5/28/87	pending	contract truck		Midland,Tx.	net 30	1421

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	PAGE 2		
1	New 13" X 10' stack to replace bend stack	$	325.00
	Net amount	$	3848.25
	6.25% tax		240.52
	Total amount	$	4088.77

INVOICE AMOUNT 4088 77
DISCOUNT
NET AMOUNT 4088 77
VOUCHER NUMBER F286734
DUE DATE 6-28-87
VENDOR NUMBER 113274

G.J. Hadlock
AFE # 7628737
810 612
6-8-87

INVOICE

11618

(1) State of UTAH ~~STATE~~ DEPARTMENT OF HEALTH (2)
(3) Office of Administrative Services
(4) Bureau of Finance
(5) P.O. Box 45500
(6) Salt Lake City, Utah 84145

MAY 27 87

PENNZOIL
ATTN: DON LANGFORD
BOX 290
NEOLA UTAH 84053

AFE
Boren 2-11A2

Date: May 20, 1987

Reference:

QUANTITY	DESCRIPTION	PRICE	AMOUNT
	LABORATORY TESTS PERFORMED:		
3 ea.	Water Chemistry Examinations	$35.00	$105.00
7 ea.	Water Chemistry Examinations	5.00	35.00
	Laboratory #s 8702848-8702850		
	TOTAL AMOUNT DUE		$140.00

PLEASE RETURN DUPLICATE COPY OF INVOICE WITH REMITTANCE.

2815-2475-A30700

140 00
140 00
F286508
~~6-30-87~~ 619
VENDOR 148304

D J Hadlock
AFE# 7628737
810-610
a 5-29-87

VETCO GRAY HUGHES

ORIGINAL

VETCO GRAY INC.

INVOICE NO.	INVOICE DATE	OUR ORDER NO.	DATE ORDER RECEIVED	PC. NO.
76901280	06/11/87	76901280	05/10/87	PC-76

OUR CODE	CUSTOMER'S CHARGE	CUST. ORDER NO.	REQ. NO.	FILE NO.
9 1700		N.O.R.		

BILL TO
PENNZOIL COMPANY
P.O. BOX 290
NEOLA, UTAH 84053

RECEIVED JUN 15 87 PENNZOIL COMPANY DALLAS, TEXAS

PAGE 1

SHIP TO
PENNZOIL
BOREN 2-11A2
DUCHESNE COUNTY, UTAH

CUST. NO.	AREA	ORDERED BY	SALESMAN	DEL. DATE	ROUTING	B/L NO. OR D.T.
58980645		DULLNIG	HOFFMAN	05/10/87		

AFE

ITEM NO.	QTY. ORDERED	QTY. SHIPPED	STOCK NO.	DESCRIPTION	UNIT PRICE	% DISC.	EXTENDED NET
			0000165	PLEASE SEND REMITTANCE TO: VETCO GRAY INC. BOX 910052 DALLAS, TEXAS 75391			
1	6	6	0000182	ONSHORE SERVICE CHARGE	35.00		210.00
2	80	80	0000179	MILES-GRAY WHSE TO DOCK/JOBSITE	1.10		88.00
			0000645	UTAH SALES TAX			17.51
				* TOTAL INVOICE *			315.51

	XX	XXX	XXX	
INVOICE AMOUNT			315	51
DISCOUNT				
NET AMOUNT			315	51
VOUCHER NUMBER	F287196			
DUE DATE	7-11-87			
VENDOR NUMBER	1 1 2 6 7 3			

SETTLEMENTS MUST BE MADE MONTHLY. INTEREST CHARGED AFTER 30 DAYS. Any claims for shortage or deduction for erroneous charges must be made within thirty days after receipt of the goods.

PAY THIS AMOUNT ▶ 315.51

TRI

PIPE AND SUPPLY CORP.

Oil Country Tubular Goods

P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

№ 9292

Page 1 of 1 pages.

Sold To: Pennzoil Producing
P. O. Box 290
Neola, Utah
84040

Date 19 May 1987

Shipped To Same
Boren 2-11 A2 AFE

RECEIVED
MAY 27 87

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	Kent		Bob
DATE SHIPPED	**SHIPPED VIA**	**F.O.B.**	**TERMS**
5-19-87	picked up.		Net 30 DAYS

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount
1	1	6" 150# RFWN Flange	77.00	EA	55	34.65

36 73
36 73
F286519
6-19-87
131390

Op Handling
AFE #162873
410-612
5-29-87

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	34.65
Sales Tax	2.08
Total Amount	36.73

Received by _____ Date _____
Purchaser's Representative

White-ORIGINAL Green-DUPLICATE Canary-DUPLICATE Pink-DELIVERY Gold-OFFICE

TRI

PIPE AND SUPPLY CORP.

Oil Country Tubular Goods

P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

NO. 9266

Page 1 of 1 pages.

Sold To: Pennzoil Producing
P.O. Box 290
Neola, Utah
84040

Date 15 May 1987

Shipped To Same
Boren 2-11A2

RECEIVED
MAY 18 87

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	Kent Bostion / Office		JR
DATE SHIPPED	**SHIPPED VIA**	**F.O.B.**	**TERMS**
5/11/87	TRI W TRUCK		Net 30 DAY

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount
1	1	2 3/8 EUE 8Rd. X 2' API N-80 Pup Joint	135.70	EA	20	108.56
1	1	2 3/8 EUE 8Rd API N-80 Coupling	19.30	EA	20	15.44
6	6	1/4" STD- Merch. Coupling	1.04	EA	60	2.50
50	50	32 OZ Nalgene Sample Bottles	3.30	EA	N	165.00

	XX	XXX	XXX	
INVOICE AMOUNT			308	99
DISCOUNT				
NET			308	99
VOUCHER NUMBER	F286525			
DUE DATE	6-12-87			
VENDOR NUMBER	1 3 1 3 9 0 1			

G J Hadlock
Boren #2-11A2
AFE

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	291.50
Sales Tax	17.49
Total Amount	308.99

Received by _____ Date _____

Purchaser's Representative

TRI W
PIPE AND SUPPLY CORP.
Oil Country Tubular Goods
P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

№ 9267

Page 1 of 1 pages.

Sold To: Pennzoil producing
P.O. Box 290
Neola, Utah
84040

Date 12 May 1987
Shipped To Same
Boren 2-11 A2

MAY 18 87

YOUR ORDER NO.	ORDERED BY/DEL. TO	SALESMAN
	Kent Bastian / Office	JW
DATE SHIPPED	SHIPPED VIA / F.O.B.	TERMS
5-12-87	TRI W	Net 30 DAYS

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount
24	24	"D" Cell Batteries	1.57	EA	N	37.68
24	24	"C" " "	1.76	EA	N	42.24
48	48	Perma Foam Ear plugs	.30	SET	N	14.40

	XX	XXX	XXX
INVOICE AMOUNT			99 98
DISCOUNT			
NET AMOUNT			99 98
VOUCHER NUMBER	F286524		
DUE DATE	6-12-87		
VOUCHER NUMBER	131390		

G J Hadlock
Boren #2-11A2
AFE

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	94.32
Sales Tax	5.66
Total Amount	99.98

Received by _____ Date _____
Purchaser's Representative

DATE — 2 — DUPLICATE — SALES DELIVERY — SALES OFFICE

TRI W
PIPE AND SUPPLY CORP.
Oil Country Tubular Goods
P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

№ 9265

Page 1 of 1 pages.

Sold To: Pennzoil Producing Co.
P.O. Box 290
Neola, Utah
84040

Date 15 May 1987

Shipped To Same
Boren 2-11A2

RECEIVED
MAY 18 87

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	Jess / Location		Bob
DATE SHIPPED	SHIPPED VIA	F.O.B.	TERMS
5/12/87	TRI W TRUCK		Net 30 DA.

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount
3	3	1/2" BTM No E9282 0-5000# L.F Gauge	213.65	EA	25	480.71
2	2	1/4" BTM No. D23902 0-10000# Dry Gauge	339.30	EA	25	508.95
2	2	1/2" Tap 2" XH Bull plug	32.94	EA	35	42.82
2	2	2" XH Bull plug	27.93	EA	35	36.31
2	2	1/2" X 1/4" F.S. Bushing	1.59	EA	60	1.27
2	2	1/2" MXF 6000# Needle Valve	33.15	EA	25	49.73
2	2	1/2" MXF 10,000# 90° Needle Valve	53.00	EA	25	79.50
2	2	2" X 1/4" F.S. Bushing	13.04	EA	60	10.43
2	2	10 LB Box No 1 Fleece Knit Rags	10.00	EA	10	18.00

	XX	XXX	XXX	
INVOICE AMOUNT		1	301	38
DISCOUNT				
NET AMOUNT		1	301	38
VOUCHER NUMBER	F286523			
DUE DATE	6-15-87			
VENDOR NUMBER	1131319011			

Bj Hadlock
Boren #2-11A2
AFE #

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	1227.	12
Sales Tax	73.	68
Total Amount	1301.	38

Received by _____ Date _____
Purchaser's Representative

TRI

PIPE AND SUPPLY CORP.

Oil Country Tubular Goods

P.O. Box 1020 • Roosevelt, Utah 84066
Phone (801) 722-4677

INVOICE

№ 9343

Page 1 of 1 pages.

Sold To: Pennzoil Producing
P.O. Box 290
Altola, Utah
84640

Date 26 May 1987

Shipped To Same
Baren 2-11 A2

YOUR ORDER NO.	ORDERED BY/DEL. TO		SALESMAN
	Tony		Bob
DATE SHIPPED	SHIPPED VIA	F.O.B.	TERMS
5/26/87	Picked up.		Net 30 Days

Quantity Ordered	Quantity Shipped	Stock Number/Description	Price	Per	Disc.	Amount
168'	168'	1" Sch. 40 T&C Line pipe	1.06	FT	10	160.27

16989
16989 P.J. Hadlock
F286729 AFE # 162737
6-26-87
131390

All materials and/or services listed here on are sold subject to the terms and conditions printed on the reverse side and will be invoiced in accordance with said terms and conditions.

Thank You

Sub Total	160.27
Sales Tax	9.62
Total Amount	169.27

Received by _____ Date _____
Purchaser's Representative

_____ Departure time from Yard _____ Arrival time on Job _____ Finished Pouring

1½% interest per month charged on all accounts past 30 days. By my signature, if collection is made by suit or otherwise, I agree to pay interest until paid, also collection costs including a reasonable attorney's fee. I agree to terms of sale and delivery and accept the concrete as is. Due to important factors which are out of our control after delivery, this Company will not accept any responsibility for the finished results. **No Credit** is allowed for returned concrete. All concrete is air entrained unless otherwise specified.

UINTAH BASIN CONCRETE
P.O. Box 1388 — Ph. 722-3621
ROOSEVELT, UTAH 84066

№ 23926

DATE 5-14-87

CAUTION: The addition of water at place of delivery adversely affects the quality and strength of concrete. _____ Gallons of water authorized by _____ added at job site.

SOLD TO Pennzoil

JUN 0 5 87

SHIPPED TO Boren 2-11A2

NOTICE: Our drivers will make every effort to place materials where customer designates, but the company assumes **NO** responsibility for damages inside the curb or property lines. Five (5) minutes per yard unloading allowed. Overtime unloading charge $45.00 per hour or fraction thereof.

THIS CONCRETE USED FOR:

Footings	☐	Wall	☐	Floor	☐
Foundations	☐	Forms	☐	Driveway	☐
Steps	☐	Patio	☐	Test	☐
Sidewalk	☐	Curb and Gutter	☐	Other	☐

YOUR ORDER NO.

FOLD

SHIPPED VIA

SALESMAN

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	PRICE	PER	AMOUNT
20 y	20 y	Roadbase	8 00		160 00
		Tax			9 60
		J E Jansen			169 60
		169.60			
		169 60	W J Hadlock		
		F286992	AFE #7628737		
		6-30-87	810-612 6-9-87		
		132360			

The INK SPOT -Roosevelt, Utah

_____ Departure time from Yard _____ Arrival time on Job _____ Finished Pouring

1½% interest per month charged on all accounts past 30 days. By my signature, if collection is made by suit or otherwise, I agree to pay interest until paid, also collection costs including a reasonable attorney's fee. I agree to terms of sale and delivery and accept the concrete as is. Due to important factors which are out of our control after delivery, this Company will not accept any responsibility for the finished results. **No Credit** is allowed for returned concrete. All concrete is air entrained unless otherwise specified.

UINTAH BASIN CONCRETE
P.O. Box 1388 — Ph. 722-3621
ROOSEVELT, UTAH 84066

№ 23942

DATE 5-18-87

CAUTION: The addition of water at place of delivery adversely affects the quality and strength of concrete. _____ Gallons of water authorized by _____ added at job site.

SOLD TO Pennzoil

RECEIVED JUN 05 87

SHIPPED TO Boren 2-11A2

NOTICE: Our drivers will make every effort to place materials where customer designates, but the company assumes **NO** responsibility for damages inside the curb or property lines. Five (5) minutes per yard unloading allowed. Overtime unloading charge $45.00 per hour or fraction thereof.

THIS CONCRETE USED FOR:

Footings	☐	Wall	☐	Floor	☐
Foundations	☐	Forms	☐	Driveway	☐
Steps	☐	Patio	☐	Test	☐
Sidewalk	☐	Curb and Gutter	☐	Other	☐

YOUR ORDER NO.

FOLD

SHIPPED VIA

SALESMAN

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	PRICE	PER	AMOUNT
74	7	XX XXX XXX Bag Concrete	64 50		451 50
		AMOUNT 478 59			
		Tax			27 09
		NET AMOUNT 478 59			478 59
		VOUCHER NUMBER F286994 B J Hadlock			
		DUE DATE 6-30-87 AFE # 7628737			
		132360 810 6-8-87			
		Van Jensen			

The INK SPOT - Roosevelt, Utah

SEND REMITTANCE TO:
NATIONAL-OILWELL
BOX 430 (801)-727-1104
VERNAL, UTAH

ARMCO National Supply Company

PLEASE MAIL CHECKS TO:
P. O. BOX 05961

NSC-4000(REV. 2-83)

DATE DEL'D/SHPD: 5/12/87 SHIP VIA: CO. TRK. PREPAID INVOICE NUMBER: 7463-2734
AD: Y CONTRACT: NAT-N/A LOC-N/A
MARKET SEG: P INITIALS: MB

CUSTOMER CODE: 7302300 MAY 29 87 INVOICE DATE: 5/26/87

SOLD TO
PENNZOIL COMPANY
BOX 870

VERNAL, UTAH
84053

SHIP TO
PENNZOIL COMPANY

ORDERED BY: V. RICHARDS
ORDER NO.:
LEASE: BOREN
WELL/PIC: 2-11B2E
BLANKET NO:
TAX LOC.: 1610 TAX CODE

QUANTITY SOLD	UM	ITEM CODE	PART DESCRIPTION	LIST PRICE	DISC.	NET RESALE	NET
353.000	FT	4799462	ROPE- WIRE, 3/4 IN 6X36 IPS RL PF IWRC, UNION	2.50	-25.0	1.88	[illegible]
24.000	EA	4802112	CLIP- WIRE ROPE, 3/4 IN G ALV,	6.12	-10.0	5.51	[illegible]

INVOICE AMOUNT			84264
DISCOUNT			
NET			84264
VERIFIED			
VOUCHER NUMBER	F286730		
DUE DATE	6-26-87		
CODE	19	90	71

D J Hadlock
AFE #7628-131

SUBTOTAL
TAX
TOTAL

MATERIAL LISTED ABOVE RECEIVED BY DATE

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLER'S PUBLISHED TERMS AND CONDITIONS. SELLER AGREES THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO OUR PUBLISHED TERMS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. ALL INVOICES ARE DUE AND PAYABLE ON A NET BASIS 30 DAYS FROM INVOICE DATE. INTEREST IS CHARGED ON ALL ACCOUNTS ALTER DUE DATE

NATIONAL-OILWELL
BOX 430 (801)-789-1164
VERNAL, UTAH

ISC-4000(REV.2-83)

ARMCO National Supply Company

PLEASE MAIL CHECK TO:
P. O. BOX 95984

DATE DEL'D/SHPD: 5/11/87 SHIP VIA: CO. TRK. PREPAID INVOICE NUMBER [illegible]
AS. Y CONTRACT: NAT-N/A LOC-N/A
MARKET SEG: P INITIALS: MB

CUSTOMER CODE: 7302300 INVOICE DATE: 5/26/87

MAY 29 87

SOLD TO
PENNZOIL COMPANY
BOX 290

NEOLA, UTAH 84053

SHIP TO
PENNZOIL COMPANY

ORDERED BY: JEFF
ORDER NO.:
LEASE: BOREN
WELL/RIG: 2-HA2 AFE
BLANKET PO:
TAX LOC.: 4649 TAX C[illegible]

QUANTITY SOLD	UM	ITEM CODE	PART DESCRIPTION	LIST PRICE	DISC.	NET RESALE	NET [illegible]
1.000	EA	1319722	NIPPLE- TUBING, API CONTROL LED N80 2 1/2EUE 8RD X 4 FT	223.60	-40.0	134.20	[illegible]
1.000	EA	1319706	NIPPLE- TUBING, API CONTROL LED N80 2 EUE 3RD X 4 FT	191.69	-40.0	115.01	[illegible]
1.000	EA	1114003	COUPLING- TBG, API N80 2 1/2 EUE 8RD	28.28	-26.0	20.93	[illegible]
1.000	EA	1115948	COUPLING- TBG, API N80 2 EUE 8RD	19.31	-26.0	14.29	[illegible]

30122
30122
F286731
6-26-87
1101 9017 1

O. J. Hardie
AFE #16281

SUBTOTAL [illegible]
TAX [illegible]

RECEIVED BY LISTED ABOVE RECEIVED BY DATE

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLER'S PUBLISHED TERMS AND CONDITIONS. SELLER AGREES THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO OUR PUBLISHED TERMS AND CONDITIONS. UNLESS OTHERWISE SPECIFIED, ALL INVOICES ARE DUE AND PAYABLE ON A NET BASIS 30 DAYS FROM INVOICE DATE. INTEREST IS CHARGED ON ALL ACCOUNTS AFTER DUE DATE.

NATIONAL-OILWELL
BOX 430 (801)-789-1109
UTAH

ARMCO National Supply Company

PLEASE MAIL CHECKS TO:
P. O. BOX 55989

DATE DEL'D/SHPD: 5/11/87 SHIP VIA: CO. TRK. PREPAID INVOICE NUMBER 7463-27241
'D. Y CONTRACT: NAT-N/A LOC-N/A
MARKET SEG: F INITIALS: MB

MAY 29 87

CUSTOMER CODE: 7392390 INVOICE DATE 5/26/87

SOLD TO
PENNZOIL COMPANY
BOX 290

VERNAL, UTAH
84078

SHIP TO
PENNZOIL COMPANY

ORDERED BY: DCN
ORDER NO.:
LEASE BOREN
WELL/RIG 2-11A2 AFE
BLANKET PO:
TAX LOC.: 4540 TAX CO

QUANTITY SOLD	UM	ITEM CODE	PART DESCRIPTION	LIST PRICE	DISC.	NET RESALE	NET A
1.000	EA	3552794	TONG- CHAIN, JH WMS CT-27	155.94	-32.4	105.28	[illegible]
1.000	EA	4168171	TONG- TITAN CHAIN, W/PETOL SPEC CHAIN, GRNCH C-37-P	230.00	-25.0	172.50	[illegible]

294.10
294.10
F286732
6-26-87
10190

D.J. Hadlo
AFE #762873

SUBTOTAL [illegible]
TAX [illegible]

ITEMS LISTED ABOVE RECEIVED BY DATE

CUSTOMER AGREES THAT HE IS FAMILIAR WITH SELLER'S PUBLISHED TERMS AND CONDITIONS. SELLER AGREES THAT THE MATERIAL SPECIFIED HEREIN WAS SOLD AND DELIVERED SUBJECT TO OUR PUBLISHED TERMS AND CONDITIONS. UNLESS OTHERWISE SPECIFIED, ALL INVOICES ARE DUE AND PAYABLE ON A NET BASIS 30 DAYS FROM INVOICE DATE. INTEREST IS CHARGED ON ALL

ERC INDUSTRIES, INC.

P.O. BOX 82 • HOUSTON, TEXAS 77001-0082

REMIT PAYMENT TO:

REMIT PAYMENT TO:
ERC INDUSTRIES, INC.
P.O. BOX 97715
DALLAS, TEXAS 75397

INVOICE NO. VE-3101 6

BRANCH Vernal

PHONE 801-789-4297

DATE May 29, 1987

ERC JOB NO. SO-2226

CARRIER ERC

SHIP TO Neola UT Office

CHARGE TO Boren 2-11A2

ORDER NO. Verbal: Pat Weinke

SOLD TO 182810
PENNZOIL EXPLORATION & PRODUCTION CO
P O BOX 290
NEOLA UTAH 84053

TUBINGHEAD ASSEMBLY

1 Tubinghead, CIW, 'N', 10,000# WP, 11" 5000# WP x 7-1/16"

ITEM NO.	DESCRIPTION	MATERIAL ORIGIN	QTY.	UNIT PRICE	CHARGES
	Material and Services per Shipping Order SO#-2226, attached.				$ 1,245.14
	"Thank - You"				
	2502 - 69.09				
	421 - 1457.00				
	481 - 64.00				
	440 - 165.00				
	4211 - (509.95)				
	pc				
	bottom prep for extended neck hanger				
	Valve, Gate, CIW, 'F', 10,000# WP				
	Internal				
	Ring Gasket			1	46.8
	Set			1	197.6
	Ring			2	37.7
				1	28.6
	Federal Tax & Freight Allowance				75.00

	XX	XXX	XXX
INVOICE AMOUNT		1	245 14
DISCOUNT			
NET AMOUNT		1	245 14
VOUCHER NUMBER	F287024		
DUE DATE	6-29-87		
VENDOR NUMBER	1 1 1 0 1 6 7 1		

RECEIVED JUN 09 87 PENNZOIL COMPANY DENVER, COLO.

7628737
810-612
6-10-87

G J Hardock
AFE #7628737

INVOICE

NO. VE-3100

ERC INDUSTRIES, INC.
P.O. BOX 82 • HOUSTON, TEXAS 77001-0082

REMIT PAYMENT TO: REMIT PAYMENT TO:
ERC INDUSTRIES, INC.
P.O. BOX 97715
DALLAS, TEXAS 75397

BRANCH: Vernal
PHONE: 801-789-4297
DATE: May 22, 1987
ERC JOB NO.: See Attached
CARRIER: N/A
SHIP TO: Process stock pending shipment to Boren 2-11-A2 on SO#-2226
CHARGE TO: Boren 2-11-A2
ORDER NO.: Verbal: Pat Weinke

SOLD TO: 182810
PENNZOIL EXPLORATION & PRODUCTION CO
P O BOX 290
NEOLA UTAH 84053

RECEIVED
JUN 05 87
PENNZOIL COMPANY
DENVER, COLO.

ITEM NO.	DESCRIPTION	MATERIAL ORIGIN	QTY.	UNIT PRICE	CHARGES
	Material and Services per Detailed Schedule attached.				$ 1,473.83
	"Thank - You"				
	2502 - 81.78 4400 - 165.00 4401 - (16.50) 4410 - 1381.72 4411 - (138.17) pc				

	XX	XXX	XXX
INVOICE AMOUNT		147383	
DISCOUNT			
NET AMOUNT		147383	
VOUCHER NUMBER	F287000		
DUE DATE	6-22-87		
VENDOR NUMBER	110167		

G. J. Hadlock
AFE #7628737
810-612
6-8-87

Welborn Welding

24 HR. Service

616 W. Miller Dr - 6753
~~RT. 1, BOX 179~~
ROOSEVELT, UTAH 84066

Phone (801) 722-4470

INVOICE NO. 0046

DATE 5-19-20-21-8

NAME Penn 201

ADDRESS P.O. Box 290 Neola, Ut 84053

P. O. NO.

LEASE Boren 2-11-A

MATERIAL	UNIT	PRICE	COST
RECEIVED MAY 27 87			

DESCRIPTION	AMOUNT	
5-19-87 (Boren 2-11-A2) Fabricate & weld second flare system candle stick cut out pipe stands for flare 8hrs	240	00
5-20-87 (Boren 2-11-A2) weld up pipe stands & install & weld clamps to stands 8hrs	240	00
5-21-87 (Boren 2-11-A2) Run new dump line to frack tanks from seperator & tie in 5½hrs	165	00
5-22-87 (Boren 2-11-A2) set up & weld piping in for rupture disk line to flare (2hrs)	60	00
welder Jay William Rate 30 per hr		
TOTAL LABOR	705	00
TOTAL PARTS		
TAX		
TOTAL AMOUNT	705	00

ORDERED BY

NOT RESPONSIBLE FOR LOSS BY FIRE OR THEFT.

810 610 5-29-87

AFE # 7628737

G J Hadlock

705 00

705 00

F286520

6-21-87

133996

Thank you!

The undersigned purchaser or company hereby agrees to pay for any damages that occur on location, also to pay the following account at Roosevelt, Utah on or before the 15th day of the succeeding calendar month, and if not paid when due to pay interest thereon at the rate of ten per cent per annum, both before and after judgment until paid, though this account is placed in the hands of an attorney for collection, either with or without suit, plus a reasonable attorney's fee.

SIGNATURE G J Hadlock

Welborn Welding

24 HR. Service

616 W. Miller Dr-67-3
~~RT. 1, BOX 179~~
ROOSEVELT, UTAH 84066

Phone (801) 722-4470

INVOICE NO. 0049 DATE 5-26,27,28,29 87

NAME Pennzoil

ADDRESS P.O. Box 290 Neola, Ut- 84053

P. O. NO. LEASE Boren 2-11-A2

DESCRIPTION	AMOUNT	
5-26-87 Boren 2-11-A2 Weld 2 1/8 tubing from Seperator dump to 500bbl TANK. Weld 4-4 inch collars and 3-2" collars in 500 barrell tank, weld 3 inch tread on pipe (8hrs)	240	00
5-27-87 Boren 2-11-A2 weld 2" collar in tank, Fabricate & weld 2" Heat coils in tank and install (8hrs)	240	00
5-28-87 - Boren 2-11-A2 make tie in on dry fuel gas line. weld 1" collar in, Seperator dump line weld & make stands on coils in tank. Tie in front of production tank in to old burried lines. cut old lines off by well-head & pump house. weld 2" riser on fuel gas line at pump house (8hrs)	240	00
5-29-87 Boren 2-11-A2 work on trace lines; stub up trace lines out side of pump house, run tru-pump house & trace pump. stub up-old prod. line. & weld threads for valve. (8hrs)	240	00
6-1-87 Boren 2-11-A2 work on trace at 500bl TANK Run lines from tank to Separator in ditch. make 4" bull plug for tank (8hrs)	240	00
6-2-87 (Boren 2-11-A2) Tie in Seperator make vent line for tank. make 3" & 4" bull plugs. Build 6" clamp & 2" clamp for gas line from well-head. (8hrs)	240	00
Welder Jeff Welborn Rate 30 per hr		

ORDERED BY

TOTAL LABOR	1440	00
TOTAL PARTS		
TAX		
TOTAL AMOUNT	1440	00

NOT RESPONSIBLE FOR LOSS BY FIRE OR THEFT

MATERIAL	UNIT	PRICE	COST	
5-26-87 Boren 2-11-A2 weld 2 1/8 tubing from Seperator dump to 500bbl TANK. Weld 4-4 inch collars and 3-2" collars in 500 barrell tank, weld 3 inch tread on pipe (8hrs)			240	00
JUN 0 5 87				
5-27-87 Boren 2-11-A2 weld 2" collar in tank, Fabricate & weld 2" Heat coils in tank and install (8hrs)			240	00
5-28-87 - Boren 2-11-A2 make tie in on dry fuel gas line. weld 1" collar in, Seperator dump line weld & make stands on coils in tank. Tie in front of production tank in to old burried lines. cut old lines off by well-head & pump house. weld 2" riser on fuel gas line at pump house (8hrs)			1440	
INVOICE AMOUNT		XX	XXX	XX
DISCOUNT				
NET AMOUNT			1440	
VOUCHER NUMBER		F286988		
DATE		6-30-87		
VENDOR NO.		13996		
AFE		#7628737		
6-8-87		810	610	
Thank You!				

The undersigned purchaser or company hereby agrees to pay for any damages that occur on location, also to pay the following account at Roosevelt, Utah on or before the 15th day of the succeeding calendar month, and if not paid when due to pay interest thereon at the rate of ten per cent per annum, both before and after judgment until paid, though this account is placed in the hands of an attorney for collection, either with or without suit, plus a reasonable attorney's fee.

Sivalls

ORIGINAL Page_____ of_____
COPY
FILE

INVOICE

Customer's Order No. Acknowledgement #03359

Invoice No. UT-23321
Date 5-27-87

JUN 0 1 87

SOLD TO

Pennzoil 16-0500
P.O. Box 290
Neola, UT 84053

Destination Boren 2-11-A2
County Duchesne State Utah
Date Shipped 5-26-87 FOB Point Lease
How Shipped Sivalls trk. Delivery Tkt. No. 54161

Quotation No. 87-993
Branch Vernal/Denver

Qty.	Description	Net Each	Total Net
1	Sivalls 500 bbl. Welded Steel Flat Bottom Tank, 13' 5" x 20', per P & M cold climate specs, complete with thief hatch.		
	SERIAL NUMBER - 54161		
	Priced your above lease, not set		$4,390.00
	6% Utah State and County Sales Tax		263.40
			$4,653.40
D&I			

	XX	XXX	XXX
INVOICE AMOUNT		4	653 40
DISCOUNT			
NET AMOUNT		4	653 40
VOUCHER NUMBER	F286986		
DUE DATE	6-27-87		
VENDOR	128349		

O.J. Hadlock
AFE. #762873 7

Sivalls, Inc. • Box 2792 • Odessa, Texas 79760 • 915/337-3571

TERMS: Net and due upon receipt of invoice. Interest at the legal rate from date of invoice will accrue and be charged monthly on all amounts not paid within thirty (30) days. The equipment, material and/or labor listed hereinabove was sold, delivered and/or performed subject to the "General terms and conditions of sale of products" attached hereto and made a part hereof for all purposes.

DIAMOND WELDING

Rt. 1 Box 1389
Roosevelt, Utah 84066

Phone (801)353-4629

JUN 01 87

Service Order No.

In Account With: Pennzoil Company

Invoice Date: 5-31-87

Invoice No.: 72-P

Terms: Net Cash

PART I — TICKET SUMMARY

DATE	TICKET NO.	~~AMOUNT~~ Location	~~DATE~~ Hrs.	~~TICKET NO.~~ Rate	AMOUNT
5-17-87	3087.	BOREN #2-11A2	4	28.00/hr	$ 112.00
5-27-87	3097.	BOREN #2-11A2.	2.	28.00/hr.	56.00
	168.00				
	168.00				
	F286733				
	6-31-87				
	108906				
				TOTAL — PART I **	$ 168.00

O.J. Hadlock
AFE #762873
810-610
6-4-87

PART II — CLASSIFICATION BREAKDOWN

CLASSIFICATION	STRT. TIME HOURS	RATE	AMOUNT
Welder & Welding Truck	6 hrs at 28.00/hr.		$ 168.00
		TOTAL — PART II **	$ 168.00

** PAY THIS AMOUNT

The INK SPOT · Roosevelt, Utah

TANK BUILDING
SERVICE WORK
HIGH PRESSURE
CLEANING SERVICE
PRODUCTION EQUIPMENT
SPECIALISTS

ZANE'S OIL FIELD SERVICE

P.O. Box 818
Vernal, Utah 84078
Telephone (801) 789-3703

FEDERAL TAX No. 87-0292070

In Account With: Pennzoil Co

Invoice Date: 5-26-87

Invoice No. 5-701-87

Customer's Order No.:

MAY 27 8:

Attn:

Location Boren 2-11 A2 - AFE #7628737

TERMS: Net 15 Days

DESCRIPTION OF WORK DONE

Delivering and erecting
1- 27' Stairway
1- 4' Landing
Total 31' at $16.00 per foot - - - - $496.00

D J Hadlock

	XX	XXX	XXX	
INVOICE AMOUNT			496	00
DISCOUNT				
NET AMOUNT			496	00
VOUCHER NUMBER	F286522			
DUE DATE	6-26-87			
VENDOR NUMBER	1135319/1			

D J Hadlock
AFE #7628737
810-610
5-29-87

INVOICE
SHOP TICKET

Machine & Welding

West Hwy. 40
P. O. Box 1748
Roosevelt, Utah 84066

ORIGINAL

WADE J. BOWTHORPE
Phone 722-9980

Customer: Pennzoil

AFE 2-1142

Invoice No. 2361

Purchase Order No.

Rig No.

Date 5-14-87

RECEIVED MAY 27 87 PENNZOIL COMPANY

Description	Amount	
Broke		
Build Clamps For Wellhead on Blow out		
Build Tubing Cutters As Desired		
14 hr @ 30.00	$ 420.	00
10' 3/4 Pipe	$ 7.	50
2 - 11 x 7 x 2" plate 810 610	$ 30.	13
1 - 14 x 26 x 1" plate	$ 36.	10
1 - 12 x 18 x 1" plate	$ 21.	42
2 - 12 x 2 x 1" plate	$ 4.	76
2 - 7/8 studs + nuts	-	no
6 - Saw Blades 2-14.00 2-11.00 2-6.00	$ 56.	00
Tax	34.	55
TOTAL →	$ 610.	46

Left Hadlock AFE#762-8737

5-29-87

(Thank you)

INVOICE AMOUNT	XX	XXX	610	46
DISCOUNT				
NET AMOUNT			610	46
VOUCHER NUMBER	F286521			
DUE DATE	6-14-87			
VENDOR NUMBER	1133	8918		

THE UNDERSIGNED PURCHASER HEREBY AGREES TO PAY THE ABOVE AT ROOSEVELT, UTAH ON OR BEFORE THE 20TH OF THE MONTH FOLLOWING THE DATE OF INVOICE, AND IF NOT PAID WHEN DUE, TO PAY INTEREST AT THE RATE OF EIGHTEEN PERCENT PER ANNUM, BOTH BEFORE AND AFTER JUDGEMENT UNTIL PAID, THOUGH THIS ACCOUNT IS PLACED IN THE HANDS OF AN ATTORNEY FOR COLLECTION, EITHER WITH OR WITHOUT SUIT, PLUS A REASONABLE ATTORNEY'S FEE.

NOT RESPONSIBLE FOR LOSS BY FIRE OR THEFT.

NO FURTHER STATEMENT WILL BE SENT

Customer Signature

DOUBLE D' ENTERPRISES

BOX 560
SHOSHONI, WYOMING 82649

SHOSHONI
876-2308

EVANSTON
789-9213

B.O.P. Nipple Up & Pressure Test

INVOICE # 8068

REMIT TO:
Double D Enterprises
P.O.Box 2097
Evanston, Wyoming 82930

MAY 27 87

Date May 21, 1987

Customer Name
Pennzoil Company
P.O.Box 290
Neola, Utah 84053

Boren 2-11A2

Field Ticket#	Description	Amount
6357	Charges as per attached for Nipple-up services	1940.00
6471	Charges as per attached for Nipple-up services	12500.00
6358	Charges as per attached for Nipple-up services	8180.00
4231	Charges as per attached for testing service at Oilfield Rental shop in Vernal, Utah for blow out on Boren 2-11-A-2	1500.00
	Subtotal	24120.00
	Sales Tax 5.5%	1326.60
	Total Invoice	25446.60

	XX	XXX	XXX	
INVOICE AMOUNT		25	446	60
DISCOUNT				
NET AMOUNT		25	446	60
VOUCHER NUMBER	F286518			
DUE DATE	6-21-87			
VENDOR NUMBER	1109184			

AFE #7628737
O.J. Haddock 810-68

CUSTOMER ORIGINAL INVOICE

Pumpers Inc.

P.O. BOX 1015 • 4 MILES WEST HWY 40 • ROOSEVELT UTAH 84066

PHONE (801) 722-5061

MACHINISTS
STEEL FABRICATORS
PRODUCTION ENGINEERS
STEEL & PIPE SALES
INSTRUMENTS SOLD AND SERVICED
COMPLETE PRODUCTION ASSEMBLIES RENTAL
BARTON ITT
PUMPS

MATCHED INVOICE

№ 14788

Page ___ of ___ Pages

Sold To: Pennzoil
Box 290
Neola, Utah 84053

Date: 5-15-87

Shipped To:

MAY 26 87

P.O. NO.	ORDERED BY	LEASE UNIT	SALESMAN
DATE SHIPPED	SHIPPED VIA	PICKED UP BY	
		Brown 2 11A2	

QUANTITY ORDERED	QUANTITY SHIPPED	STOCK NUMBER/DESCRIPTION	PRICE	PER	AMOUNT
	12	6CMU Tube fitting	4 35	-	52 20
	12	6LMU " " "	6 35	-	76 20
	12	6LU " " "	8 45	-	101 40
	200'	3/8 Steel tube	88	ft	176 00
	3	1/2x1/4 E.S. Bushing	45	-	135
	1	2x1/4 " "	3 86	-	3 86
	1	1/2 teflon tape	2 01	-	2 01
	1	3/4 " "	2 70	-	2 70
	2	1/4" 316 SS Line check	47 75	-	95 50
	2	1/4x3 x H nipple	54	-	1 08
	2	1/4 3000# coupler	87	-	1 74
	2	3/4x4 std nipple	36	-	72
	1	3/4 coupler	90	-	90
	1	3/4 Brass Ball Valve	6 39	-	6 39

INVOICE AMOUNT	553 37
DISCOUNT	
AMOUNT	553 37
VOUCHER NUMBER	F286515

Approved #2-11A2
Date 5-15-87
Acct #8737
Acct #162

SUB TOTAL	522 05
SALES TAX	31 32
PRO-RATED FREIGHT	
TOTAL AMOUNT	553 37

TERMS AND CONDITIONS OF SALE: 1. All prices shown are subject to change without notice. 2. Seller shall not be responsible for delay in delivery caused by Federal or State laws and/or regulations, or any causes beyond seller's control, but will use best efforts. Seller's responsibility terminates with delivery to either carrier, buyer's representatives or to buyer's designated locations. 3. Invoice terms are net 30 days due and payable to Pumpers, Inc. Roosevelt, Utah. Interest will be charged on overdue accounts at the rate of 1½% per month, plus a monthly service charge of $10.00 per month will also be assessed. 4. Special order goods can only be returned upon written consent of seller. Regular stock order goods can be returned within sixty (60) days after delivery without written approval. Any equipment goods can only be returned after sixty (60) days from delivery upon seller's written consent. All returned goods shall be subject to a re-stocking charge of twenty percent (20%), unless a higher or lesser re-stocking charge assessed by agreement of the parties. In no event shall re-stocking charge be less than the re-stocking charge assessed by the manufacturer, plus ten percent (10%). All returned goods must be deemed in saleable condition by seller and/or manufacturer or manufacturer's representative. 5. Seller does not express or imply any guarantee or warranties beyond those expressly granted by manufacturer. 6. All items are F.O.B. Roosevelt, Utah, and subject to all State and Local Taxes. 7. Title to all merchandise shall remain in seller until paid for in full. 8. Time is of the essence of this agreement, and the Buyer agrees to strictly perform all obligations herein imposed, and in the event of default, to pay all cost of enforcing this agreement, including a reasonable attorney's fee. 9. This bill becomes due immediately if the purchaser suspends payment, removes, sells out, becomes insolvent or bankrupt or is sued. 10. Not responsible for loss by Fire or Theft.

Date _____ Received by Daniel Henrieson
Purchaser's Representative

The INK SPOT — Roosevelt, Utah

810-612
5-29-87

HUCO CHEMICALS, INC.

P.O. Box 275
Roosevelt, Utah 84066
Phone (801) 722-9991

FINAL BILLING

№ 4506

SHIPPING DATE	SHIPPED VIA	SHIPPED FROM:	CUSTOMER CODE #
5-22-87	HUCO Truckm	Roosevelt	

CUSTOMER'S NAME: ~~XXXXXXX~~ Pennzoil

ADDRESS:

CITY, STATE, ZIP CODE:

CUSTOMER ORDER #: MAY 27

CITY (IF WITHIN CITY LIMITS) STATE: PE... ZONE #:

SALESMAN'S CODE #: L... ...Y

RETAIL: ☐ WHOLESALE: ☐ OTHER: ☐ TAX EXEMPT #:

CHEMICAL	LEASE & NUMBER	QUANTITY	BILLING UNITS	PRICE PER UNIT	TOTALS
Water Analysis	Boren 2-11A2 5-10-87	2		$40.00	$80.00
Sample bottles	" "	40		2.95	118.00
	THANK YOU,				

INVOICE AMOUNT: 205.08
DISCOUNT:
NET AMOUNT: 205.08
VOUCHER NUMBER: F286533
DUE DATE: 6-22-87
NUMBER: 141147

AFE
AFE #762843
810.610
5-29-87

TERMS: Due 10th day of month following invoice date. FINANCE CHARGE assessed on amounts unpaid on the last day of month in which amount is due. FINANCE CHARGE is computed on the last day of each month by multiplying the unpaid amount of account which is due by a periodic rate of (2%) per month for a NOMINAL ANNUAL PERCENTAGE RATE OF TWENTY-FOUR PERCENT (24%). Customer will be assessed attorney's fees and court costs for collection on defaulted accounts.

SUB TOTAL:	$198.00
SALES TAX:	7.08
TOTAL	$205.08

Approved by: DR Lankford

The INK SPOT · Roosevelt, Utah

VERNAL, UTAH 84078
(801) 789-6043
EVANSTON, WYOMING 82930
(307) 789-6235

MORCON SPECIALTY, INC.

PLEASE REMIT TO
P.O. BOX 860
VERNAL, UTAH 84078
(801) 789-6043

ROCK SPRINGS, WYOMING 82901
(307) 382-4230

I 45105 10716

SOLD TO: Pennzoil
P.O. Box 920
Nelon UT 84035

MAY 22 87

SHIPPED: Ordered By Terry
Baron #2-11AF

INVOICE DATE	ORDER DATE	SALESMAN	TERMS: NET 30 DAYS	ORDER NO.
5-19-87	5-13-87			

ORDERED	SHIPPED	PART NO.	DESCRIPTION OF MATERIAL	UNIT PRICE	AMOUNT
2	2		150# Hose Assy. X Adapter to 3/8" Pipe #5	179.78	359.5
			Tax		21.1

INVOICE
38068
38068
F286722
DUE DATE 6-19-87
VENDOR ORDER 120780
Rj Hadlock
AFE # 7628737

ORIGINAL INVOICE

RECEIVED BY

PURCHASER FOR THIS AGENT ACKNOWLEDGES RECEIPT OF A COPY OF THIS INVOICE AND ITEMS OF THE QUANTITY AND DESCRIPTION MARKED HEREON. PURCHASER AGREES TO PAY COSTS OF COLLECTION INCLUDING ATTORNEY FEES AND INTEREST AT THE RATE OF 1½% PER MONTH WHICH IS 18% PER ANNUM IF THIS ACCOUNT IS NOT PAID IN FULL WITHIN THIRTY (30) DAYS FROM DATE OF INVOICE. PURCHASER FURTHER AGREES THAT SELLER MAY ENTER PREMISES WHERE SUCH ZUN PAID FOR ITEMS MAY BE LOCATED AND REPOSSESS SAME WITHOUT PROCESS OF LAW.

TOTAL INVOICE 380.6

A DISCOUNT OF $ _____ MAY BE TAKEN IF PAID BY _____

ORIGINAL
INVOICE

SERVICES
A DIVISION OF HALLIBURTON COMPANY

REMIT TO:
P.O. BOX 651044
DALLAS, TX 75265

INVOICE NO.	DATE
[illegible]	05/14/1987

WELL LEASE NO.	WELL LOCATION	STATE	WELL OWNER
[illegible]EN 2-11 A2	NUCHERNE	UT	SAME

SERVICE LOCATION	CONTRACTOR	JOB PURPOSE	TICKET DATE
[illegible]RNAL UT		MISCELLANEOUS PURPTNG	05/14/1987

ACCT. NO.	CUSTOMER AGENT	VENDOR NO.	CUSTOMER P.O. NUMBER	SHIPPED VIA	FILE NO
[illegible]425	JESS DULLNIG			COMPANY TRUCK	40349

JUN 0 1 87

PENNZOIL COMPANY
P O BOX 290
NEOLA, UT 84053

DIRECT CORRESPONDENCE TO:
410 17TH ST.
SUITE 440
DENVER, CO 80202-0000

PRICE REF. NO.	DESCRIPTION	QUANTITY	U/M	UNIT PRICE	AMOUNT
	INVOICE SUBTOTAL				18,463.75
	*-UTAH STATE SALES TAX				16.50
	*-VERNAL CITY SALES TAX				2.53
	1848278				
	1848278				
	F286735				
	6-14-87				
	113235				
	7628737				
	INVOICE TOTAL -- PLEASE PAY THIS AMOUNT				$18,482.78

[illegible]

INVOICE

TARGET TRUCKING, INC.

2960 NORTH 500 EAST
VERNAL, UTAH 84078
(801) 789-5756

№ 19252

Company
290
tah 84053

Date 5-28-87

JUN 0 1 87

PE Y

ren AFE 76-287-37

Description	Amount
hed	
	$ 2,166.00

INVOICE AMOUNT	2166 00
DISCOUNT	
NET AMOUNT	2166 00
	F286985
DUE DATE	6-28-87
VENDOR NUMBER	VB0275 1

by J Hadlock
AFE #7628737

Sub Total $ 2,166.00
Sales Tax
Total $ 2,166.00

Thank You

Invoice

NL Baroid

NL Baroid/NL Industries, Inc.
P.O. BOX 1675, Houston, TX 77251
Phone: (713) 987-5900

SOLD TO
PENNZOIL COMPANY
P.O. BOX 290
NEOLA UT 84053

JUN 05 87
PL
DENVER, COLO.

(SAME AS "SOLD TO" UNLESS OTHERWISE SHOWN)

SHIP TO
PENNZOIL COMPANY

PLEASE REMIT TO:
NL Baroid/NL Industries, Inc.
P.O. BOX 297011
HOUSTON TX 77297

Please quote our invoice number.

DATE	INVOICE NUMBER	PAGE
05/31/87	K9335900	1

CUSTOMER REFERENCE NUMBER	WELL CODE	CUSTOMER NO.	TERMS	SHC	COPIES
ONE GIVEN		6958525	NET 30 DAYS		1

PRODUCT NUMBER	DESCRIPTION	QUANTITY SHIPPED	PRICING QUANTITY	UNIT PRICE	PR UNIT	AMOUNT
HIP DOC K9335900		SHIP DT 05/26/87				
OB WAREHOUSE		FROM VERNAL STORE UT				
IA TARGET		FRT TRM PREPAID/ALLOW				
91880001	EA TRANS. OUT/STORAGE	100 00	100 00	2 00	EA	2 000 00
ALES TAXES:						
TATE OF UTAH				5 094%		101 88
OUNTY/PARISH OF UINTAH				0 906%		18 12

	XX	XXX	XXX	
INVOICE AMOUNT		2	120	00
DISCOUNT				
NET AMOUNT		2	120	00
VOUCHER NUMBER	F286996			
DUE DATE	6-30-87			
VENDOR NUMBER	1211	8773		

L J Hadlock
Boren #2-11A2
AFE #7628737
810-612
6-8-87

TAXABLE	TAX CHARGED	NON TAXABLE
2,000 00	120 00	0 00

Seller represents and warrants that all of the goods or materials herein specified and/or the performance of the services covered by this invoice have been produced and/or furnished in full compliance with the Federal Labor Standards Act of 1938 as amended.

TOTAL 2 120 00

ORIGINAL

- INDUSTRIAL GASES
- MEDICAL GASES & SUPPLIES
- COMPLETE LINE OF WELDING SUPPLIES
- COMPLETE WELDING APPARATUS REPAIR
- FIRST AID & SAFETY EQUIPMENT
- JACKSON PRODUCTS
- INDUSTRIAL SUPPLIES BLACK & DECKER TOOLS

Miller WELDING SUPPLY INC

LINCOLN ELECTRIC · VICTOR · miller

1376 East Highway 40 P.O. Box 185 Vernal, Utah 84078 Phone: 789-1805

CYLINDERS DELIVERED	CYLINDERS RETURNED
OXYGEN	OXYGEN
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
ACETYLENE	ACETYLENE
1.	
2.	
3.	
4.	
5.	
6.	
7.	

	XX	XXX	XXX
INVOICE AMOUNT			218.00
DISCOUNT			
NET AMOUNT			218.00
VOUCHER NUMBER		F286987	
DUE DATE	6-26-87		
VENDOR NUMBER	120244		

BUYER AGREES TO RETURN ALL CYLINDERS PROMPTLY WHEN EMPTY TO POINT OF DELIVERY. BUYER AGREES TO PAY CYLINDER RENT AT THE STANDARD RATE IN EFFECT FOR ALL CYLINDERS IN HIS POSSESSION AT THE END OF EACH AND EVERY MONTH. IN THE EVENT THE BUYER FAILS TO RETURN CYLINDER WITHIN 60 DAYS AFTER DATE OF DELIVERY, CYLINDERS SHALL BE CONSIDERED LOST. THE BUYER SHALL PAY PROMPTLY ON DEMAND FOR LOSS OR DAMAGE TO ANY CYLINDER OR FITTINGS RESULTING FROM ANY CAUSE WHILE IN THE CONTROL OR POSSESSION OF THE BUYER.

CUSTOMER'S SIGNATURE Craig Cowdrick

CUSTOMER'S ORDER NO. General Field Operations

DATE 5-26-87 198

SOLD TO Pennzoil

ADDRESS Neola

MAY 29 87 PER

Craig Cowdrick AFE Boren-2-11A2

MDSE. SOLD CASH	MDSE. SOLD CHARGE	MDSE. RET'D CASH	MDSE. RET'D CHARGE	REC'D ON ACCT.–NOTE	MISC'L.	PAID OUT
	218.00					

QUANTITY	ARTICLES	PRICE	AMOUNT
	Large Oxygen		
	Small Oxygen		
	Cu. Ft. Acetylene		
40	Hearing Protectors	4.65	186.00
2	Scott Air Paks Refill	9.95	19.90
	Welding Supply, Inc. Certify That This Is A True Copy In Lieu Of Original Invoice. Date 5-28-87 Signed		
			205.90
	INTERSTATE • GOV'T • RESALE • SALES TAX V.		12.10
		TOTAL	218.00

E 29995

TERMS: NET 10th PROX. A Finance Charge in the amount of 1½% per month will be charged on all past due accounts. Purchaser agrees that title to said merchandise shall remain with the seller until paid for in full and further agrees to pay reasonable attorney's fees and such additional fees as may be directed by the court incurred in the collection of this account.

Stocking and Handling Charge will be made on merchandise returned.

All returned merchandise must be accompanied by its invoice.

FORM 01-2310

PENNZOIL COMPANY AND SUBSIDIARIES

☐ CHECK REQUEST ☒ WIRE TRANSFER

(PLEASE CHECK APPROPRIATE BOX)

DATE May 14, 1987

VENDOR NUMBER NEW

VOUCHER NUMBER E826341

NAME OF COMPANY ISSUING CHECK: Pennzoil Company

IN THE AMOUNT OF: $ 20,000.00

VENDOR NAME: Philadelphia National Bank

ADDRESS: 1600 Market Street
Philadelphia, PA 19101

INVOICE NUMBER (CHECK REQUEST)	INVOICE NUMBER (WIRE TRANSFER)	DUE DATE	PAYMENT REFERENCE NUMBER	BANK NUMBER
	WT —	5/14/87		01-08-35-14 (FC5344)

REMITTANCE MESSAGE ON CHECK STUB (60 CHARACTERS MAX)
(Messages in excess of 60 characters must be attached on a separate remittance advice.)

BOREN 2-11A2 BLOW-OUT

ESIS CLAIM SERVICE

MEMO INFORMATION
Minimum Claim Fund Deposit - Contract No. 2003

CO 3	ORG 3	GEN 4	SUB 3	ELE 3	COST CTR/ PROPERTY 9	BC	ATR	DETAIL 1 8	DETAIL 2 12	PROD CONT/ CUST. NO. 9	AMOUNT 12		UOM	QUANTITY 10	
XXX	XXX	XXXX	XXX	XXX	XXXXXXXXX	X	X	XXXXXXXX	XXXXXXXXXXXX	XXXXXXXXX	XXXXXXXXXX	XX	XX	XXXXXXXX	XX
25 1	810	699	76	287	37 1						20,000	00			
										TOTAL	20,000	00			

SUBMITTED BY E. F. Carey

CHECKED BY

APPROVED BY N. G. Cooley

DATE

NELSON J. MARSHALL
Phone 789-0272

GENE STEWART
Phone 789-1795

LAWRENCE C. KAY
Phone 789-1125

Uintah Engineering & Land Surveying

P.O. BOX Q
VERNAL, UTAH 84078

OFFICE LOCATION
85 SOUTH 200 EAST

PHONE 789—1017

JUN 05 87

INVOICE № 16596

DATE May 29, 1987

YOUR ORDER

Pennzoil
P.O. Box 290
Neola, Utah 84053

AMOUNT	1693 00
AMOUNT	1693 00
VOUCHER NUMBER	F286989
DUE DATE	6-29-87
VENDOR NUMBER	132363

G J Hadlock
AFE # 7628737

Charges for the following: 810.610

		Amount
WORK TICKET #	22187 6-8-87	
DESCRIPTION	Survey work as directed on Boren #2-11A2 in Section 11, T1S, R2W	
5/19/87 thru 5/29/87	2 Man Survey - 13½ hrs @ 51.00 =	$688.50
	Vehicles - 13½ hrs @ 3.00 =	40.50
	Distance Meter - 8 hrs @ 10.00 =	80.00
	Mileage - 160 miles @ .50/mi. =	80.00
	Drafing - 33½ hrs @ 24.00 =	804.00
	TOTAL INVOICE	$1,693.00

TERMS: All invoices are due and payable 30 days from date of invoice unless previous arrangements are made.
Interest charged on all past due invoices at highest rate permitted by law.

WORK TICKET

													Computer
													Govnmt. Permit.
804 00	24 00	33½		2½	8½	8	2½	6	3½	2½			Drafting/ Note Red.
													Clerical
													Reproduction
													Misc.

1,693 00

2-11A2

WORK TICKET № 22187

ORDER NO.

COPIES
White Denver
Pink Denver
Gold Denver
Green Customer
Canary Station

oil well perforators

303-696-6482

INVOICE NO. C— 126

REMIT: 7775 South Peoria St.
Box F-2
Englewood, CO 80112

CHARGE TO PENNZOIL COMPANY TRUCK NO. 526

ADDRESS P.O. BOX 290 NEOLA UT 84053

FIELD BLUEBELL WELL BOREN 2-11A2

COUNTY DUCHESNE STATE UTAH CUST. NO.

TO OIL WELL PERFORATORS, INC.:

CONDITIONS OF THIS CONTRACT

You are hereby requested to furnish the service and materials and equipment herein set forth upon the back side of this service ticket and invoice as well as general terms and conditions outlined in your current published price manual.

Received the below services according to the terms and conditions as shown above, which we have read and which we hereby agree.

CUSTOMER PENNZOIL AGENT Jess Dulling DATE 5-10-87 THRU 5-13-87

OPERATOR: SCOTT-BAKER

CREW: MATHESON-JESKI
MARTINEZ-PALSER

CSG 7" #23 ZERO

FLUID LEVEL

CO. TD OWPTD

DEPTHS REFER TO:

PERFORATING INTERVALS

SHOTS	FROM	TO

JOB DATA	DATE	TIME	HRS.
REPORT			
ARRIVE LOC.			
RIG UP			
START WAIT			
END WAIT			
END JOB			
UNLOAD			

REMARKS:

FURNISH MEN AND EQUIPMENT TO HELP WITH REPAIRS ON WELLHEAD

SERVICES	FROM	TO	TOTAL	AMOUNT	PRICE PAGE
SERVICE CHG.					
PERF. TYPE			TOTAL SHOTS		
DEPTH CHARGE: FURNISH EQUIPMENT AND ENGINEERING FOR WELLHEAD REPAIRS.					
OPERATION CHARGE					
OTHER: 2 HOTSHOTS FROM CASPER W/O 1200 RT MILES TOTAL (AIR)					
QUOTE $13,800					

12 000 00

12 000 00

F286736

6-13-87

122720

7228737
810-610
6-8-87

UNITS: 526-605-334-331
2206 A

SUB TOTAL 12000

STATE Utah TAX %

TOTAL 12000

QS PER

CRC COLORADO WELL, INC.

RANGELY, COLORADO 81648 - (303)675-8281

REMIT TO: CRC COLORADO WELL, INC.
P.O. BOX 2547
LUBBOCK, TEXAS 79408

RECEIVED

PENNZOIL COMPANY
BOX 290
NEOLA, UTAH 84053

MAY 29 87

DATE	INVOICE NUMBER
05-22-87	018072

G NUMBER	ORDER NUMBER	LEASE & WELL NUMBER
54		BOREN 1-14A2

DATE	TICKET	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
5-15-87	19815	UNIT, CREW CHIEF & 3 MEN	9.5	HRS	120.00	1,140.00
5-16-87	19816	UNIT, CREW CHIEF & 3 MEN	3.0	HRS	120.00	360.00
		TOTAL				$1,500.00

Charge to Boren #2-11A2 AFE
Craig Goodwin

	XX	XXX	XXX	
INVOICE AMOUNT		1	500	00
DISCOUNT				
NET AMOUNT		1	500	00
VOUCHER NUMBER	F286728			
DUE DATE	6-22-87			
VENDOR NUMBER	1107808			

PLEASE REMIT TO: CRC COLORADO WELL, INC. - P.O. BOX 2547, LUBBOCK, TEXAS 79408

CRC COLORADO WELL, INC.
RANGELY, COLORADO 81648

TERMS; NET 30 DAYS 1½% PER MONTH (18% ANNUAL RATE) WILL BE CHARGED AFTER 30 DAYS

INVOICE

John E. Fausett

P.O. Box 17 Fort Duchesne, Utah 84026

Phone: 722-~~3041~~ 5894

№ 066

Date May 27 1987

Pennzoil Company-
Pennzoil place
PO Box 2967 Houston Texas

46 291 00

Date	Amount				Terms Net
4/26/87				46 291 00	
5/6/87	Shaw 2-27-A2	# 8120 8122	F286723		1,300 00
4/30/87		8113	Due		
5/1/87	~~AFE# 7628737~~	8114	145728		
5/5/87		8115			
5/6/87	Blanchard 2-3 A2	8116			14,410 00
5/7/87		8119			
5/10/87 Thru 5/18/87	AFE# 7628737 Boren 2-11-A2	8123 8124 8125 8126 8127	8128 8129 8130 8131 8132		30,581 00
		please pay			$46,291 00

The INK SPOT - Hooseven, Utah

Turner Lumber, Inc.

565 East Main
Vernal, Utah 84078
789-3581

Lagoon and Third E.
Roosevelt, Utah 84066
722-3301

INVOICE NUMBER
252166

PAGE 1

RECEIVED
JUN 01 87
PEN

SOLD TO
PENNZOIL
P.O. BOX 290
NEOLA, UT 84053

SHIP TO
Boren
LOC # 1211AZ

CUSTOMER NUMBER	SALESMAN	INVOICE DATE	REFERENCE NUMBER	CUSTOMER ORDER NUMBER	ORDER DATE	DELIVERED BY
022782		05/15/87	28681	BOREN211AZ	05/13/87	NO SHIP VIA

ITEM NUMBER	ORDERED	SHIPPED	DESCRIPTION	QUANTITY	PRICE	UNIT	AMOUNT
[illegible]	16	16	CLOSET ROD	16	.57	M	9.12

	XX	XXX	XXX
INVOICE AMOUNT			967
DISCOUNT			
NET AMOUNT			967
VOUCHER NUMBER	F286984		
DUE DATE	Due		
VENDOR NUMBER	1B1	680	

B.J. Hadlock
AFE #7628737

REC BY: T.S.?

SALE AMT.	9.12
MISC.CHGS.	.00
SALES TAX	.55
FREIGHT	.00
TOTAL	9.67

A service charge of 1½% per month, 18% annual rate will be charged on all past due accounts, with a minimum charge of $.50 on all balances under $33.00. In the event of default I agree to pay all expenses of enforcing the terms hereof, including court costs and attorneys fees. Receipt of all merchandise and performance of all services shown above is acknowledged. In consideration of credit extended to me by TURNER LUMBER, INC. in the purchase of goods and services described on this statement, I accept the same terms and agree to pay said account in full.

BASIN BUILDERS SUPPLY

BOX 1548
ROOSEVELT, UTAH
84066

JUN 0 5 87

28921

TELEPHONE
(801) 722-4589

CHARGE AGREEMENT

Title for all merchandise remains with the seller until paid in full.

Seller, or its assigns, may add **credit charges** on the basis of **1½% (18% per year)** all beginning monthly balances unpaid during each monthly billing period, which shall be assessed at the end of each monthly billing period. If collection is made by suit or otherwise, the undersigned customer agrees to pay collection costs including a reasonable attorney's fee. **10% service charge** on all returned merchandise.

Customer's Order No. _____ Date May 26 19 87

Name Pennzoil

Address

Boren #2

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT

QUANT.	DESCRIPTION	PRICE	AMOUNT
3	Refill R19 X23" insulation	22.50	67.50
		Tax 4.05	
			71.55

	XX	XXX	XXX	
INVOICE AMOUNT			71	55
DISCOUNT				
NET AMOUNT			71	55

VOUCHER NUMBER F287001

PURCHASE 6-30-87

VENDOR NUMBER 102913 1

R J Hadlock
AFE #7628137

All claims and returned goods MUST be accompanied by this bill.

TAX

TOTAL

Received By Van Jensen

BOOTS & COOTS INC. Oil Well Fire Fighters and Blowout Specialists

11615 NORTH HOUSTON ROSSLYN RD. HOUSTON, TEXAS 77086

PHONE: 713/931-8884
TELEX: 79-0161

INVOICE NO. 354

DATE OF INVOICE 5/26/87

Pennzoil Company
P.O. Box 290
Neola, Utah 84053
Attn: Mr. Jess Dullnig

JUN 01 87

DATE OF JOB: 5/10/87 - 5/15/87

WELL	LOCATION
Boren 2-11A2	Neola, Utah - Duchesne County

SERVICES	Rendered: Blowout Control	$ 75,000	00
EXPENSE	Incurred: Hotel	579	54
	Charter - Aviation Concepts	6,915	67
	Commercial Airline - Delta Airlines	680	00
		83 175	21
		83 175	21
TOTAL		$ 83,175	21

R. Will
7628737
810-610
6-8-87
AFE #7628737
F287003
6-26-87

THANK YOU FOR CALLING BOOTS & COOTS, INC.!

TERMS: NET 30 DAYS - 1½ % PER MONTH FOR UNPAID BALANCE

THANK YOU ---- We do appreciate YOUR BUSINESS!

TOTAL AMOUNT $6,915.67

TERMS: NET CASH 10 DAYS FROM INVOICE

Earl B. Mitchell Construction, Inc.

N&D

P.O. Box 186
Altamont, Utah 84001
454-3383

INVOICE

No. 9879

DATE 5-31-87

TO Pennzoil Company ADDRESS

ORDER NO. AFE #7628737 ORDERED BY H. H. Stromgren

Boren 2-11A2 LOCATION & DESCRIPTION OF WORK

Date	W.T. No.	Amount
5-13-87	9782	$ 630.00
5-14-87	9783	2,740.00
5-15-87	9801	2,511.50
5-20-87	9827	162.00

JUN 19

6-19-87
810-610

LABOR & EQUIPMENT (Travel time is included in total hours where applicable.)	HOURS	RATE	AMOUNT
FOREMAN:			
CREW: Craig Cardwal			
AFE.			
6043.50			
6043.50			
EQUIPMENT:			
F287316			
6-31-87			
120408			

APPROVED BY

TOTAL $6,043.50

Unpaid accounts over 30 days may be charged highest legal rate of interest plus attorney's fee, court costs and all expenses involved in the event legal action is necessary for the collection of this invoice.

VERNAL
789-1576

ROOSEVELT
722-3654

Duane Hall Trucking, Inc.

241 NORTH 850 WEST
VERNAL, UTAH 84078
PSCU 557

PENNZOIL COMPANY
BOX 290
NEOLA, UT. 84053

NUMBER 51020

DATE 05/20/87

MAY 2 2 87

Date	Location	Ticket Number	Rate	Amount
05/15/87	BOREN 2-11A2	32000	41.00	1680.00
	1680.00			
	1680.00 BJ Hadlock			
	AFE #7628737			
	F266721			
	6-30-87			
	113205			
			TOTAL	$ 1680.00

ICC REGULATIONS REQUIRE PAYMENT WITHIN 7 DAYS.
18% INTEREST WILL BE CHARGED THEREAFTER.

PENNZOIL COMPANY
PENNZOIL PLACE • P.O. BOX 2967 • HOUSTON, TEXAS 77252-2967 • (713) 546-8435

GEORGE P. SANFILIPPO
Western Division Production Manager

RECEIVED
JUL 29 1987
DIVISION OF
OIL, GAS & MINING

July 28, 1987

John Basa
Utah Division of Oil, Gas & Mining
355 W. North Temple
Salt Lake City, UT 84180

RE: Application to Drill
Boren 3A-11A2
SWSW Sect. 11, T1S, R2W
Duchesne County, UT

Dear Mr. Basa:

The blowout of the Boren 2-11A2 was certainly unexpected by Pennzoil. To Pennzoil's knowledge, no gas wells have produced in the field with the delivery capacity exhibited by the 2A-11A2. Once the well flow was controlled to the pit, but before a back pressure was applied, flow rates were calculated in excess of 20 MMCFPD. Currently the well is producing approximately 4.6 MMCFPD with 1000 psi surface pressure. This type of performance and deliverability raise the question concerning its producing horizon.

In the 2-11A2, the top of the Green River is at 6480 feet, and the Tgr_3 marker is at 9713 feet. The top of cement behind the 7 inch casing is at 10,540 feet. Therefore, 4060 feet of the Green River and 827 feet below the Tgr_3 marker is not covered by cement. It is likely that the gas production is from some portion of this 4060 feet of the Green River. Part of this open section is included in current 640 acre spacing rules, and part is included in other spacing rules. Although it is likely the gas production is from some part of this open hole section, it can easily be from any interval in the wellbore. Unfortunately, the well cannot be shut-in for pressure analysis without considerable risk of compounding problems, including surface casing failure. Therefore, pressure analysis in the 2-11A2 cannot be used in determining the producing interval.

Based on drilling records of the Boren 2-11A2 and DST records of the Boren 1-11A2, an offset well, there appears to be gas potential within the 4060 feet of open Green River. The 2-11A2 has hydrocarbon shows between 6550 and 7100 feet with a significant show at 7100 feet. Mud weight was raised from 8.9 to 9.5 per gallon pounds at 7100 feet before drilling continued. In the 1-11A2 a DST (equivalent interval of 6820'-6840' in the 2-11A2) tested gas at a rate of 577 MCFPD and another DST (equivalent interval of 7020'-7100') tested gas at a rate of 319 MCFPD. This information supports the likelihood of the gas production coming from the 4060 feet of open Green River.

PENNZOIL COMPANY

To further Pennzoil's understanding of where the gas production is coming from in the 2-11A2, useful information will hopefully be gathered while drilling the subject well. This information includes analyses of all fluids recovered during DST's of the equivalent open interval for typing and correlation. Also, reservoir pressures from DST analyses could show depletion which would tend to support production from the depleted interval. This type of information coupled with log analysis and log correlation will hopefully help clarify the situation. Unfortunately, definitive proof of what interval the gas is being produced from can only be determined when the Boren 2-11A2 is cleaned out, assuming it is ever cleaned out.

Also, please find attached a copy of the letter sent to the working interest owners of the Boren 2-11A2 spelling out how costs, expenses and revenues will be handled until such time the producing interval is determined and the Utah Division of Oil, Gas and Mining has agreed to proper spacing. In general, this letter and its attachments maintain the 640 acre spacing unit for costs, expenses, revenues and royalties with regard to this gas production.

Pennzoil appreciates the attitude, openness, and willingness to assist that you, Dr. Nielson and your staffs have shown Pennzoil. Hopefully this letter answers your questions concerning the permitting of the subject well. If not, please advise. As I mentioned to you last week, I would be happy to meet with you and present what ever information you need in regard to the 2-11A2 or the replacement well as referenced.

Very truly yours,

PENNZOIL COMPANY

George P. SanFilippo

George P. SanFilippo
Western Division Production Manager

GPS/cmf
174GPS

DRILLING LOCATION ASSESSMENT
State of Utah
Division of Oil, Gas & Mining

OPERATOR: PENNZOIL WELL NAME: BOREN 3-11A2

QTR/QTR: SWSW SECTION: 11 TWP: 1 SOUTH RANGE: 2 WEST

COUNTY: DUCHESNE FIELD: BLUEBELL 660 F S L 825 F W L

SFC OWNER: PRIVATE SUBDIVISION LEASE #: FEE

SPACING: 660 F SECTION LINE F QTR/QTR LINE 1320 F ANOTHER WELL

INSPECTOR: WILLIAM MOORE DATE & TIME: 7-16-87, 13:00

PARTICIPANTS: WILBURN LUNA, DRILLING SUPERVISOR - PENNZOIL; CAROL REVELT, DOGM.

REGIONAL SETTING/TOPOGRAPHY: UINTA BASIN OF THE COLORADO PLATEAU.

LAND USE

CURRENT SURFACE USE: OPEN RANGELAND

PROPOSED SURFACE DISTURBANCE: 385'X405' PAD AND ABOUT 1.2 MILES OF NEW ROAD FROM THE SPRINGFIELD 2-10A2 DUE TO LANDOWNER PROBLEMS.

AFFECTED FLOODPLAINS AND/OR WETLANDS: SMALL MARSHY AREA DUE TO PERCHED WATER TABLE ABOUT 300' WEST OF THE SITE WILL BE UNAFFECTED.

FLORA/FAUNA: CEDAR, SAGEBRUSH, RABBIT BRUSH, DEER, RABBIT, GRASSES.

ENVIRONMENTAL PARAMETERS

GEOLOGY

SOIL TYPE AND CHARACTERISTICS: LIGHT ORANGE BROWN SILTYSAND. HIGHLY PERMEABLE IN SAND LAYRES LOW PERMEABILITY IN THIN CLAY LAYRES.

SURFACE FORMATION & CHARACTERISTICS: REMENANT Qgs SANDYSILT WITH COBBLES ON Tdr SILTY SAND. 2' THICK SILTYCLAY AT BASE OF Qgs. HIGHLY PERMEABLE SANDS.

EROSION/SEDIMENTATION/STABILITY: NO PROBLEM

SUBSURFACE GEOLOGY

OBJECTIVE(S)/DEPTH(S): 16,500' WASATCH.

ABNORMAL PRESSURES - HIGH AND LOW: 3000 TO 3200 PSI GAS ZONE AT ABOUT 6-7000' TO BE EASILY CONTROLLED BY 8.2 TO 8.7 MUD WT.

CULTURAL RESOURCES/ARCHAEOLOGY: PRIVATE

WATER RESOURCES: GROUND WATER ABOUT 10' IN PERCHED WATER TABLES DUE TO THIN CLAY LAYRES WITHIN Tdr. CLOSEST RESIDENCE 1/2 MILE EAST AND 1 MILE SW. DRAINAGE RUNNING N-S ABOUT 100' WEST OF SITE WHICH IS DRY EXCEPT DURING RUNOFF.

RESERVE PIT

CHARACTERISTICS: 160'X210'X15' LOCATED ON THE NE SIDE OF LOCATION IN BANK. MAY BE IN BEDROCK.

LINING: 3 LB/SQ.FT. COMM.BENTONITE OR PLASTIC LINER WITH SUB PROTECTION DUE TO HIGH PERMEABILITY AND EXPOSURE OF ROCK IN PIT.

MUD PROGRAM: FRESHWATER, LIME AND BENTONITE FOR SURFACE HOLE AND MUDDED UP WHEN NEEDED.

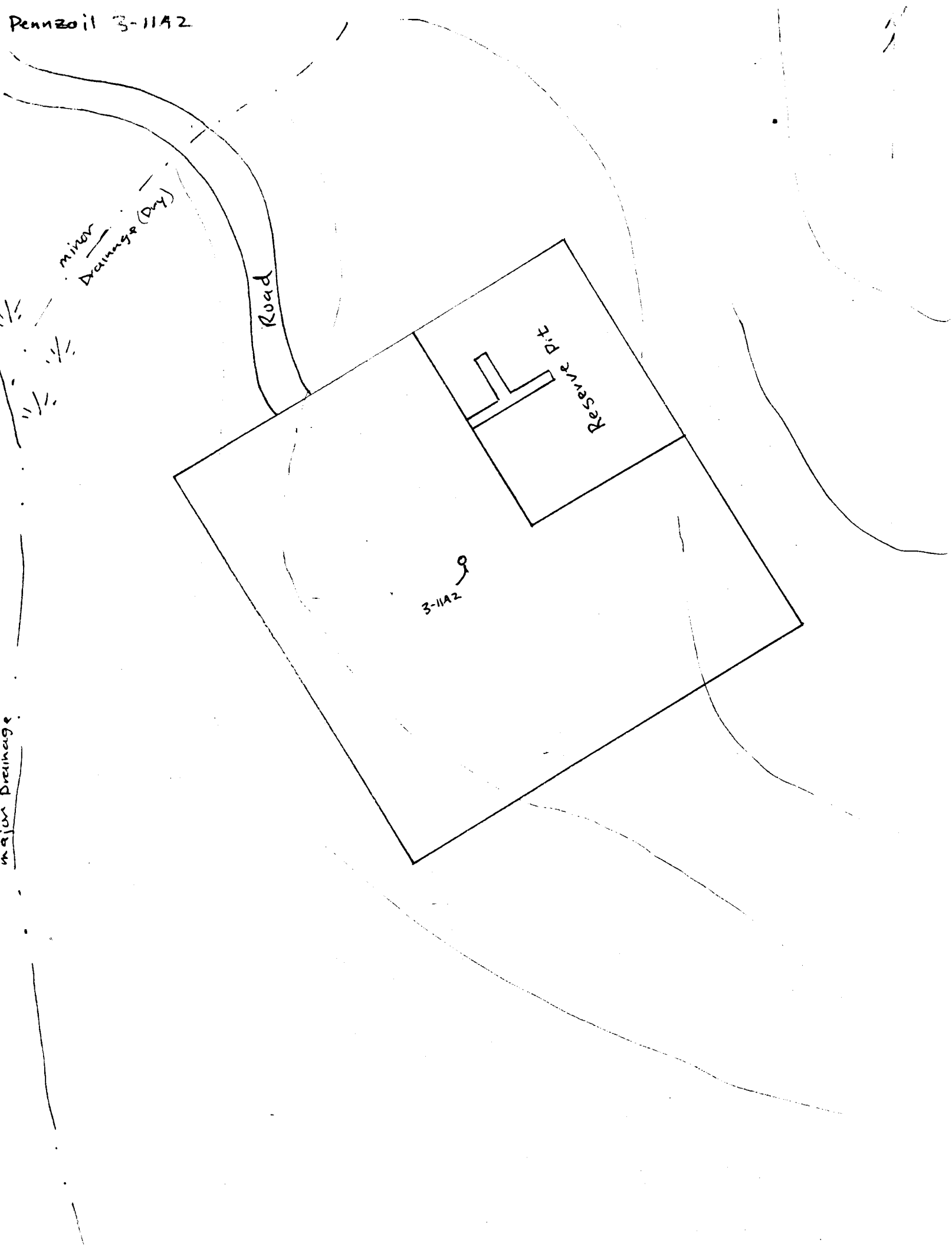
DRILLING WATER SUPPLY: DUANE HALL #A59421-43-9466 FROM SECTION 3.

OTHER OBSERVATIONS: PICT.# 22-23. 2-11A2 GAS PRODUCTION FROM 6-7000'(ACCORDING TO LUNA), BUT NOT ISOLATED FROM LOWER GREEN RIVER. ALSO, BREAK BETWEEN LOWER GREEN RIVER AND AND UPPER GREEN RIVER NOT DEFINED IN APD FOR SPACING PROBLEM (SHOULD BE 10,000', +- 1000').

STIPULATIONS FOR APD APPROVAL: DEFINE BASE OF UPPER SPACED AREA IN DEPTH (FEET). DEFINE ZONE OF PROD. FOR 2-11A2. ISOLATION PLUGS? LINE RESERVE PIT AS ABOVE. 48 HR. NOTICE PRIOR TO PLACING FLUIDS IN RESERVE PIT TO ENABLE SITE INSPECTION.

ATTACHMENTS

Pennzoil 3-1142



PENNZOIL COMPANY
PENNZOIL PLACE • P. O. BOX 2967 • HOUSTON, TEXAS 77252-2967 • (713) 546-4000

July 27, 1987

Distribution List - W.I. Owners

Re: Boren 2-11A2
Pennzoil Well File No. 73019-00
Township 1 South - Range 2 West
Section 11: All
Duchesne County, Utah

Gentlemen:

As you are aware, the subject well experienced a "blowout" on May 9, 1987. On May 10, 1987, Pennzoil called in a service company to control the blowout. By May 15, 1987, the service company got the well under control and began flaring the gas. On May 17, 1987, the gas was connected to a pipeline and has since been sold commercially. As you are also aware, uncertainty exists as to the exact formation and depth attributable to this gas production.

Based on all the facts known to us, Pennzoil submits the following:

I. Blowout Expenses

Paragraph 11 of the Operating Agreement provides that the Operator may take such steps and incur such expenses as in its opinion, are required to deal with any such emergency without first notifying the non-operators. Because the well blowout was a sudden emergency, the limitation of expenditures provision does not apply to the blowout expenses (consent of the parties for the operations is not required), and all such expenses are properly joint expenses. In addition, Exhibit "C" to the Operating Agreement is the "Accounting Procedure for Joint Operations". Paragraph II.7 allows the Operator to make a direct charge to the joint account for all costs and expenses necessary for the repair of joint property because of damages or losses incurred by unavoidable accident. Pennzoil concludes that this provision is applicable to any blowout expenses.

Therefore, based on the above, each party to the Operating Agreement is liable for its proportionate share of the expenses related to the blowout. However, the Operating Agreement requires that the Operator furnish the non-operators with written notice of damages or losses incurred. This letter in conjunction with the letter to you of May 12, 1987, shall serve as such notice to each of you.

DISTRIBUTION LIST

Proven Properties, Inc. P. O. Box 2049 Houston, Texas 77252-2049	43.30391%
Exxon Corporation P. O. Box 1600 Midland, Texas 79702	7.14218%
ANR Limited, Inc. P. O. Box 749 Denver, Colorado 80201	3.125%
CSX Oil and Gas Corporation 410 17th Street Suite 340 Denver, Colorado 80202	1.25%
Convest Energy Corporation 2401 Fountainview Drive Suite 700 Houston, Texas 77057	.625%
Lehndorff/L.G.B. Minerals, Inc. 2501 Cedar Springs Suite 340 Dallas, Texas 75201	.3125%
G.I.D. Energy Development Company 16801 Greenspoint Park Drive Suite 110 Houston, Texas 77060	.3125%
Utex OIl Company 445 East 4500 South Suite 220 Salt Lake City, Utah 84106	.3125%
Forcenergy, Inc. 640 Sunset Circle Key Biscayne, Florida 33149	.3125%

"Exhibit A"

Attached to and made a part of that certain Notice Letter dated July 14, 1987 by and between Pennzoil Company and ANR Limited, Inc. et al.

The following is an update to the May 12, 1987 letter from David R. Hardy which summarized events of the Boren 2-11A2 blowout up to May 11, 1987 at which plans were being made to replace the wellhead.

May 9, 1987:	Rupture disk yields at the Boren 2-11A2 heater treater along with a split developing in the 7" casing and tubing spool on the Boren 2-11A2 wellhead. A large amount of gas was flowing from the split in the wellhead.
May 10, 1987:	Government authorities are notified. Boots & Coots are contacted and retained to help control the well. Area residents are evacuated and oil production nearby is shut-in.
May 11, 1987:	Well location is expanded and a large containment pit is built. Equipment and pipelines are removed from around the wellhead. It is determined that both strings of tubing are not intact below the wellhead.
May 12, 1987:	Wellhead equipment is being shipped in.
May 13, 1987:	Crane is rigged up on location. The 1.9" tubing string was chemically cut below the wellhead. The wellhead was then removed. Well was then blowing straight up through 7" casing.
May 14, 1987:	A flare pit and flare line were constructed. A BOP stack was lowered over the well using the crane. Flow was diverted to the flare pit and the gas stream was ignited.
May 15-17, 1987:	A 6" gas sales line was laid to Gary Energy's gas gathering system. Production equipment was set.
May 17, 1987:	Gas was diverted to the sales pipeline.

Boren 2-11A2 Blow out #7628737

Vendor totals as of 7-20-87

Vendor	Total	Vendor	
Pennzoil Company labor	1336626	Ned Mitchell Const	604350
A-1 Service	85339	Ned Ross Welding	170500
Armco Supply Co	143796	Neola First Ward - Latter Day Saints	30000
Baroid	212000	Neola Volunteer Fire Dept	30000
Basin Builders Supply	7155	Oilfield Rentals	5669050
Basin Wireline	225000	Oil Well Perforators	1200000
Bluebell Hot oil Service	76600	Pumpers Inc	55337
Bi Co Rental Inc	267650	Redman Pipe & Supply	1233497
Boots & Coots	8317521	Richens Construction	1512745
Boren Electric Inc	77817	Roosevelt Seventh Ward Latter Day St.	50000
Bright Swabbing Service	126000	RW Jones Trucking	1524348
CRC Colorado Well Service	150000	Sivalls Inc	534452
Dalbo Inc	704850	Target Trucking	216600
Data Chem	19800	Thurmond - McGlothlin Inc	20850
Diamond Welding	19600	T&N Spoolers & Cable Service	38600
Double D Enterprises	2544660	Tri W Pipe & Supply	418463
Double Jack Testing	99000	Turner Lumber Company	967
Duane Hall Trucking	168000	Uintah Basin Concrete	171720
Duchesne County	50000	Uintah Engineering & Land Survey	169300
ESIS Claim Service	2000000	State of Utah	14000
ERC Industries Inc	271897	Vetco - Gray Inc	70513
Esse International	393208	Welborn Welding	249000
Flint Engineering	451415	WE Machine & Welding	61046
Frontier Hotel & Grill	11077	Zanes Oil Field Services	49600
Great Lake Timber Co.	38847		
Haliburton Services	1848278		
Hamilton Prod. Equip	489563		
Huco Chemicals	20508		
John Fausett	3058100		
Miller Welding	21800		
Moroan Speciality Inc	38068		
		Total AFE	3736913

DISTRIBUTION LIST

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G.I.D. Energy Development Company 16801 Greenspoint Park Drive Suite 110 Houston, Texas 77060	.3125%
Utex OIl Company 445 East 4500 South Suite 220 Salt Lake City, Utah 84106	.3125%
Forcenergy, Inc. 640 Sunset Circle Key Biscayne, Florida 33149	.3125%

Also, please find attached as Exhibit "A" copies of all invoices outlining costs incurred during the blowout period, as well as a summary of operations from the date of the blowout. To date, $373,691.13 are attributable to the blowout control costs. We would suggest that each of you review your insurance provisions affecting blowouts and replacement wells so you can determine what expenses could potentially be reimbursed via your individual policies.

II. **Sharing of Costs & Expenses**

Until such time as it can reasonably be determined where the subject well is producing from, Pennzoil will consider that the November 1, 1973 Operating Agreement is applicable to the operations pertaining to the Boren 2-11A2 Well. Pursuant to Paragraph No. 4, all costs and liabilities incurred in operations made under the Operating Agreement are to be proportionately borne and paid by the parties according to their interests as set out therein.

In this regard, please find attached two (2) copies of an Agreement for your review and execution. If it meets with your approval, then please execute and notarize one copy and forward same to the undersigned as soon as possible. The additional copy is for your records.

III. **Additional Operations**

Pennzoil commenced prudent re-work operations on the Mecham 1-11A2 well on July 26, 1987. The well was originally drilled to a total depth of 11,177 feet with the producing interval between 10,450 feet and 10,598 feet.

The producing interval in the Mecham 1-11A2 Well is covered by the Declaration of Unitization, Communitization Agreement and the applicable Operating Agreements governing this section. In the event it is determined that the Boren 2-11A2 well is not producing from a formation covered by the applicable Joint Operating Agreement, then reworking the Mecham 1-11A2 well for production from the above mentioned interval will perpetuate the leases.

PENNZOIL COMPANY

IV. Division Orders

In order to distribute revenues based on this letter and that certain Agreement referred to in paragraph II hereof, Pennzoil has attached two (2) Gas Division Orders dated effective May 17, 1987. Please review your interest as outlined thereon and if you agree, please so indicate by executing both copies and returning one (1) copy to the undersigned as soon as possible.

Pennzoil certainly appreciates your cooperation on this matter. If you have any further questions regarding this matter, please feel free to give me a call.

Sincerely,

Robert E. Burton
District Landman

REB/bjm
Attachments

CONFIDENTIAL 080000

OPERATOR Pennzoil Company DATE 7-16-87

WELL NAME Boren 3-11A2

SEC SW SW 11 T 1S R 2W COUNTY Duchesne

43-013-31192	Fee
API NUMBER	TYPE OF LEASE

CHECK OFF:

- [x] PLAT
- [x] BOND
- [x] NEAREST WELL
- [x] LEASE
- [x] FIELD
- [x] POTASH OR OIL SHALE

PROCESSING COMMENTS:

Water permit 43-9466 (A59421)

CONFIDENTIAL PERIOD EXPIRED ON 7-9-89

APPROVAL LETTER:

SPACING: [ ] 203 _____ UNIT [ ] 302

[x] 139-42 4/17/85 CAUSE NO. & DATE [ ] 302.1

STIPULATIONS:

1. Appropriate logging, coring & testing shall be performed from approximately 7100' to 7500' to evaluate a suspected gas producing horizon.
2. Upon completion of this well for production there will be three wells in Section 11, completed to the spaced interval of the lower Green River - Wasatch formations. The operator shall only allow two of three wells to produce at any time until the producing interval in the Boren 2-11A2 well is accurately determined.

0218T

~~Additionally, the operator shall notify the~~ Division in writing of which two wells are producing and whenever the producing configuration among the three wells is changed.

3. The reserve pit shall be lined with 3 lb. per sq. ft. of dry commercial bentonite or with a tear resistant plastic liner sub protected to prevent rock wear in liner.

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

August 3, 1987

Pennzoil Company
P. O. Box 290
Neola, Utah 84053

Gentlemen:

Re: Boren 3-11A2 - SW SW Sec. 11, T. 1S, R. 2W - Duchesne County
660' FSL, 825' FWL

Approval to drill the referenced well is hereby granted in accordance with the Order in Cause No. 139-42, dated April 17, 1985, subject to the following stipulations:

1. Appropriate testing, coring, and logging of the Green River formation shall be performed while drilling the interval from approximately 7100' - 7500' in this well. The information obtained from performing these procedures should be evaluated for the purpose of identifying the likely gas producing interval in the Boren 2-11A2 well.

2. If Pennzoil completes the Boren 3-11A2 well as a well capable of producing from the lower Green River-Wasatch formation (spaced interval), and desires to produce the well from the spaced interval, it will be necessary for Pennzoil to petition the Board of Oil, Gas and Mining for an order to do so. This action is necessary to assure that (1) only two (2) wells located within the drilling unit comprising all of section 11 would be producing from the lower Green River-Wasatch formation, and (2) only one (1) producing well would be located within a 160 acre quarter section.

3. Any information obtained during the drilling of the Boren 3-11A2 well, that will assist in determining the gas producing interval in the Boren 2-11A2 well, should be promptly submitted to the Division.

4. The reserve pit shall be lined with 3 lbs. per sq. ft. of dry commercial bentonite or with a tear resistant plastic liner subprotected to prevent rock wear of the liner.

In addition, the following actions are necessary to comply with this approval:

1. Spudding notification to the Division within 24 hours after drilling operations commence.

2. Submittal of an Entity Action Form to the Division of Oil, Gas and Mining within five working days of the time that the well is spudded or a change in operations or interests necessitates a change in Entity status.

3. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.

4. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.

5. Compliance with the requirements of Rule R615-3-22 Gas Flaring or Venting, Oil and Gas Conservation General Rules.

6. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.

7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-013-31192. Pennzoil is encouraged to promptly notify the Division of any desired or necessary changes in the procedures as outlined in this approval letter, so that the appropriate action might be taken.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals
D. R. Nielson
G. P. Williams
8159T

WATER PERMIT OK

091704

CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-013-31192

NAME OF COMPANY: PENNZOIL

WELL NAME: BOREN #3-11A2

SECTION SW SW 11 TOWNSHIP 1S RANGE 2W COUNTY Duchesne

DRILLING CONTRACTOR Morton

RIG #

SPUDDED: DATE 9-12-87

TIME 9:30 AM

HOW Rat Hole

DRILLING WILL COMMENCE 9-23-87/Loffland - Rig #60

REPORTED BY Wilburn Luna

TELEPHONE # 353-4397

DATE 9-14-87 SIGNED SBH

OGC-1b

BEST COPY AVAILABLE

SUBMIT IN TRIPLICATE* (Other instructions reverse side)

STATE OF UTAH

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL XXX GAS WELL ☐ OTHER

2. NAME OF OPERATOR: Pennzoil Company

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 660' FSL & 825' FWL

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: 100723

8. FARM OR LEASE NAME: Boren

9. WELL NO.: 3-11A2

10. FIELD AND POOL, OR WILDCAT: BlueBell

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec. 11, T1S, R2W

12. COUNTY OR PARISH: Duchesne

13. STATE: UT

14. PERMIT NO.: API 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) September Monthly Operations			XXX
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

- Spudded well on 9-12-87.
- Set and cemented 30" conductor pipe at 100'.
- MI & RUPT. Started drilling at 9:00PM on 9-30-87.
- At 7:00AM On 10-1-87 drilling at 258'.

OCT 5 1987

DIVISION OF OIL GAS & MINING

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

SIGNED Wilburn L. Luna TITLE Office 801-353-4397 Drilling Superintendent DATE 10-1-87

Wilburn L. Luna

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

UT-5

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

OGC-1b

SUBMIT IN TRIPLE (Other instructions reverse side)

STATE OF UTAH

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1. OIL WELL XXX GAS WELL ☐ OTHER

7. UNIT AGREEMENT NAME:

2. NAME OF OPERATOR: Pennzoil Company

8. FARM OR LEASE NAME: Foren

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

9. WELL NO.: 3-11A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 660' FSL & 825' FWL

10. FIELD AND POOL, OR WILDCAT: BlueBell

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec. 11, T1S, R2W

14. PERMIT NO.: API 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

12. COUNTY OR PARISH: Duchesne

13. STATE: UT

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) September Monthly Operations			XXX
(Other)				(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

- Spudded well on 9-12-87.
- Set and cemented 30" conductor pipe at 100'.
- MI & RURT. Started drilling at 9:00PM on 9-30-87.
- At 7:00AM On 10-1-87 drilling at 258'.

OCT 5 1987

DIV OF OIL & MINING

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

SIGNED Wilburn L. Luna TITLE Office 801-353-4397 Drilling Superintendent DATE 10-1-87

Wilburn L. Luna

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

UT-5

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

October 2, 1987

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: Operations Reports For September 1987
Boren No. 3-11A2
SWSW Section 11, T1S, R2W
Duchesne County, Utah

Gentlemen:

Enclosed please find the original and three (3) Copies of your form OGC-1b "SUNDRY NOTICES & REPORTS ON WELLS" for captioned operations on captioned well.

Should there be any question, please contact the undersigned at (801) 353-4397.

Sincerely,

Pennzoil Company

Wilburn L. Luna

Wilburn L. Luna
Drilling Superintendent

Enclosure

XC Pennzoil Company
Western Operations Manager
27th Floor
P.O. Box 2967
Houston, TX 77252-2967

UT-3

OCT 5 1987

DIVISION OF OIL GAS & MINING

Dlg
43-013-31120

PENNZOIL EXPLORATION AND PRODUCTION COMPANY

P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353-4397

102636

[illegible] 1987

State of Utah, Dept. of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: Waterflood Permit For
Pennzoil 1112
SWSW Section 11, T12, R9W
Duchesne County, Utah

Gentlemen:

Enclosed please find the original of Form 7520-6 H "REPORT ON WATER ENCOUNTERED DURING DRILLING"

Should there be any questions, please contact the undersigned at (801) 353-4397

Sincerely,

Pennzoil Company

William L. Lima

William L. Lima
Drilling Superintendent

Enclosure

RECEIVED
OCT 2 _ 1987
DIVISION OF
OIL, GAS & MINING

FORM OGC-8-X

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
4241 State Office Building
Salt Lake City, UT 84114

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name & Number Boren No. 3-11A2

Operator Pennzoil Company Address P.O.Box 290 Neola,UT 84053

Contractor Loffland Bros. Co. Address P.O. Box 3000 Casper, WY 82602

Location SW 1/4 SW 1/4 Sec. !! T. !S R. @W County D UCHESNE

Water Sands

	Depth From	Depth To	Volume Flow Rate or Head	Quality Fresh or Salty
1.	@ 2439'		1.5" stream	Fresh
2.				
3.				
4.				
5.				

(Continue on reverse side if necessary)

Formation Tops

Remarks Discovered water flow on connection at 2439' Circulated 9.5# mud around & killed the flow. Cut mud weight back to 9.2#plus and had noflow.

NOTE: (a) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure.

(b) If a water analysis has been made of the above reported zone, please forward a copy along with this form.

7

HALLIBURTON SERVICES

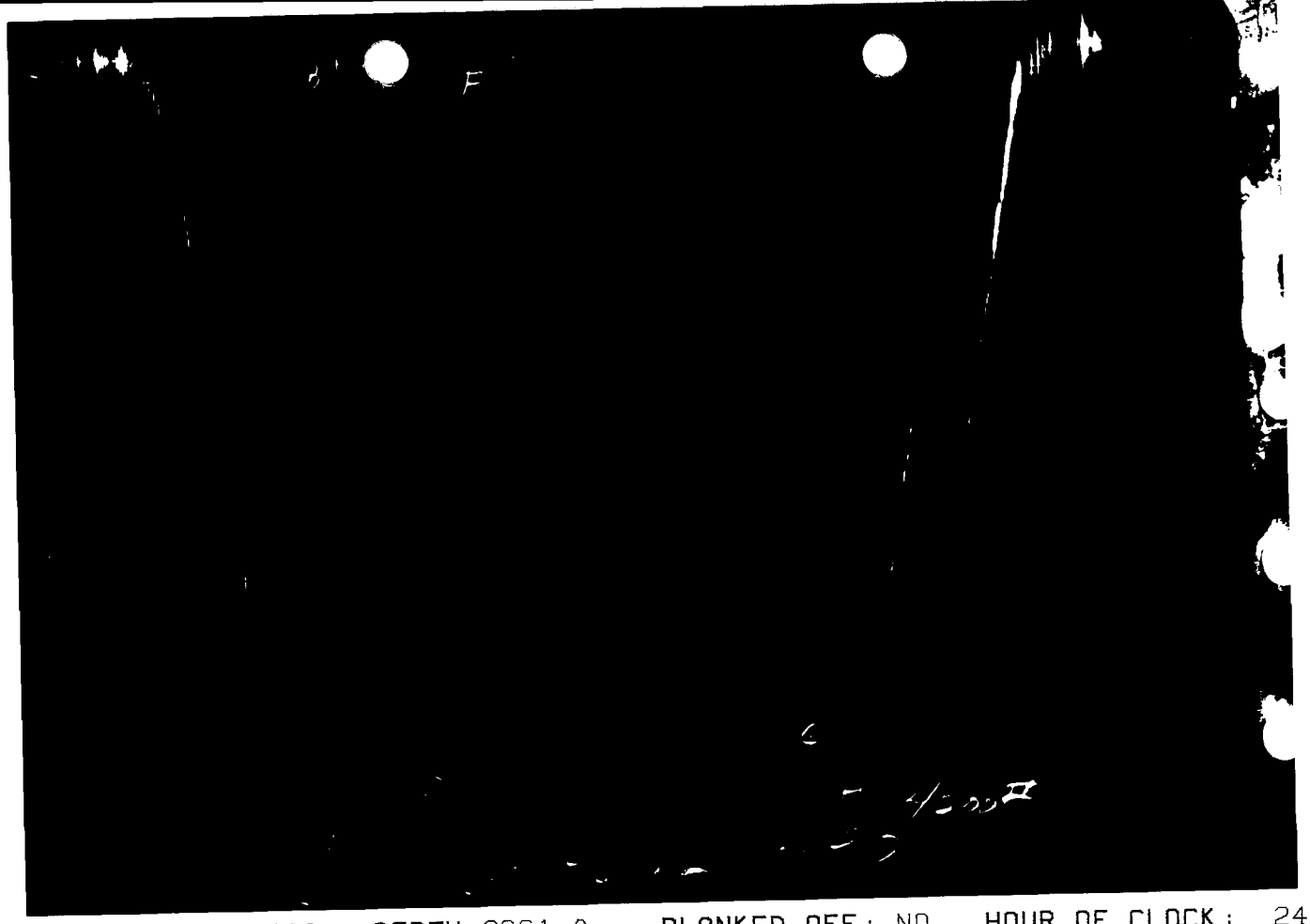
TICKET NO. 64965200

02-DEC-87

VERNAL

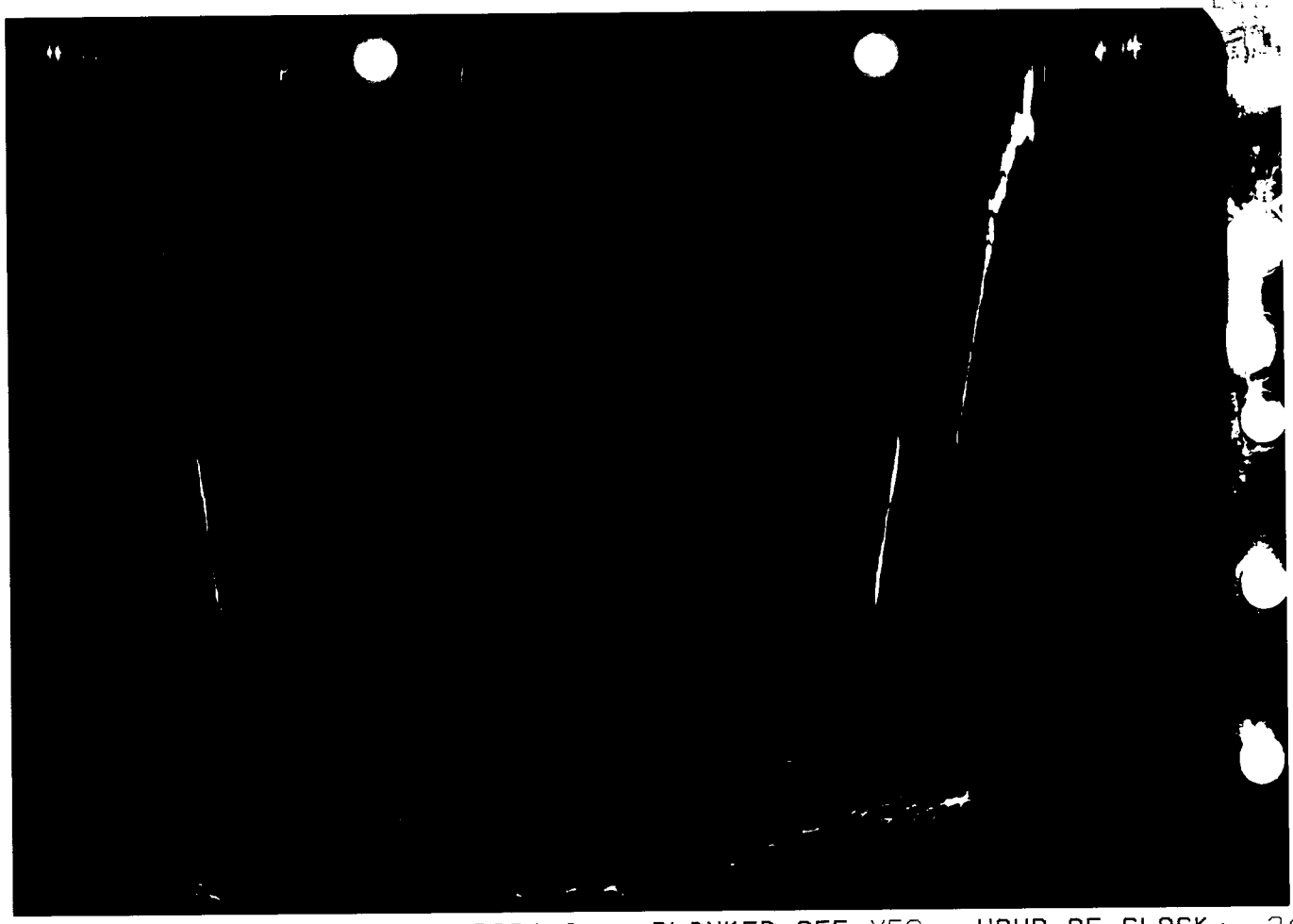
FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11A2	TEST NO.: 8	TESTED INTERVAL: 8984.0 - 9067.0	LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION AND PRODUCTION CO.	
LEGAL LOCATION SEC. - TWP. - RNG.: 11-1S-2W	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH	IC	



GAUGE NO: 490 DEPTH: 8961.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4339	4341.0			
B	INITIAL FIRST FLOW	26	33.5	5.0	5.6	F
C	FINAL FIRST FLOW	40	50.0			
C	INITIAL FIRST CLOSED-IN	40	50.0	91.0	90.2	C
D	FINAL FIRST CLOSED-IN	4166	4171.8			
E	INITIAL SECOND FLOW	53	90.5	60.0	59.9	F
F	FINAL SECOND FLOW	133	130.5			
F	INITIAL SECOND CLOSED-IN	133	130.5	450.0	450.2	C
G	FINAL SECOND CLOSED-IN	4179	4197.6			
H	FINAL HYDROSTATIC	4339	4328.5			



GAUGE NO: 198 DEPTH: 9064.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	4379	4389.7			
B	INITIAL FIRST FLOW	39	83.7	5.0	5.6	F
C	FINAL FIRST FLOW	39	90.3			
C	INITIAL FIRST CLOSED-IN	39	90.3	91.0	90.2	C
D	FINAL FIRST CLOSED-IN	4207	4219.2			
E	INITIAL SECOND FLOW	132	129.5	60.0	59.9	F
F	FINAL SECOND FLOW	171	169.6			
F	INITIAL SECOND CLOSED-IN	171	169.6	450.0	450.2	C
G	FINAL SECOND CLOSED-IN	4221	4239.6			
H	FINAL HYDROSTATIC	4365	4375.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: GREEN RIVER
NET PAY (ft): 29.0
GROSS TESTED FOOTAGE: 83.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5759.0 GROUND LEVEL
TOTAL DEPTH (ft): 9067.0
PACKER DEPTH(S) (ft): 8976, 8984
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.60
MUD VISCOSITY (sec): 36
ESTIMATED HOLE TEMP. (°F): 135
ACTUAL HOLE TEMP. (°F): 156 @ 9064.0 ft

TICKET NUMBER: 64965200

DATE: 11-26-87 TEST NO: 8

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: D. CARTER, M. BREWER

WITNESS: MIKE ROUSSE

DRILLING CONTRACTOR: LOFFLAND BROTHERS #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	2.100 @ 68 °F	1757 ppm
TOP	2.400 @ 68 °F	1515 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 90.0
cu.ft. OF GAS: 0.195
cc OF OIL: 960.0
cc OF WATER:
cc OF MUD: 640.0
TOTAL LIQUID cc: 1600.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 13.8 @ 60 °F
GAS/OIL RATIO (cu.ft. per bbl): 33
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

534 FEET OF OIL CUT MUD AND GAS

MEASURED FROM TESTER VALVE

REMARKS:

MIDDLE SAMPLE AND CHAMBER WAS OIL AND GAS CUT MUD - COULD NOT GET CHLORIDES

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 64965200

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-25-87					
2300					ON LOCATION
11-26-87					
0150					STARTED CLOCKS
0215					PICKED UP TOOLS AND RAN IN HOLE
0720					SET WEIGHT ON TOOL-35000#
0727					OPENED TOOL
0729	BH				6" BLOW
0732					7" BLOW - CLOSED TOOL
0733					10" BLOW - BLED OFF PIPE
0903	BH				OPENED TOOL WITH 8" BLOW
0904					13" IN BUCKET
0909		18.5 OZ.			
0914		1.25#			
0919		1.50			
0924		1.75			
0929		2.00			
0938		2.25			
0943		2.50			
0958		2.75			
1003		3.00			CLOSED TOOL - BLED OFF
1733					OPENED BYPASS AND PULLED OUT
					OF HOLE
1957					DROPPED BAR AND CIRCULATED
					WELL
2400					LAID DOWN TOOLS

TICKET NO: 64965200	GAUGE NO: 490
CLOCK NO: 32046 HOUR: 24	DEPTH: 8961.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	33.5			
2	1.0	36.8	3.3		
3	2.0	40.0	3.2		
4	3.0	42.7	2.7		
5	4.0	45.6	2.9		
6	5.0	47.3	1.7		
C 7	5.6	50.0	2.7		
		FIRST CLOSED-IN			
C 1	0.0	50.0			
2	1.0	77.3	27.3	0.8	0.836
3	2.0	116.1	66.1	1.5	0.579
4	3.0	167.3	117.3	2.0	0.459
5	4.0	214.7	164.7	2.3	0.384
6	5.0	267.6	217.6	2.6	0.330
7	6.0	345.5	295.5	2.9	0.288
8	7.0	443.5	393.5	3.1	0.256
9	8.0	560.8	510.8	3.3	0.233
10	9.0	725.2	675.2	3.5	0.211
11	10.0	954.5	904.5	3.6	0.194
12	12.0	1446.3	1396.3	3.8	0.168
13	14.0	2143.6	2093.6	4.0	0.147
14	16.0	2800.5	2750.5	4.2	0.131
15	18.0	3419.9	3369.9	4.3	0.119
16	20.0	3696.0	3646.0	4.4	0.108
17	22.0	3820.8	3770.8	4.5	0.099
18	24.0	3896.1	3846.1	4.6	0.092
19	26.0	3938.9	3888.9	4.6	0.085
20	28.0	3974.6	3924.6	4.7	0.080
21	30.0	4004.5	3954.5	4.8	0.075
22	35.0	4049.2	3999.2	4.9	0.065
23	40.0	4081.2	4031.2	4.9	0.057
24	45.0	4104.0	4054.0	5.0	0.051
25	50.0	4119.0	4069.0	5.1	0.046
26	55.0	4130.6	4080.6	5.1	0.042
27	60.0	4139.7	4089.7	5.2	0.039
28	70.0	4154.2	4104.2	5.2	0.034
29	80.0	4164.2	4114.2	5.3	0.030
D 30	90.2	4171.8	4121.8	5.3	0.026
		SECOND FLOW			
E 1	0.0	90.5			
2	3.0	91.5	1.1		
3	6.0	94.2	2.7		
4	9.0	95.5	1.3		
5	12.0	95.8	0.3		
6	15.0	95.8	0.0		
7	18.0	97.4	1.6		
		SECOND FLOW - CONTINUED			
8	21.0	99.4	2.0		
9	24.0	102.6	3.2		
10	27.0	104.5	1.9		
11	30.0	106.9	2.4		
12	33.0	109.1	2.3		
13	36.0	111.4	2.3		
14	39.0	114.2	2.8		
15	42.0	115.8	1.6		
16	45.0	119.0	3.2		
17	48.0	120.7	1.7		
18	51.0	123.1	2.4		
19	54.0	125.8	2.7		
20	57.0	127.9	2.1		
F 21	59.9	130.5	2.5		
		SECOND CLOSED-IN			
F 1	0.0	130.5			
2	1.0	164.0	33.5	1.0	1.826
3	2.0	191.6	61.1	1.9	1.532
4	3.0	220.5	90.0	2.9	1.354
5	4.0	251.4	121.0	3.7	1.243
6	5.0	282.7	152.2	4.6	1.153
7	6.0	329.3	198.9	5.5	1.077
8	7.0	387.9	257.4	6.4	1.013
9	8.0	438.0	307.6	7.1	0.965
10	9.0	498.9	368.4	7.9	0.920
11	10.0	583.4	452.9	8.7	0.879
12	12.0	774.0	643.5	10.2	0.809
13	14.0	1068.7	938.2	11.5	0.756
14	16.0	1412.0	1281.6	12.8	0.708
15	18.0	1826.8	1696.4	14.1	0.668
16	20.0	2349.4	2218.9	15.3	0.631
17	22.0	2918.9	2788.4	16.5	0.600
18	24.0	3385.4	3255.0	17.6	0.572
19	26.0	3581.3	3450.9	18.6	0.547
20	28.0	3684.7	3554.2	19.6	0.524
21	30.0	3755.1	3624.6	20.6	0.503
22	35.0	3841.7	3711.2	22.8	0.458
23	40.0	3897.2	3766.7	24.9	0.421
24	45.0	3936.5	3806.1	26.7	0.390
25	50.0	3966.0	3835.5	28.4	0.364
26	55.0	3988.2	3857.7	29.9	0.341
27	60.0	4005.4	3874.9	31.3	0.321
28	70.0	4031.7	3901.2	33.9	0.287
29	80.0	4052.5	3922.0	36.0	0.260
30	90.0	4069.6	3939.2	37.9	0.238
31	100.0	4081.9	3951.4	39.6	0.219
32	110.0	4093.0	3962.6	41.1	0.203
33	120.0	4102.3	3971.9	42.4	0.189
34	135.0	4115.0	3984.5	44.1	0.172
35	150.0	4125.0	3994.5	45.6	0.157
36	165.0	4134.3	4003.8	46.9	0.145

REMARKS:

TICKET NO: 64965200	GAUGE NO: 490
CLOCK NO: 32046 HOUR: 24	DEPTH: 8961.0

	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
	SECOND CLOSED-IN - CONTINUED					
	37	180.0	4141.9	4011.4	48.1	0.135
	38	195.0	4147.8	4017.4	49.1	0.126
	39	210.0	4153.8	4023.4	50.0	0.118
	40	225.0	4158.6	4028.1	50.8	0.111
	41	240.0	4163.3	4032.8	51.5	0.105
	42	270.0	4171.5	4041.0	52.7	0.094
	43	300.0	4178.2	4047.7	53.8	0.086
	44	330.0	4184.0	4053.6	54.7	0.079
	45	360.0	4188.4	4057.9	55.5	0.073
	46	390.0	4192.3	4061.8	56.1	0.067
	47	420.0	4195.7	4065.3	56.7	0.063
G	48	450.2	4197.6	4067.1	57.2	0.059

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

TICKET NO: 64965200	GAUGE NO: 198
CLOCK NO: 30096 HOUR: 24	DEPTH: 9064.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	83.7			
2	1.0	82.8	-0.9		
3	2.0	83.4	0.7		
4	3.0	84.6	1.2		
5	4.0	86.2	1.6		
6	5.0	88.2	2.0		
C 7	5.6	90.3	2.1		
		FIRST CLOSED-IN			
C 1	0.0	90.3			
2	1.0	128.7	38.4	0.9	0.810
3	2.0	161.5	71.3	1.5	0.586
4	3.0	205.8	115.5	1.9	0.464
5	4.0	265.7	175.4	2.3	0.383
6	5.0	321.6	231.3	2.7	0.328
7	6.0	385.1	294.8	2.9	0.288
8	7.0	473.5	383.2	3.1	0.257
9	8.0	586.4	496.2	3.3	0.233
10	9.0	746.6	656.3	3.5	0.212
11	10.0	932.1	841.8	3.6	0.195
12	12.0	1485.8	1395.5	3.8	0.167
13	14.0	2279.7	2189.4	4.0	0.147
14	16.0	3018.9	2928.6	4.2	0.131
15	18.0	3532.2	3442.0	4.3	0.118
16	20.0	3760.1	3669.8	4.4	0.108
17	22.0	3866.6	3776.3	4.5	0.099
18	24.0	3942.1	3851.8	4.6	0.092
19	26.0	3986.1	3895.8	4.6	0.085
20	28.0	4024.2	3933.9	4.7	0.080
21	30.0	4048.5	3958.2	4.8	0.075
22	35.0	4096.6	4006.3	4.9	0.065
23	40.0	4126.2	4036.0	4.9	0.057
24	45.0	4148.2	4057.9	5.0	0.051
25	50.0	4165.2	4074.9	5.1	0.047
26	55.0	4177.0	4086.8	5.1	0.042
27	60.0	4186.0	4095.7	5.2	0.039
28	70.0	4199.7	4109.4	5.2	0.034
29	80.0	4211.8	4121.5	5.3	0.030
D 30	90.2	4219.2	4128.9	5.3	0.026
		SECOND FLOW			
E 1	0.0	129.5			
2	3.0	130.0	0.5		
3	6.0	131.0	1.1		
4	9.0	131.0	0.0		
5	12.0	133.0	2.0		
6	15.0	135.3	2.2		
7	18.0	137.9	2.6		
		SECOND FLOW - CONTINUED			
8	21.0	140.9	3.0		
9	24.0	143.7	2.8		
10	27.0	145.7	2.0		
11	30.0	148.1	2.4		
12	33.0	150.4	2.4		
13	36.0	152.3	1.8		
14	39.0	154.8	2.5		
15	42.0	157.7	2.9		
16	45.0	159.0	1.3		
17	48.0	160.9	1.8		
18	51.0	163.5	2.6		
19	54.0	166.2	2.6		
20	57.0	168.7	2.5		
F 21	59.9	169.6	0.9		
		SECOND CLOSED-IN			
F 1	0.0	169.6			
2	1.0	191.6	22.0	1.0	1.808
3	2.0	216.2	46.6	1.9	1.539
4	3.0	245.1	75.5	2.9	1.361
5	4.0	272.0	102.4	3.8	1.238
6	5.0	302.1	132.5	4.6	1.152
7	6.0	342.8	173.2	5.5	1.076
8	7.0	384.7	215.1	6.4	1.013
9	8.0	427.6	258.0	7.1	0.963
10	9.0	479.6	310.0	8.0	0.916
11	10.0	552.7	383.1	8.7	0.878
12	12.0	703.3	533.7	10.1	0.810
13	14.0	927.8	758.2	11.5	0.755
14	16.0	1222.1	1052.5	12.9	0.707
15	18.0	1719.5	1549.9	14.1	0.666
16	20.0	2272.5	2102.9	15.3	0.631
17	22.0	2932.1	2762.5	16.5	0.600
18	24.0	3377.4	3207.8	17.6	0.572
19	26.0	3604.8	3435.2	18.6	0.547
20	28.0	3720.5	3550.9	19.6	0.524
21	30.0	3783.7	3614.1	20.6	0.504
22	35.0	3890.1	3720.5	22.8	0.458
23	40.0	3945.5	3775.9	24.9	0.421
24	45.0	3982.5	3812.9	26.7	0.390
25	50.0	4010.2	3840.7	28.4	0.364
26	55.0	4033.3	3863.7	29.9	0.341
27	60.0	4051.8	3882.3	31.3	0.321
28	70.0	4078.2	3908.6	33.9	0.287
29	80.0	4098.3	3928.7	36.0	0.260
30	90.0	4113.3	3943.7	37.9	0.238
31	100.0	4126.6	3957.0	39.6	0.219
32	110.0	4138.6	3969.0	41.1	0.203
33	120.0	4147.9	3978.4	42.4	0.189
34	135.0	4159.8	3990.2	44.1	0.172
35	150.0	4169.5	3999.9	45.6	0.157
36	165.0	4178.6	4009.0	46.9	0.145

REMARKS:

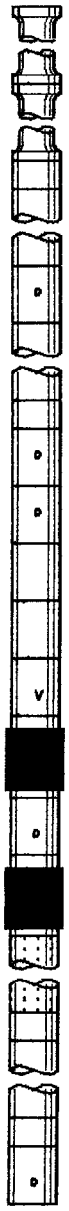
TICKET NO: 64965200	GAUGE NO: 198
CLOCK NO: 30096 HOUR: 24	DEPTH: 9064.0

	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
	SECOND CLOSED-IN - CONTINUED					
	37	180.0	4186.1	4016.5	48.1	0.135
	38	195.0	4192.4	4022.9	49.1	0.126
	39	210.0	4198.8	4029.2	50.0	0.118
	40	225.0	4203.6	4034.0	50.8	0.111
	41	240.0	4207.8	4038.3	51.5	0.105
	42	270.0	4215.5	4045.9	52.7	0.094
	43	300.0	4222.1	4052.5	53.8	0.086
	44	330.0	4228.1	4058.5	54.7	0.079
	45	360.0	4232.7	4063.1	55.5	0.073
	46	390.0	4234.3	4064.7	56.1	0.067
	47	420.0	4238.1	4068.5	56.7	0.063
G	48	450.2	4239.6	4070.0	57.2	0.059

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$

REMARKS:

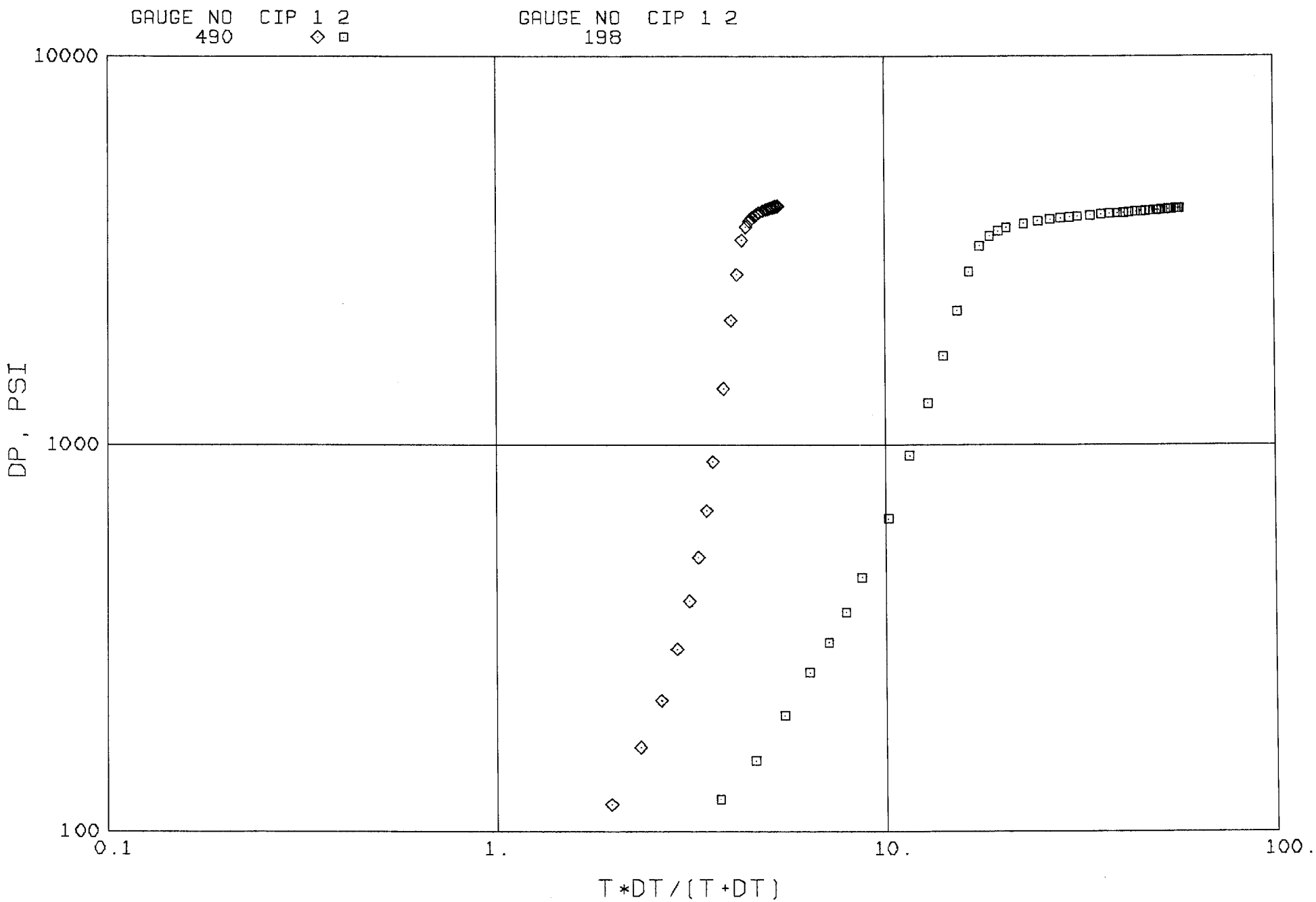
TICKET NO. 64965200

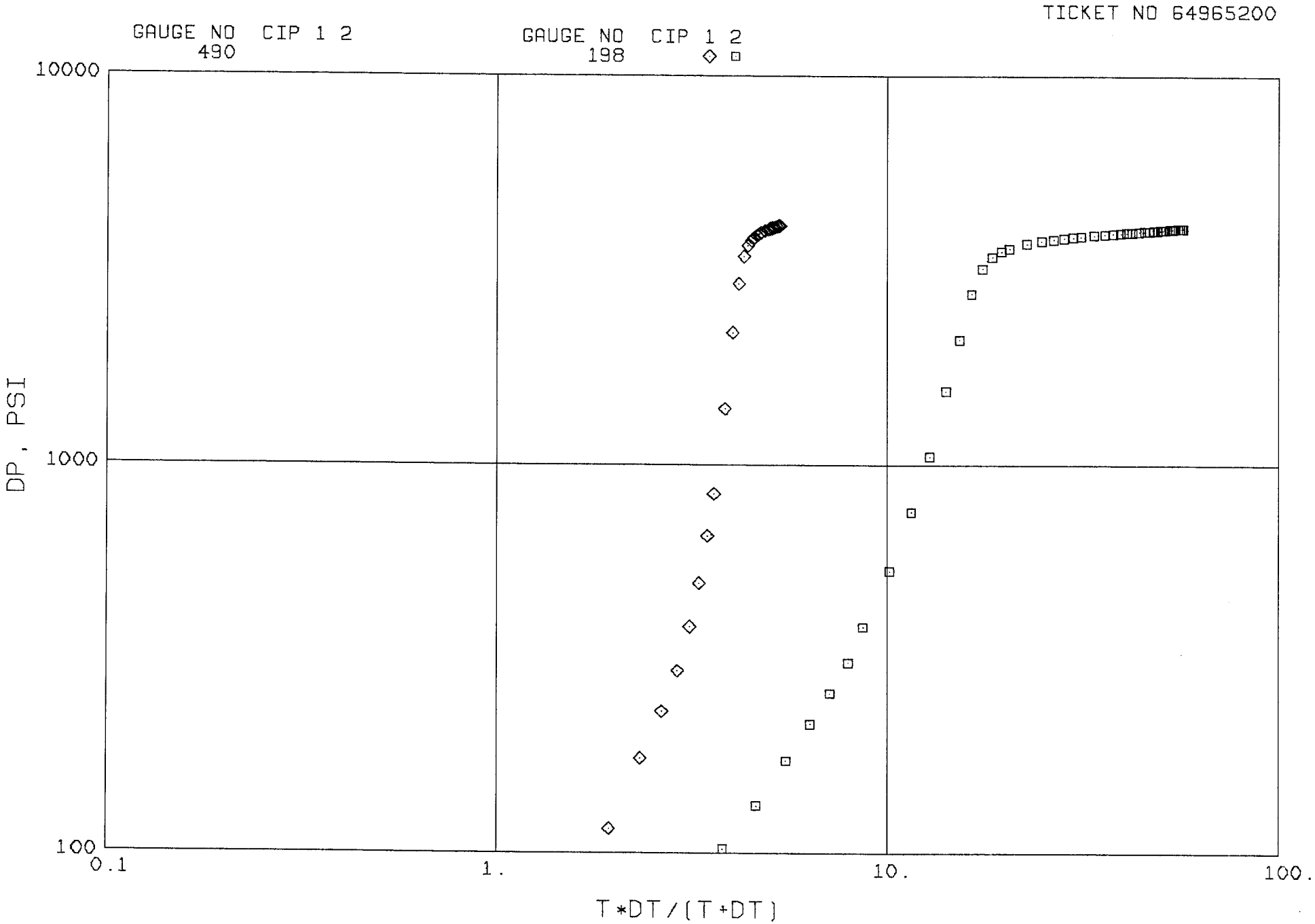


		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	8312.5	
4	FLEX WEIGHT	5.000	3.125	277.7	
5	CROSSOVER	7.000	2.938	2.8	
3	DRILL COLLARS	8.000	2.750	265.6	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	8858.0
3	DRILL COLLARS	8.000	2.750	87.8	
5	CROSSOVER	7.750	2.875	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	6.1	
60	HYDROSPRING TESTER	5.000	0.750	5.0	8954.0
80	AP RUNNING CASE	5.000	2.250	4.1	8961.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.530	5.9	8976.0
18	DISTRIBUTOR VALVE	5.000	1.530	2.2	
70	OPEN HOLE PACKER	9.000	1.530	5.9	8984.0
20	FLUSH JOINT ANCHOR	5.750	3.500	14.0	
5	CROSSOVER	5.563	2.750	0.9	
3	DRILL COLLARS	6.750	2.313	61.9	
5	CROSSOVER	6.000	2.813	0.7	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	9064.0
	TOTAL DEPTH				9067.0

EQUIPMENT DATA

TICKET NO 64965200

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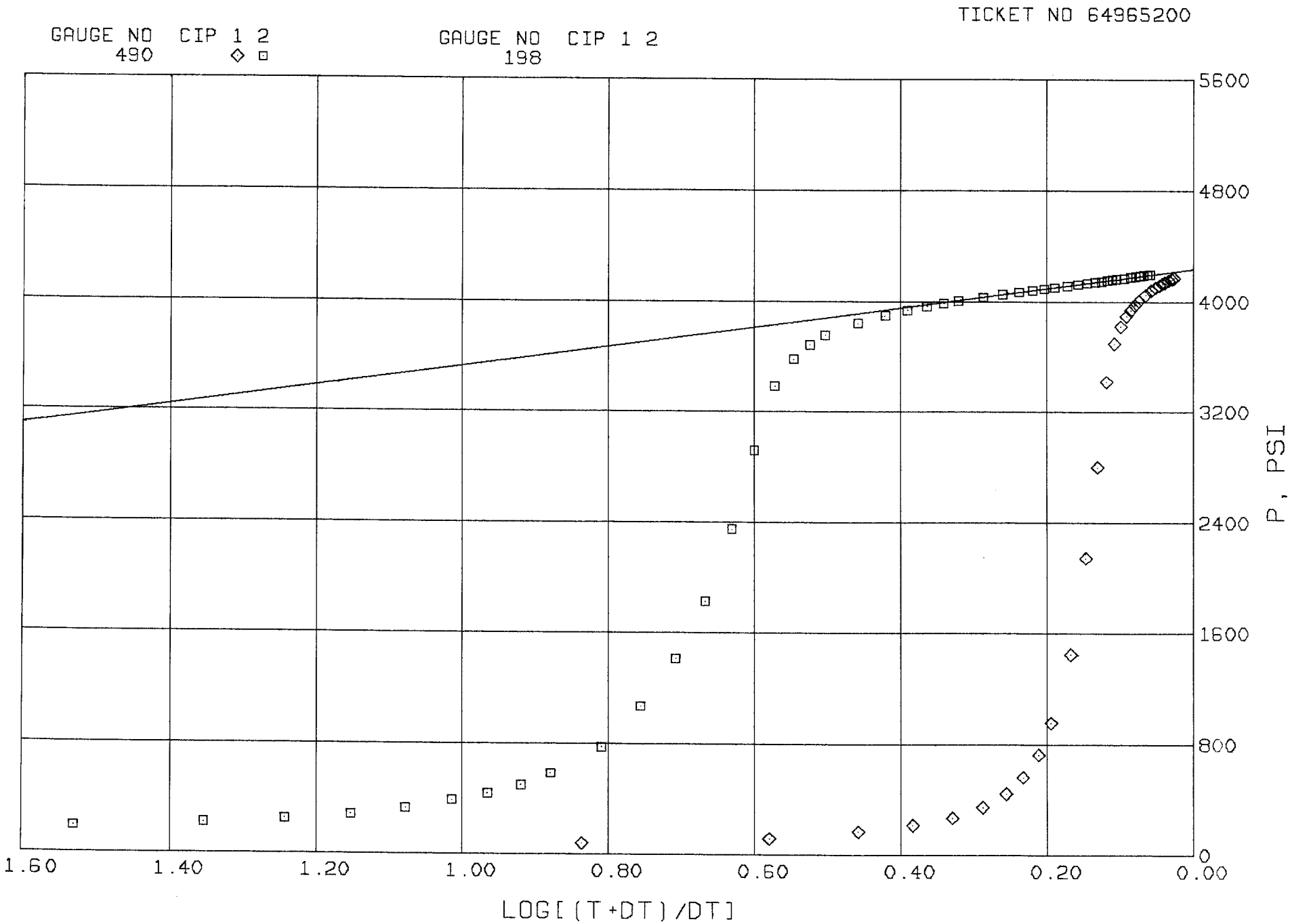
490
GAUGE NO CIP 1 2
198
10000
1000
100
DP, PSI
0.1
1.
10.
100.
T*DT/(T+DT)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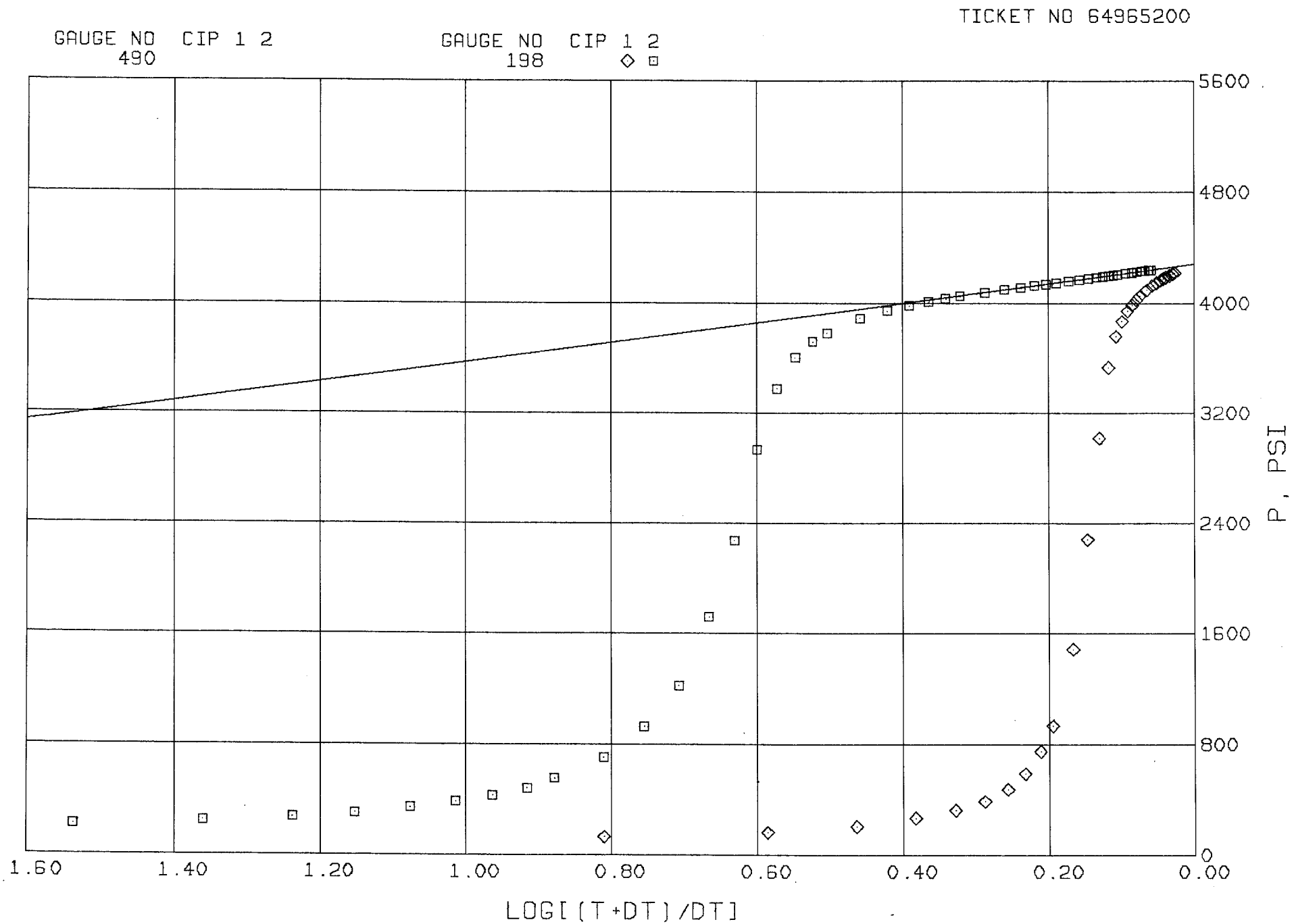
490
GAUGE NO CIP 1 2
198
5600
4800
4000
3200
2400
1600
800
0
P, PSI
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG[(T+DT)/DT]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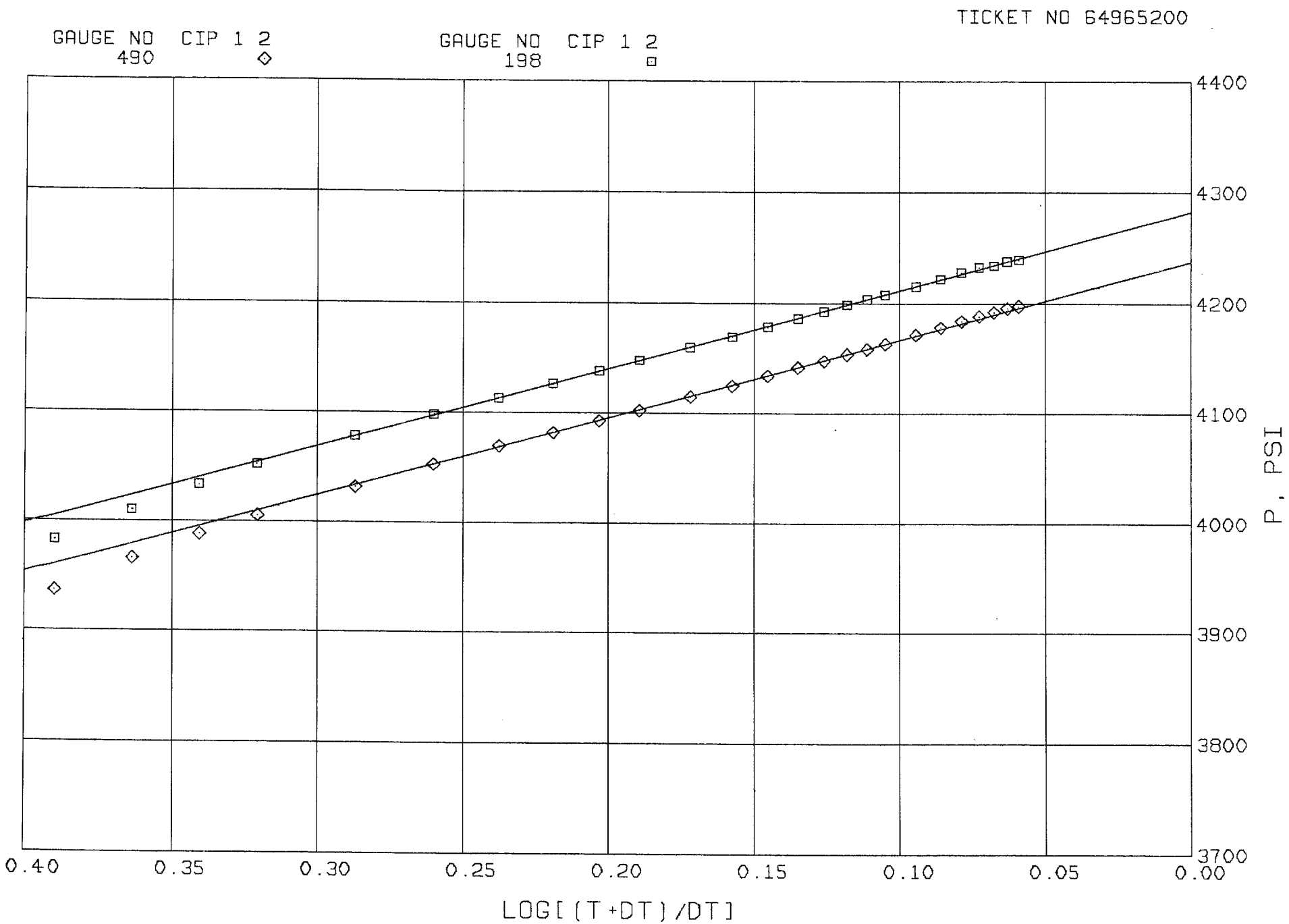
GAUGE NO CIP 1 2
490
GAUGE NO CIP 1 2
198
5600
4800
4000
3200
2400
1600
800
0
P, PSI
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG[(T+DT)/DT]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490
GAUGE NO CIP 1 2
198
4400
4300
4200
4100
4000
3900
3800
3700
P, PSI
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
LOG[(T+DT)/DT]

TICK NUMBER 64965200

SUMMARY OF RESERVOIR PARAMETERS

USING HORNER METHOD FOR LIQUID WELLS

OIL GRAVITY 13.8 °API@60 °F
WATER SALINITY 0.0 % SALT
GAS GRAVITY 0.700
FLUID GRADIENT 0.4220 psi/ft
GAS/OIL RATIO 32.5 SCF/STB
FLUID PROPERTIES AT 4282.8 psig
TEMPERATURE 156.0 °F
VISCOSITY 61.358 cp
NET PAY 29.0 ft
FMT VOL FACTOR 1.040 Rvol/Svol
POROSITY 10.0 %
SYSTEM COMPRESSIBILITY 5.60 $\times 10^{-6}$ vol/vol/psi
PIPE CAPACITY FACTORS 0.00735 0.00949 0.01776 _____ bbl/ft

GAUGE NUMBER		490	198					
GAUGE DEPTH		8961.0	9064.0					
FLOW AND CIP PERIOD		2	2					UNITS
FINAL FLOW PRESSURE	P_f	130.5	169.6					psig
TOTAL FLOW TIME	t	65.5	65.5					min
EXTRAPOLATED PRESSURE	P*	4237.8	4282.8					psig
ONE CYCLE PRESSURE		3526.2	3569.6					psig
PRODUCTION RATE	Q	17.2	17.5					BPD
TRANSMISSIBILITY	kh/μ	4.1	4.1					$\frac{md\text{-}ft}{cp}$
FLOW CAPACITY	kh	250.370	254.068					md-ft
PERMEABILITY	k	8.63346	8.76097					md
SKIN FACTOR	S	3.2	3.2					
DAMAGE RATIO	DR	1.9	1.9					
POTENTIAL RATE	Q_1	33.3	33.8					BPD
RADIUS OF INVESTIGATION	r_i	16.8	16.9					ft

REMARKS: ALL CALCULATED RESERVOIR PARAMETERS ARE BASED ON OIL PRODUCTION. THE PRODUCTION RATES WERE DETERMINED USING THE PRESSURE CHANGE METHOD.

NOTICE: THESE CALCULATIONS ARE BASED UPON INFORMATION FURNISHED BY YOU AND TAKEN FROM DRILL STEM PRESSURE CHARTS, AND ARE FURNISHED YOU FOR YOUR INFORMATION. IN FURNISHING SUCH CALCULATIONS AND EVALUATIONS BASED THEREON, HALLIBURTON IS MERELY EXPRESSING ITS OPINION. YOU AGREE THAT HALLIBURTON MAKES NO WARRANTY EXPRESS OR IMPLIED AS TO THE ACCURACY OF SUCH CALCULATIONS OR OPINIONS, AND THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE, IN CONNECTION WITH SUCH OPINIONS.

HALLIBURTON SERVICES

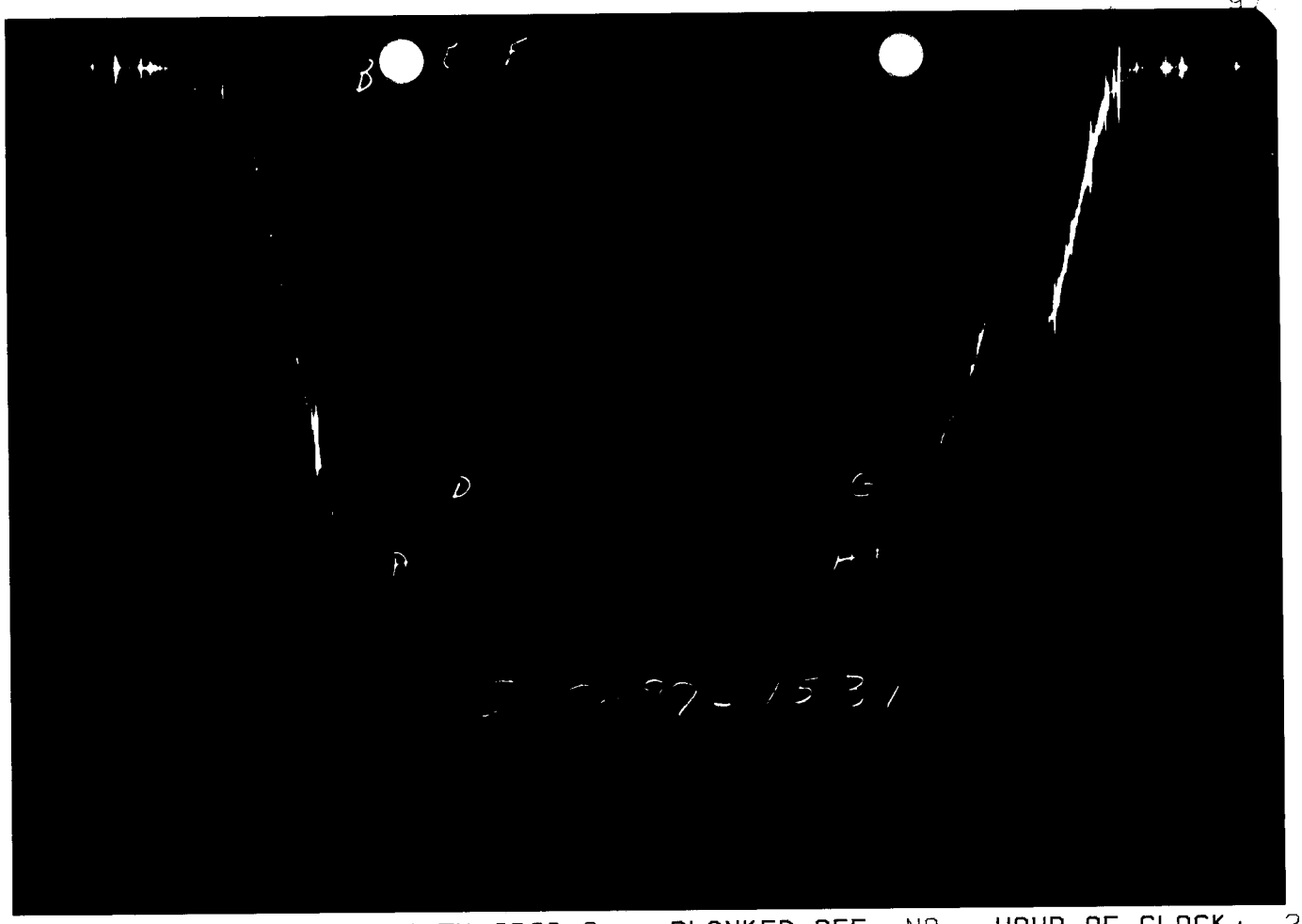
TICKET NO. 50949900

03-DEC-87

VERNAL

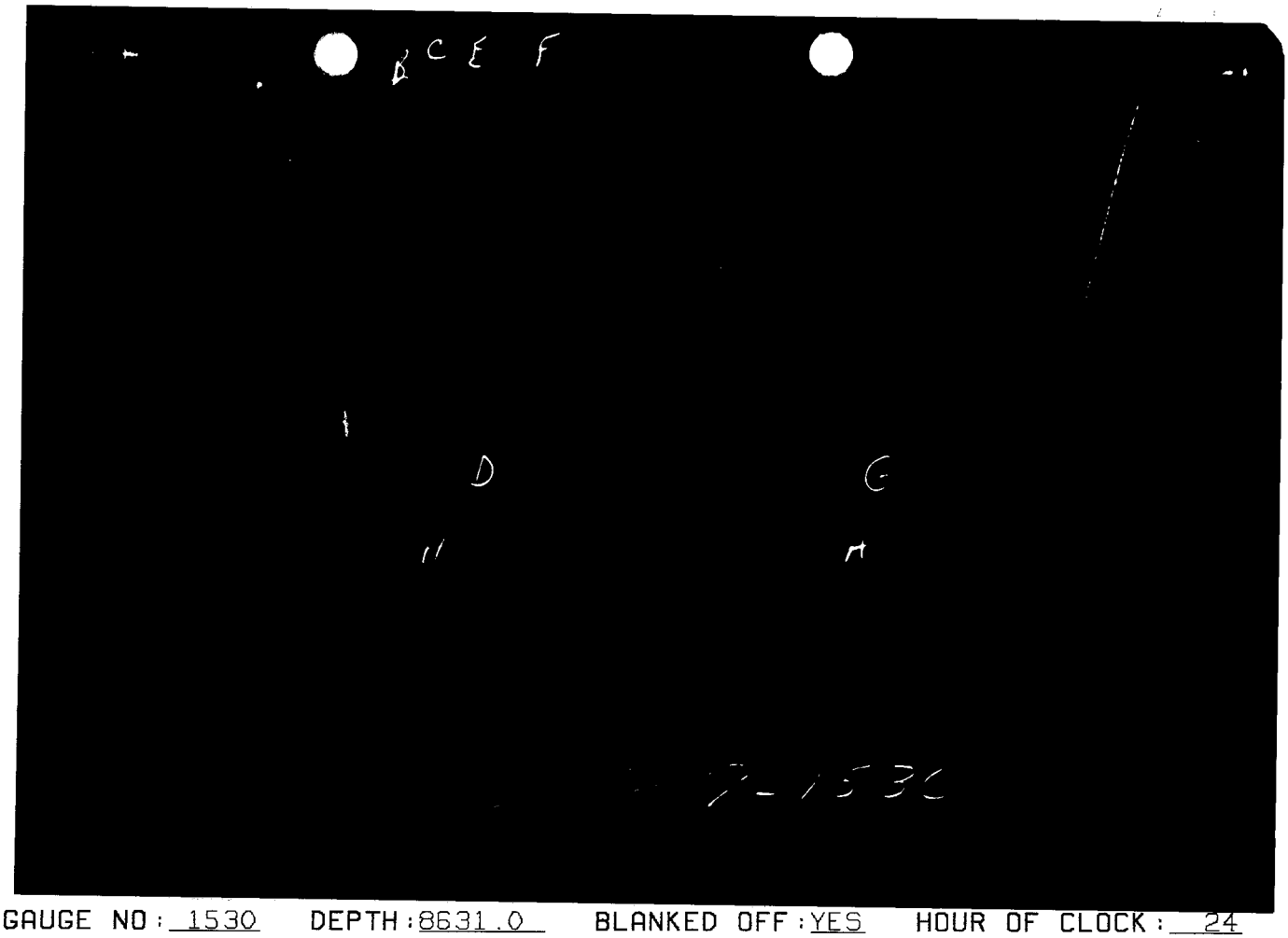
FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11A2	TEST NO.: 7	TESTED INTERVAL: 8560.0 - 8634.0
LEGAL LOCATION SEC. - TWP. - RNG.: 11-1S-2W	FIELD AREA: BLUEBELL	COUNTY: DUCHESNE	STATE: UTAH
LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION AND PROD. COMPANY			DR



GAUGE NO: 1531 DEPTH: 8536.8 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	4220	4206.4			
B	INITIAL FIRST FLOW	61	71.9	2.0	2.8	F
C	FINAL FIRST FLOW	61	58.4			
C	INITIAL FIRST CLOSED-IN	61	58.4	75.0	78.9	C
D	FINAL FIRST CLOSED-IN	3380	3386.3			
E	INITIAL SECOND FLOW	61	72.0	60.0	60.3	F
F	FINAL SECOND FLOW	82	99.5			
F	INITIAL SECOND CLOSED-IN	82	99.5	450.0	445.8	C
G	FINAL SECOND CLOSED-IN	3760	3773.8			
H	FINAL HYDROSTATIC	4200	4109.7			



GAUGE NO: 1530 DEPTH: 8631.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	4295	4247.0			
B	INITIAL FIRST FLOW	83	149.0	2.0	2.8	F
C	FINAL FIRST FLOW	83	101.4			
C	INITIAL FIRST CLOSED-IN	83	101.4	75.0	78.9	C
D	FINAL FIRST CLOSED-IN	3429	3410.6			
E	INITIAL SECOND FLOW	104	186.3	60.0	60.3	F
F	FINAL SECOND FLOW	146	135.7			
F	INITIAL SECOND CLOSED-IN	146	135.7	450.0	445.8	C
G	FINAL SECOND CLOSED-IN	3779	3807.9			
H	FINAL HYDROSTATIC	4254	4159.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: GREEN RIVER
NET PAY (ft): 10.0
GROSS TESTED FOOTAGE: 74.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5798.0
TOTAL DEPTH (ft): 8634.0
PACKER DEPTH(S) (ft): 8552, 8560
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.30 +
MUD VISCOSITY (sec): 36
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 148 @ 8630.0 ft

TICKET NUMBER: 50949900

DATE: 11-23-87 TEST NO: 7

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: RICHARD I. MCDONALD

WITNESS: MIKE ROUSSE

DRILLING CONTRACTOR: LOFFLAND #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	2.340 @ 68 °F	1636 ppm
TOP SAMPLE	1.210 @ 68 °F	3030 ppm
MIDDLE SAMPLE	1.480 @ 68 °F	2545 ppm
SAMPLE CHAMBER	1.810 @ 68 °F	2050 ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 85.0
cu.ft. OF GAS: 0.534
cc OF OIL:
cc OF WATER:
cc OF MUD: 400.0
TOTAL LIQUID cc: 400.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

DROPPED BAR AND REVERSED OUT DRILL PIPE--NO FLUID ENTRY VISIBLE--GAS CUT MUD RETURNS.

MEASURED FROM TESTER VALVE

REMARKS:

LOST FLUID ON BACKSIDE, APPROXIMATELY 1/4 BBL. EVERY 15 MINUTES.
MUD FROM SAMPLES IN PIPE WAS GAS CUT.

TYPE & SIZE MEASURING DEVICE:					TICKET NO: 50949900
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-22-87					
2300					ARRIVED ON LOCATION
11-23-87					
0100					PICKED UP TOOLS AND STARTED
					CLOCKS
0230					STARTED IN HOLE WITH TOOLS
0705					ON BOTTOM WITH TOOLS
0713	1/8BH				OPENED TOOL WITH 3" BLOW ON
					BUBBLE HOSE
0715		2			CLOSED TOOL
0830	1/8BH				OPENED TOOL WITH 8" BLOW ON
					BUBBLE HOSE
0835		7			
0840		8			
0845		8			
0850		8.25			
0855		8.25			
0900		9			
0905		10			
0910		11			
0915		12			
0920		12			
0925		13			
0930		13.5			CLOSED TOOL, NO GAS TO SURFACE
0945					GAS TO SURFACE
1700					OPENED BYPASS, PULLED OUT OF
					HOLE 45 STANDS
2000					REVERSED OUT TUBING-GAS RETURNED
2050					PUMPED PILL
2100					PULLED OUT OF HOLE
2255					TOOK SAMPLE FROM DUAL CIP
					SAMPLER, 85 PSI WITH 400 CC'S
					MUD
					BROKE TOOLS
11-24-87					
					LAID DOWN TOOLS
0045					LOADED TOOLS, READ CHARTS AND

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 50949900

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
					FINISHED PAPERWORK
0200					JOB COMPLETED

TICKET NO: 50949900	GAUGE NO: 1531
CLOCK NO: 32034 HOUR: 24	DEPTH: 8536.8

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	71.9			
C 2	2.8	58.4	-13.5		
		FIRST CLOSED-IN			
C 1	0.0	58.4			
2	5.0	346.5	288.1	1.8	0.194
3	10.0	648.0	589.6	2.2	0.107
4	15.0	936.5	878.1	2.4	0.074
5	20.0	1231.2	1172.8	2.5	0.057
6	25.0	1509.6	1451.3	2.5	0.046
7	30.0	1797.3	1738.9	2.6	0.039
8	35.0	2059.2	2000.8	2.6	0.033
9	40.0	2302.7	2244.3	2.6	0.029
10	45.0	2530.8	2472.4	2.6	0.026
11	50.0	2703.9	2645.5	2.7	0.024
12	55.0	2869.3	2810.9	2.7	0.022
13	60.0	3019.0	2960.6	2.7	0.020
14	65.0	3150.2	3091.8	2.7	0.018
15	70.1	3246.3	3187.9	2.7	0.017
16	75.0	3334.1	3275.7	2.7	0.016
D 17	78.9	3386.3	3327.9	2.7	0.015
		SECOND FLOW			
E 1	0.0	72.0			
2	10.0	92.5	20.6		
3	20.0	94.4	1.8		
4	30.0	95.6	1.2		
5	40.0	96.6	1.0		
6	50.0	98.2	1.6		
F 7	60.3	99.5	1.2		
		SECOND CLOSED IN			
F 1	0.0	99.5			
2	30.0	1484.6	1385.2	20.3	0.492
3	60.0	2453.3	2353.8	30.8	0.312
4	90.0	3086.2	2986.7	37.1	0.231
5	120.0	3416.3	3316.9	41.3	0.183
6	150.0	3581.4	3481.9	44.4	0.152
7	180.0	3659.8	3560.3	46.7	0.130
8	210.0	3693.8	3594.4	48.5	0.114
9	240.0	3724.4	3625.0	49.9	0.101
10	270.0	3740.4	3641.0	51.1	0.091
11	300.0	3747.2	3647.8	52.1	0.083
12	330.0	3758.2	3658.8	53.0	0.076
13	360.0	3764.4	3665.0	53.7	0.070
14	390.0	3766.4	3667.0	54.3	0.065

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED IN - CONTINUED					
15	420.0	3762.1	3662.7	54.8	0.061
G 16	445.8	3773.8	3674.4	55.3	0.057

REMARKS:

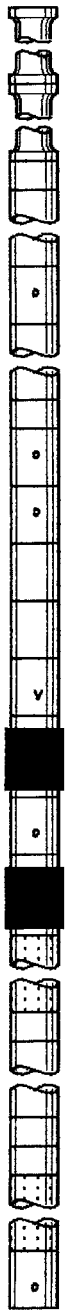
TICKET NO: 50949900	GAUGE NO: 1530
CLOCK NO: 11654 HOUR: 24	DEPTH: 8631.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	149.0			
C 2	2.8	101.4	-47.7		
		FIRST CLOSED-IN			
C 1	0.0	101.4			
2	5.0	399.2	297.8	1.8	0.192
3	10.0	671.3	569.9	2.2	0.107
4	15.0	976.6	875.2	2.4	0.074
5	20.0	1249.5	1148.1	2.5	0.057
6	25.0	1547.3	1445.9	2.5	0.046
7	30.0	1834.9	1733.5	2.6	0.039
8	35.0	2080.4	1979.0	2.6	0.033
9	40.0	2335.4	2234.0	2.6	0.029
10	45.0	2559.8	2458.4	2.6	0.026
11	50.0	2745.5	2644.1	2.7	0.024
12	55.0	2919.8	2818.4	2.7	0.022
13	60.0	3062.2	2960.8	2.7	0.020
14	65.0	3184.5	3083.1	2.7	0.018
15	70.1	3282.3	3180.9	2.7	0.017
16	75.0	3364.4	3263.0	2.7	0.016
D 17	78.9	3410.6	3309.2	2.7	0.015
		SECOND FLOW			
E 1	0.0	186.3			
2	10.0	129.7	-56.7		
3	20.0	131.4	1.7		
4	30.0	132.8	1.5		
5	40.0	134.9	2.1		
6	50.0	134.9	0.0		
F 7	60.3	135.7	0.8		
		SECOND CLOSED IN			
F 1	0.0	135.7			
2	30.0	1520.5	1384.8	20.3	0.492
3	60.0	2467.9	2332.1	30.8	0.312
4	90.0	3112.9	2977.2	37.1	0.231
5	120.0	3456.8	3321.1	41.3	0.184
6	150.0	3609.6	3473.9	44.4	0.152
7	180.0	3687.2	3551.5	46.7	0.130
8	210.0	3728.9	3593.1	48.5	0.114
9	240.0	3754.0	3618.3	49.9	0.101
10	270.0	3768.9	3633.1	51.1	0.091
11	300.0	3781.9	3646.1	52.1	0.083
12	330.0	3789.7	3654.0	53.0	0.076
13	360.0	3796.3	3660.6	53.7	0.070
14	390.0	3801.9	3666.2	54.3	0.065

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED IN - CONTINUED					
15	420.0	3805.4	3669.7	54.8	0.061
G 16	445.8	3807.9	3672.1	55.3	0.057

REMARKS:

TICKET NO. 50949900



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	7895.0	
4	FLEX WEIGHT	5.000	3.125	272.7	
5	CROSSOVER	7.000	2.750	2.9	
3	DRILL COLLARS	8.000	3.000	264.0	
50	IMPACT REVERSING SUB	7.750	2.875	1.2	8435.0
3	DRILL COLLARS	8.000	3.000	87.8	
5	CROSSOVER	7.500	2.813	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	8535.0
80	AP RUNNING CASE	5.000	2.250	4.1	8536.8
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.680	5.9	8552.0
18	DISTRIBUTOR VALVE	5.000	1.680	2.2	
70	OPEN HOLE PACKER	9.000	1.680	5.9	8560.0
20	FLUSH JOINT ANCHOR	5.000	2.370	30.0	
5	CROSSOVER	7.500	3.250	0.8	
3	DRILL COLLARS	8.000	3.000	29.6	
5	CROSSOVER	7.750	3.000	3.2	
5	CROSSOVER	7.750	2.500	0.8	
20	FLUSH JOINT ANCHOR	5.000	2.370	4.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	8631.0
	TOTAL DEPTH				8634.0

EQUIPMENT DATA

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
OIL AND GAS INSPECTION RECORD

OPERATOR: PENNZOIL COMPANY LEASE: FEE

WELL NAME: BOREN 3-11A2 API: 43-013-31192

SEC/TWP/RNG: 11 01.0 S 02.0 W CONTRACTOR: LOFFLAND

COUNTY: DUCHESNE FIELD NAME: BLUEBELL

DRILLING/COMPLETION/WORKOVER:

Y APD	Y WELL SIGN	Y HOUSEKEEPING	Y BOPE
Y SAFETY	Y POLLUTION CNTL	Y SURFACE USE	Y PITS
Y OPERATIONS	Y OTHER		

SHUT-IN _ / TA _:

_ WELL SIGN	_ HOUSEKEEPING	_ EQUIPMENT *	_ SAFETY
_ OTHER			

ABANDONED:

_ MARKER	_ HOUSEKEEPING	_ REHAB	_ OTHER

PRODUCTION:

_ WELL SIGN	_ HOUSEKEEPING	_ EQUIPMENT *	_ FACILITIES *
_ METERING *	_ POLLUTION CNTL	_ PITS	_ DISPOSAL
_ SECURITY	_ SAFETY	_ OTHER	

GAS DISPOSITION:

_ VENTED/FLARED	_ SOLD	_ LEASE USE

LEGEND: Y = YES/SATISFACTORY N = NO/UNSATISFACTORY A = NOT APPLICABLE

*FACILITIES INSPECTED:
RIG LOC BOP

REMARKS:
DRILLING 7830'DST WAS GR CRUDE

ACTION:

INSPECTOR: GLENN GOODWIN DATE: 11/17/87

HALLIBURTON SERVICES

TICKET NO. 50949600

20-NOV-87

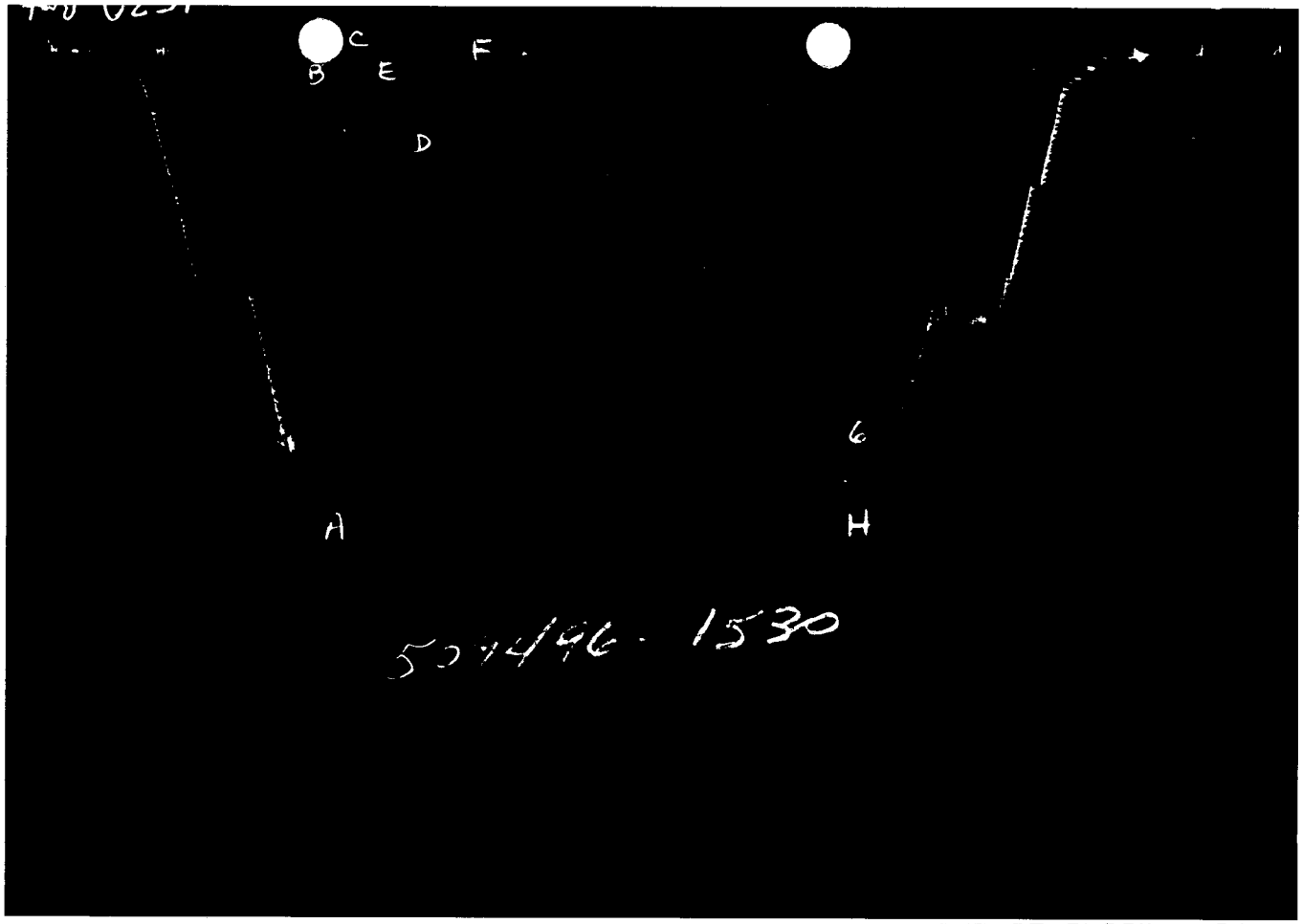
VERNAL

FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11A2	TEST NO.: 6	TESTED INTERVAL: 7375.0 - 7405.0
LEGAL LOCATION SEC. - TWP. - RNG.: 11-1S-2W	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH
LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION AND PRODUCTION CO.			IC

GAUGE NO: 1531 DEPTH: 7352.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3740	3588.8			
B	INITIAL FIRST FLOW	81	111.8	3.0	2.8	F
C	FINAL FIRST FLOW	81	93.2			
C	INITIAL FIRST CLOSED-IN	81	93.2	76.0	75.3	C
D	FINAL FIRST CLOSED-IN	570	554.7			
E	INITIAL SECOND FLOW	81	101.1	60.0	61.3	F
F	FINAL SECOND FLOW	101	112.3			
F	INITIAL SECOND CLOSED-IN	101	112.3	450.0	449.6	C
G	FINAL SECOND CLOSED-IN	3300	3336.3			
H	FINAL HYDROSTATIC	3580	3560.4			



GAUGE NO: 1530 DEPTH: 7402.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3635	3592.2			
B	INITIAL FIRST FLOW	83	120.6	3.0	2.8	F
C	FINAL FIRST FLOW	83	103.7			
C	INITIAL FIRST CLOSED-IN	83	103.7	76.0	75.3	C
D	FINAL FIRST CLOSED-IN	561	555.4			
E	INITIAL SECOND FLOW	83	113.9	60.0	61.3	F
F	FINAL SECOND FLOW	104	120.1			
F	INITIAL SECOND CLOSED-IN	104	120.1	450.0	449.6	C
G	FINAL SECOND CLOSED-IN	3305	3339.7			
H	FINAL HYDROSTATIC	3593	3566.4			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER GREEN RIVER
NET PAY (ft):
GROSS TESTED FOOTAGE: 30.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft):
TOTAL DEPTH (ft): 7405.0
PACKER DEPTH(S) (ft): 7367, 7375
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 300 /21 ?
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 129 @ 7402.0 ft

TICKET NUMBER: 50949600

DATE: 11-15-87 TEST NO: 6

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: RICHARD MC DONALD, ROY AROCHO

WITNESS: MIKE ROUSSE

DRILLING CONTRACTOR: LOFFLAND DRILLING RIG #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	2.490 @ 68 °F	1818 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 70.0
cu.ft. OF GAS:
cc OF OIL: 2400.0
cc OF WATER:
cc OF MUD:
TOTAL LIQUID cc: 2400.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ ___ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

144.5 FEET OF OIL

MEASURED FROM TESTER VALVE

REMARKS:

COULD NOT READ CHLORIDES ON MIDDLE SAMPLE - TOP SAMPLE WAS TAR - BOTTOM CHAMBER WAS TAR - COULD NOT READ GRAVITY OF OIL

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 50949600

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-15-87					
0000					ARRIVED ON LOCATION
0155					PICKED UP TOOLS - STARTED CLOCKS
0250					STARTED IN HOLE
0733					ON BOTTOM - 30000# ON PACKER
0736	.125"BH				OPENED TOOL WITH 2" BLOW
0739					CLOSED TOOL WITH 15" BLOW
0855	.125"BH				OPENED TOOL WITH 8" BLOW
0900		14.5			25" BLOW
0905		14.25			24.5" BLOW - NOTE!!!
					ALL PRESSURES ARE GAUGED IN
					OUNCES!!!!
0910		13.75			23.5" BLOW
0915		13.25			23.0" BLOW
0920		13.0			22.5" BLOW
0925		12.75			22.0" BLOW
0930		12.50			21.5" BLOW
0935		12.0			21.0" BLOW
0940		11.75			20.50" BLOW
0945		11.5			20.0" BLOW
0950		11.25			19.5" BLOW
0955		11.0			19.0" BLOW - CLOSED TOOL
1725					RELEASED PACKER AND PULLED OUT
					OF HOLE TO 4560'
1924					DROPPED BAR AND REVERSED OUT 45'
					OF OIL - PULLED OUT OF HOLE
2330					LAID DOWN TOOLS
2400					FINISHED LOADING TOOLS
11-16-87					
0020					STOPPED CLOCKS AND READ CHARTS
0100					FINISHED JOB

TICKET NO: 50949600	GAUGE NO: 1531
CLOCK NO: 32034 HOUR: 24	DEPTH: 7352.0

	REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW				
B	1	0.0	111.8			
C	2	2.8	93.2	-18.6		
		FIRST CLOSED-IN				
C	1	0.0	93.2			
	2	5.0	173.3	80.1	1.8	0.190
	3	10.0	205.5	112.3	2.2	0.106
	4	15.0	234.0	140.8	2.3	0.073
	5	20.0	259.9	166.7	2.4	0.056
	6	25.0	283.9	190.7	2.5	0.045
	7	30.0	310.4	217.2	2.5	0.038
	8	35.0	337.7	244.5	2.6	0.033
	9	40.0	364.4	271.2	2.6	0.029
	10	45.0	390.9	297.7	2.6	0.026
	11	50.0	416.2	323.0	2.6	0.023
	12	55.0	440.2	347.0	2.6	0.021
	13	60.0	465.5	372.3	2.6	0.020
	14	65.0	493.2	400.0	2.6	0.018
	15	70.0	523.8	430.6	2.7	0.017
D	16	75.3	554.7	461.5	2.7	0.016
		SECOND FLOW				
E	1	0.0	101.1			
	2	5.0	109.5	8.4		
	3	10.0	111.7	2.2		
	4	15.0	111.9	0.2		
	5	20.0	112.5	0.6		
	6	25.0	112.5	0.0		
	7	30.0	112.1	-0.4		
	8	35.0	111.9	-0.2		
	9	40.0	111.7	-0.2		
	10	45.0	111.7	0.0		
	11	50.0	111.7	0.0		
	12	55.0	112.3	0.6		
F	13	61.3	112.3	0.0		
		SECOND CLOSED-IN				
F	1	0.0	112.3			
	2	1.0	114.6	2.2	1.0	1.804
	3	2.0	116.2	3.9	2.0	1.509
	4	3.0	119.3	6.9	2.9	1.344
	5	4.0	120.9	8.6	3.8	1.228
	6	5.0	123.3	11.0	4.6	1.143
	7	6.0	124.8	12.4	5.5	1.068
	8	7.0	128.0	15.7	6.3	1.004
	9	8.0	131.1	18.7	7.1	0.956
		SECOND CLOSED-IN - CONTINUED				
	10	9.0	133.1	20.8	7.9	0.911
	11	10.0	137.0	24.7	8.7	0.869
	12	12.0	143.3	31.0	10.1	0.803
	13	14.0	150.2	37.9	11.5	0.747
	14	16.0	154.9	42.6	12.8	0.699
	15	18.0	160.4	48.1	14.0	0.659
	16	20.0	165.7	53.4	15.2	0.624
	17	22.0	171.4	59.1	16.4	0.592
	18	24.0	176.5	64.2	17.5	0.564
	19	26.0	181.6	69.3	18.5	0.539
	20	28.0	187.5	75.2	19.5	0.517
	21	30.0	194.0	81.7	20.4	0.496
	22	35.0	208.5	96.2	22.6	0.451
	23	40.0	221.8	109.4	24.6	0.415
	24	45.0	238.1	125.7	26.4	0.384
	25	50.0	253.3	141.0	28.1	0.358
	26	55.0	269.0	156.7	29.6	0.335
	27	60.0	285.9	173.6	31.0	0.315
	28	70.0	320.8	208.5	33.4	0.282
	29	80.0	360.9	248.6	35.6	0.255
	30	90.0	403.5	291.2	37.4	0.233
	31	100.0	450.8	338.5	39.0	0.215
	32	110.0	503.0	390.6	40.5	0.199
	33	120.0	562.7	450.3	41.8	0.186
	34	135.0	665.8	553.4	43.4	0.169
	35	150.0	780.3	677.9	44.9	0.154
	36	165.0	939.8	827.5	46.1	0.142
	37	180.0	1128.1	1015.7	47.2	0.132
	38	195.0	1366.2	1253.9	48.2	0.123
	39	210.0	1668.6	1556.3	49.1	0.116
	40	225.0	1999.2	1886.9	49.9	0.109
	41	240.0	2328.0	2215.7	50.6	0.103
	42	254.9	2594.1	2481.8	51.2	0.097
	43	270.0	2759.2	2646.9	51.8	0.092
	44	285.0	2902.3	2789.9	52.3	0.088
	45	300.0	3035.3	2923.0	52.8	0.084
	46	315.0	3127.2	3014.8	53.2	0.080
	47	330.0	3179.4	3067.1	53.6	0.077
	48	345.0	3226.4	3114.1	54.0	0.074
	49	360.0	3259.2	3146.9	54.4	0.071
	50	375.0	3278.6	3166.3	54.7	0.068
	51	390.0	3294.5	3182.1	55.0	0.066
	52	405.0	3307.7	3195.3	55.3	0.064
	53	420.0	3316.3	3203.9	55.6	0.062
	54	434.9	3328.9	3216.5	55.8	0.060
G	55	449.6	3336.3	3223.9	56.1	0.058

REMARKS:

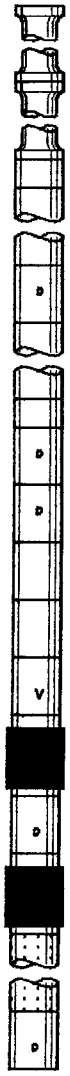
TICKET NO: 50949600	GAUGE NO: 1530
CLOCK NO: 11654 HOUR: 24	DEPTH: 7402.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	120.6			
C 2	2.8	103.7	-16.8		
		FIRST CLOSED-IN			
C 1	0.0	103.7			
2	5.1	176.9	73.2	1.8	0.189
3	10.0	210.2	106.5	2.2	0.106
4	15.0	236.6	132.9	2.3	0.073
5	20.0	261.0	157.2	2.4	0.056
6	25.0	286.3	182.6	2.5	0.045
7	30.0	314.2	210.5	2.5	0.038
8	35.0	341.2	237.5	2.6	0.033
9	40.0	367.9	264.1	2.6	0.029
10	45.0	396.1	292.4	2.6	0.026
11	50.0	421.5	317.8	2.6	0.023
12	55.0	447.5	343.8	2.6	0.021
13	60.0	473.5	369.8	2.6	0.020
14	65.0	499.3	395.6	2.6	0.018
15	70.0	525.5	421.8	2.7	0.017
D 16	75.3	555.4	451.7	2.7	0.016
		SECOND FLOW			
E 1	0.0	113.9			
2	5.0	117.2	3.3		
3	10.0	118.7	1.5		
4	15.0	119.3	0.6		
5	20.0	119.5	0.2		
6	25.0	119.5	0.0		
7	30.0	119.5	0.0		
8	35.0	119.5	0.0		
9	40.0	119.5	0.0		
10	45.0	119.5	0.0		
11	50.0	119.5	0.0		
12	55.0	120.3	0.8		
F 13	61.3	120.1	-0.2		
		SECOND CLOSED-IN			
F 1	0.0	120.1			
2	1.0	122.0	1.9	0.9	1.831
3	2.0	123.9	3.7	2.0	1.511
4	3.0	126.4	6.2	2.9	1.345
5	4.0	128.3	8.1	3.8	1.232
6	5.0	131.4	11.2	4.6	1.142
7	6.0	134.1	13.9	5.5	1.069
8	7.0	137.2	17.1	6.3	1.007
9	8.0	140.1	20.0	7.1	0.953

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
10	9.0	143.0	22.9	7.9	0.910
11	10.0	145.3	25.2	8.6	0.871
12	12.0	149.7	29.5	10.1	0.801
13	14.0	155.1	34.9	11.5	0.746
14	16.0	160.9	40.8	12.8	0.698
15	18.0	165.9	45.8	14.0	0.659
16	20.0	170.9	50.7	15.2	0.623
17	22.0	176.7	56.6	16.4	0.593
18	24.0	182.1	62.0	17.4	0.565
19	26.0	188.6	68.4	18.5	0.540
20	28.0	193.1	73.0	19.5	0.517
21	30.0	198.5	78.4	20.4	0.496
22	35.0	212.5	92.3	22.7	0.451
23	40.0	226.2	106.1	24.6	0.415
24	45.0	240.4	120.2	26.4	0.385
25	50.0	256.8	136.6	28.1	0.358
26	55.0	272.6	152.5	29.6	0.335
27	60.0	288.6	168.5	31.0	0.315
28	70.0	324.8	204.7	33.4	0.282
29	80.0	362.9	242.7	35.6	0.255
30	90.0	405.7	285.6	37.4	0.233
31	100.0	452.9	332.8	39.0	0.215
32	110.0	507.6	387.5	40.5	0.199
33	120.0	569.2	449.0	41.7	0.186
34	135.0	671.9	551.8	43.4	0.169
35	150.0	794.2	674.1	44.9	0.154
36	165.0	947.7	827.6	46.1	0.142
37	180.0	1134.6	1014.4	47.2	0.132
38	195.0	1381.5	1261.3	48.2	0.123
39	210.0	1683.6	1563.5	49.1	0.116
40	225.0	2024.7	1904.6	49.8	0.109
41	240.0	2324.6	2204.5	50.6	0.103
42	255.0	2599.4	2479.3	51.2	0.097
43	270.0	2757.7	2637.6	51.8	0.092
44	285.0	2901.8	2781.7	52.3	0.088
45	300.0	3036.7	2916.6	52.8	0.084
46	315.0	3128.3	3008.1	53.2	0.080
47	330.0	3181.9	3061.8	53.6	0.077
48	345.0	3226.1	3105.9	54.0	0.074
49	360.0	3257.8	3137.7	54.4	0.071
50	375.0	3280.3	3160.2	54.7	0.068
51	390.0	3294.3	3174.2	55.0	0.066
52	405.0	3309.0	3188.8	55.3	0.064
53	420.0	3321.1	3201.0	55.6	0.062
54	435.0	3333.3	3213.2	55.8	0.060
G 55	449.6	3339.7	3219.6	56.1	0.058

REMARKS:

TICKET NO. 50949600



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	6708.1	
4	FLEX WEIGHT	5.000	3.125	272.7	
5	CROSSOVER	7.000	2.938	2.9	
3	DRILL COLLARS	8.000	2.750	265.6	
50	IMPACT REVERSING SUB	7.750	2.875	1.2	7250.0
3	DRILL COLLARS	8.000	2.750	87.8	
5	CROSSOVER	7.500	2.813	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	7350.0
80	AP RUNNING CASE	5.000	2.250	4.1	7352.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.680	5.9	7367.0
18	DISTRIBUTOR VALVE	5.000	1.680	2.2	
70	OPEN HOLE PACKER	9.000	1.680	5.9	7375.0
20	FLUSH JOINT ANCHOR	5.750	2.870	24.0	
81	BLANKED-OFF RUNNING CASE	5.000		4.1	7402.0

TOTAL DEPTH 7405.0

EQUIPMENT DATA

HALLIBURTON SERVICES

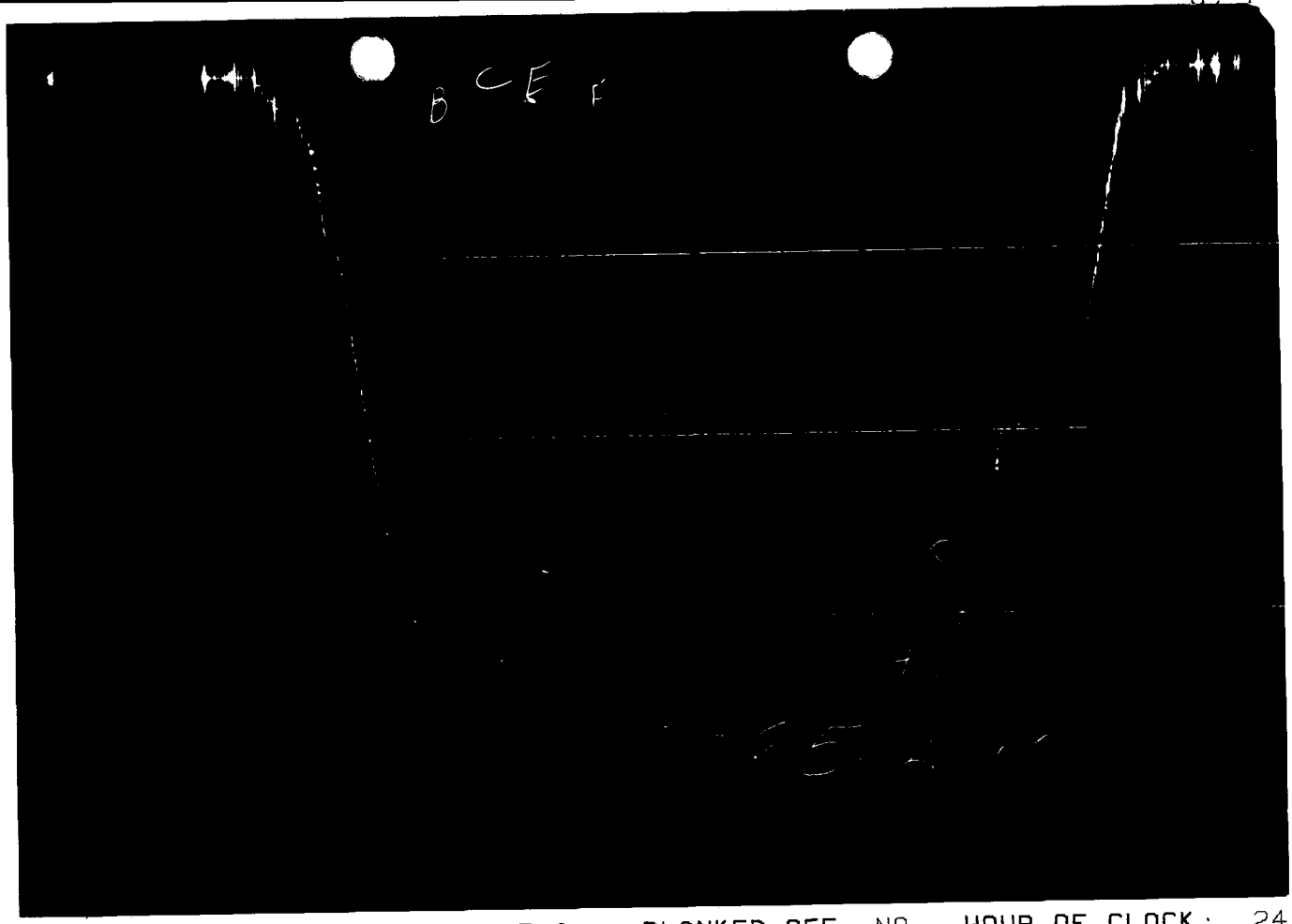
TICKET NO. 50978500

19-NOV-87

VERNAL

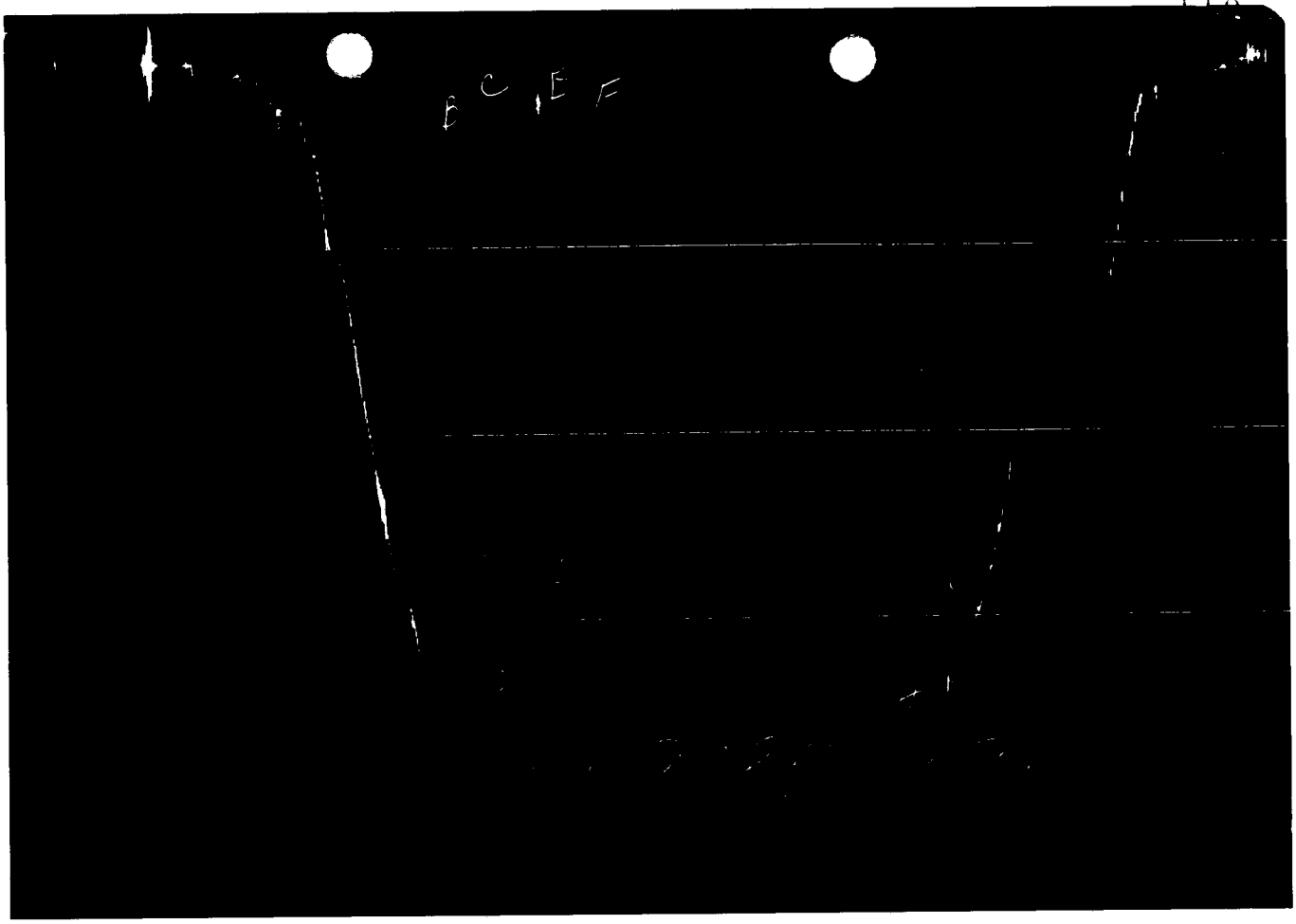
FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11A2	TEST NO.: 5	TESTED INTERVAL: 6970.0 - 7135.0
LEGAL LOCATION SEC. - TWP. - RNG.: 11-1S-2W	FIELD AREA: BLUEBELL	COUNTY: DUCHESNE	STATE: UTAH
LEASE OWNER/COMPANY NAME: PENNZOIL COMPANY			SM



GAUGE NO: 490 DEPTH: 6947.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3325	3309.6			
B	INITIAL FIRST FLOW	107	122.9	3.0	3.0	F
C	FINAL FIRST FLOW	107	109.8			
C	INITIAL FIRST CLOSED-IN	107	109.8	75.0	77.2	C
D	FINAL FIRST CLOSED-IN	2659	2653.9			
E	INITIAL SECOND FLOW	133	148.3	60.0	56.2	F
F	FINAL SECOND FLOW	200	191.0			
F	INITIAL SECOND CLOSED-IN	200	191.0	420.0	421.7	C
G	FINAL SECOND CLOSED-IN	2845	2852.0			
H	FINAL HYDROSTATIC	3312	3299.9			



GAUGE NO: 198 DEPTH: 7132.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3392	3399.6			
B	INITIAL FIRST FLOW	185	214.1	3.0	3.0	F
C	FINAL FIRST FLOW	185	187.1			
C	INITIAL FIRST CLOSED-IN	185	187.1	75.0	77.2	C
D	FINAL FIRST CLOSED-IN	2709	2736.6			
E	INITIAL SECOND FLOW	185	217.7	60.0	56.2	F
F	FINAL SECOND FLOW	264	259.4			
F	INITIAL SECOND CLOSED-IN	264	259.4	420.0	421.7	C
G	FINAL SECOND CLOSED-IN	2952	2930.4			
H	FINAL HYDROSTATIC	3366	3382.4			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER GREEN RIVER
NET PAY (ft): 80.0
GROSS TESTED FOOTAGE: 165.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5798.0 KELLY BUSHING
TOTAL DEPTH (ft): 7135.0
PACKER DEPTH(S) (ft): 6962, 6970
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 35
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 126 @ 7131.0 ft

TICKET NUMBER: 50978500
DATE: 11-11-87 TEST NO: 5
TYPE DST: OPEN HOLE
HALLIBURTON CAMP: VERNAL
TESTER: RANDY RIPPLE, RICHARD MC DONALD
WITNESS: PETE HAGIST
DRILLING CONTRACTOR: LOFFLAND RIG #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	1.800 @ 68 °F	2000 ppm
TOP OF FLUID	1.500 @ 68 °F	2424 ppm
BOTTOM OF FLUID	2.900 @ 68 °F	1212 ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 155.0
cu.ft. OF GAS: 0.560
cc OF OIL: 1000.0
cc OF WATER:
cc OF MUD: 100.0
TOTAL LIQUID cc: 1110.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 16.3 @ 60 °F
GAS/OIL RATIO (cu.ft. per bbl): 89
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

53 FEET OF SLIGHTLY MUD CUT OIL
375 FEET OF OIL

MEASURED FROM TESTER VALVE

REMARKS:

TESTED INTERVAL MADE UP OF 115 FEET OF 9 7/8" HOLE AND 50 FEET OF 8 3/4" HOLE.

COMPLETE CALCULATION SERVICE COULD NOT BE PERFORMED DUE TO INSUFFICIENT DEVELOPMENT OF THE BUILDUP PRESSURE DURING THE CLOSED-IN PERIOD. THE ANALYSIS PLOTS ARE INCLUDED FOR YOUR INSPECTION.

TYPE & SIZE MEASURING DEVICE: _____ TICKET NO: 50978500

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-11-87					
2130					ARRIVED ON LOCATION
2355					PICKED UP TOOLS
11-12-87					
0234					RAN IN HOLE WITH TOOLS
0650					OPENED TOOL THRU 1/8" BUBBLE
					HOSE WITH 1" BLOW
0653					CLOSED TOOL WITH 10 OZ.
0808					OPENED TOOL
0813	.125"BH	2.25			TOOL OPENED WITH 13" BLOW
					THRU BUBBLE HOSE
0818		2.50			
0823		2.75			
0828		2.75			
0833		2.75			
0838		2.75			
0843		2.75			
0848		2.75			
0853		2.75			
0858		2.75			
0903		2.75			
0908		2.75			CLOSED TOOL
1608					OPENED BYPASS, RIGGED DOWN
					SURFACE EQUIPMENT
1625					PULLED OUT OF THE HOLE
1806					REVERSED OUT
2130					DRAINED SAMPLER
2145					BROKE AND LOADED TOOLS
11-13-87					
0047					THRU WITH JOB

TICKET NO: 50978500	GAUGE NO: 490
CLOCK NO: 32034 HOUR: 24	DEPTH: 6947.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW				
B	1	0.0	122.9			
C	2	3.0	109.8	-13.1		
		FIRST CLOSED-IN				
C	1	0.0	109.8			
	2	1.0	151.9	42.1	0.8	0.586
	3	2.0	202.5	92.7	1.2	0.397
	4	3.0	256.6	146.8	1.5	0.302
	5	4.0	316.3	206.5	1.7	0.242
	6	5.0	360.4	250.6	1.9	0.202
	7	6.0	414.4	304.6	2.0	0.176
	8	7.0	464.7	354.9	2.1	0.154
	9	8.0	518.3	408.5	2.2	0.137
	10	9.0	572.7	462.9	2.2	0.124
	11	10.0	611.9	502.1	2.3	0.114
	12	12.0	733.5	623.7	2.4	0.096
	13	14.0	845.7	735.9	2.5	0.084
	14	16.0	965.3	855.5	2.5	0.074
	15	18.0	1087.1	977.3	2.6	0.067
	16	20.0	1216.3	1106.5	2.6	0.060
	17	22.0	1342.5	1232.7	2.6	0.055
	18	24.0	1468.9	1359.1	2.7	0.051
	19	26.0	1596.7	1486.9	2.7	0.047
	20	28.0	1703.9	1594.1	2.7	0.044
	21	30.0	1807.2	1697.4	2.7	0.041
	22	35.0	2012.5	1902.7	2.8	0.036
	23	40.0	2176.7	2066.9	2.8	0.031
	24	45.0	2291.1	2181.3	2.8	0.028
	25	50.0	2383.2	2273.4	2.8	0.025
	26	55.0	2454.1	2344.3	2.8	0.023
	27	60.0	2514.2	2404.4	2.8	0.021
	28	70.0	2607.1	2497.3	2.9	0.018
D	29	77.2	2653.9	2544.1	2.9	0.017
		SECOND FLOW				
E	1	0.0	148.3			
	2	10.0	169.8	21.5		
	3	20.0	178.2	8.4		
	4	30.0	183.0	4.8		
	5	40.0	185.7	2.7		
	6	50.0	189.0	3.3		
F	7	56.2	191.0	2.0		
		SECOND CLOSED-IN				
F	1	0.0	191.0			
	2	1.0	196.2	5.2	1.0	1.769

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	3	2.0	200.2	9.2	1.9	1.488
	4	3.0	205.2	14.1	2.9	1.315
	5	4.0	210.4	19.3	3.8	1.195
	6	5.0	215.6	24.5	4.6	1.111
	7	6.0	222.9	31.9	5.5	1.034
	8	7.0	229.0	38.0	6.3	0.973
	9	8.0	232.1	41.1	7.0	0.926
	10	9.0	238.0	47.0	7.8	0.878
	11	10.0	243.7	52.7	8.5	0.841
	12	12.0	254.2	63.2	9.9	0.774
	13	14.0	264.5	73.5	11.3	0.719
	14	16.0	276.4	85.4	12.6	0.672
	15	18.0	286.7	95.6	13.8	0.633
	16	20.0	298.1	107.1	14.9	0.598
	17	22.0	308.9	117.9	16.0	0.567
	18	24.0	319.7	128.7	17.1	0.540
	19	26.0	333.3	142.3	18.1	0.515
	20	28.0	345.1	154.1	19.0	0.493
	21	30.0	357.8	166.7	19.9	0.473
	22	35.0	389.8	198.8	22.0	0.430
	23	40.0	424.5	233.4	23.9	0.394
	24	45.0	460.3	269.3	25.6	0.364
	25	50.0	500.6	309.6	27.1	0.339
	26	55.0	549.4	358.4	28.5	0.317
	27	60.0	602.5	411.5	29.8	0.298
	28	70.0	724.9	533.9	32.1	0.266
	29	80.0	870.7	679.7	34.0	0.240
	30	90.0	1048.5	857.4	35.7	0.219
	31	100.0	1253.4	1062.4	37.2	0.202
	32	110.0	1470.9	1279.9	38.5	0.187
	33	120.0	1666.3	1475.2	39.6	0.174
	34	135.0	1921.6	1730.5	41.1	0.158
	35	150.0	2112.5	1921.5	42.4	0.144
	36	165.0	2257.5	2066.5	43.5	0.133
	37	180.0	2358.6	2167.6	44.5	0.123
	38	195.0	2438.0	2246.9	45.4	0.115
	39	210.0	2499.2	2308.2	46.2	0.108
	40	224.9	2548.0	2357.0	46.8	0.101
	41	240.0	2592.0	2401.0	47.5	0.096
	42	260.0	2641.9	2450.9	48.2	0.089
	43	280.0	2681.4	2490.4	48.8	0.083
	44	300.0	2716.1	2525.1	49.4	0.078
	45	320.0	2747.2	2556.1	49.9	0.074
	46	340.0	2774.8	2583.7	50.4	0.070
	47	360.0	2799.0	2608.0	50.8	0.066
	48	380.0	2820.2	2629.2	51.2	0.063
	49	400.0	2838.1	2647.1	51.5	0.060
G	50	421.7	2852.0	2661.0	51.9	0.057

REMARKS:

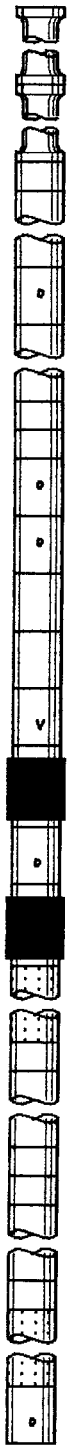
TICKET NO: 50978500	GAUGE NO: 198
CLOCK NO: 11654 HOUR: 24	DEPTH: 7132.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	214.1			
C 2	3.0	187.1	-27.0		
		FIRST CLOSED-IN			
C 1	0.0	187.1			
2	1.0	226.3	39.2	0.7	0.605
3	2.0	277.4	90.3	1.2	0.397
4	3.0	322.8	135.7	1.5	0.299
5	4.0	369.0	181.9	1.7	0.242
6	5.0	419.2	232.0	1.9	0.205
7	6.0	476.1	288.9	2.0	0.175
8	7.0	529.2	342.0	2.1	0.155
9	8.0	574.3	387.2	2.2	0.138
10	9.0	619.4	432.2	2.2	0.125
11	10.0	679.6	492.5	2.3	0.114
12	12.0	792.2	605.1	2.4	0.097
13	14.0	905.7	718.5	2.5	0.084
14	16.0	1023.7	836.6	2.5	0.074
15	18.0	1151.3	964.2	2.6	0.067
16	20.0	1279.0	1091.8	2.6	0.061
17	22.0	1417.2	1230.1	2.6	0.055
18	24.0	1543.1	1356.0	2.7	0.051
19	26.0	1682.5	1495.3	2.7	0.047
20	28.0	1795.9	1608.8	2.7	0.044
21	30.0	1904.5	1717.3	2.7	0.041
22	35.0	2111.7	1924.6	2.8	0.036
23	40.0	2272.5	2085.4	2.8	0.031
24	45.0	2377.2	2190.0	2.8	0.028
25	50.0	2459.1	2272.0	2.8	0.025
26	55.0	2529.5	2342.4	2.8	0.023
27	60.0	2590.9	2403.7	2.8	0.021
28	70.0	2682.2	2495.1	2.9	0.018
D 29	77.2	2736.6	2549.5	2.9	0.017
		SECOND FLOW			
E 1	0.0	217.7			
2	10.0	241.8	24.2		
3	20.0	248.2	6.3		
4	30.0	252.5	4.4		
5	40.0	255.7	3.2		
6	50.0	258.5	2.8		
F 7	56.2	259.4	0.9		
		SECOND CLOSED-IN			
F 1	0.0	259.4			
2	1.0	264.4	5.0	1.0	1.760

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
3	2.0	268.4	9.0	1.9	1.491
4	3.0	273.7	14.3	2.9	1.310
5	4.0	280.1	20.7	3.8	1.195
6	5.0	284.3	24.9	4.6	1.107
7	6.0	288.6	29.2	5.4	1.037
8	7.0	294.2	34.8	6.2	0.978
9	8.0	299.0	39.6	7.1	0.924
10	9.0	303.4	44.0	7.8	0.881
11	10.0	309.2	49.8	8.5	0.841
12	12.0	318.3	58.9	9.9	0.775
13	14.0	328.6	69.2	11.3	0.719
14	16.0	338.5	79.1	12.6	0.673
15	18.0	348.4	89.0	13.8	0.632
16	20.0	359.2	99.8	15.0	0.597
17	22.0	369.5	110.1	16.0	0.567
18	24.0	378.7	119.3	17.1	0.540
19	26.0	390.5	131.1	18.1	0.515
20	28.0	402.1	142.7	19.0	0.493
21	30.0	413.8	154.4	19.9	0.473
22	35.0	444.2	184.8	22.0	0.430
23	40.0	478.7	219.3	23.9	0.394
24	45.0	513.9	254.5	25.6	0.364
25	50.0	553.7	294.3	27.1	0.339
26	55.0	601.4	342.0	28.5	0.317
27	60.0	653.7	394.3	29.8	0.298
28	70.0	780.3	520.9	32.1	0.266
29	80.0	929.7	670.3	34.0	0.240
30	90.0	1108.9	849.5	35.7	0.219
31	100.0	1320.9	1061.5	37.2	0.202
32	110.0	1542.9	1283.5	38.5	0.187
33	120.0	1731.3	1471.9	39.6	0.174
34	135.0	1975.6	1716.2	41.1	0.158
35	150.0	2175.1	1915.7	42.4	0.144
36	165.0	2329.1	2069.7	43.5	0.133
37	180.0	2435.6	2176.2	44.5	0.123
38	195.0	2517.7	2258.3	45.4	0.115
39	210.0	2577.9	2318.5	46.2	0.108
40	225.0	2624.1	2364.7	46.8	0.101
41	240.0	2666.4	2407.0	47.5	0.096
42	260.0	2718.3	2458.9	48.2	0.089
43	280.0	2759.4	2500.0	48.8	0.083
44	300.0	2794.0	2534.6	49.4	0.078
45	320.0	2825.0	2565.6	49.9	0.074
46	340.0	2851.8	2592.4	50.4	0.070
47	360.0	2877.2	2617.8	50.8	0.066
48	380.0	2897.2	2637.8	51.2	0.063
49	400.0	2915.1	2655.7	51.5	0.060
G 50	421.7	2930.4	2671.0	51.9	0.057

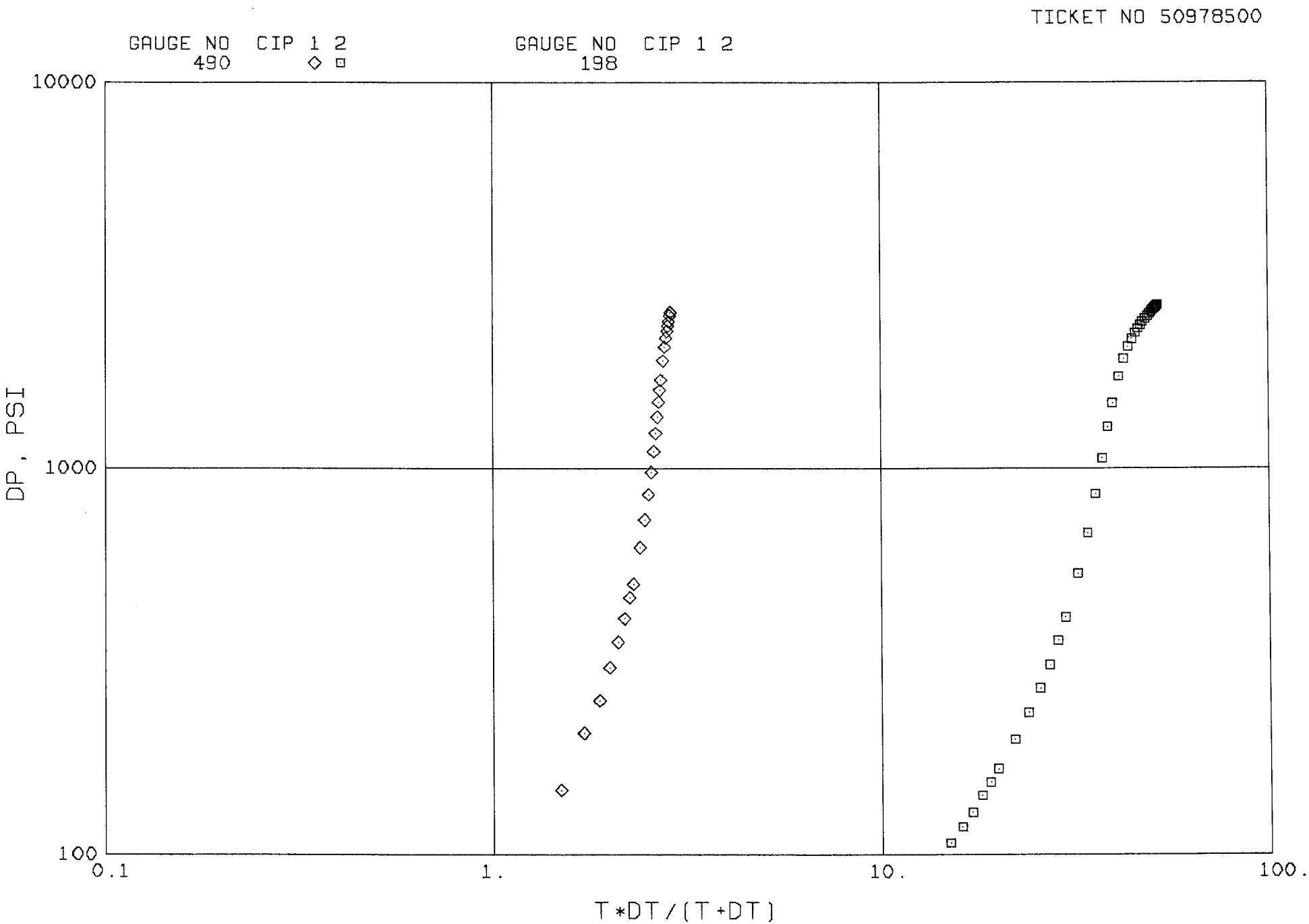
REMARKS:

TICKET NO. 50978500



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	6296.0	
4	FLEX WEIGHT	5.000	3.125	272.6	
5	CROSSOVER	5.000	3.125	3.2	
3	DRILL COLLARS	8.000	2.750	269.2	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	6842.0
3	DRILL COLLARS	8.000	2.750	86.0	
5	CROSSOVER	9.063	2.750	5.0	
5	CROSSOVER	7.750	2.500	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	6945.0
80	AP RUNNING CASE	5.000	2.250	4.1	6947.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.680	5.9	6962.0
18	DISTRIBUTOR VALVE	5.000	1.680	2.2	
70	OPEN HOLE PACKER	9.000	1.680	5.9	6970.0
20	FLUSH JOINT ANCHOR	5.750	3.500	17.0	
5	CROSSOVER	7.500	3.250	0.8	
3	DRILL COLLARS	8.000	2.750	87.8	
5	CROSSOVER	7.500	2.875	0.8	
5	CROSSOVER	6.000	2.188	0.8	
3	DRILL COLLARS	6.750	2.313	31.1	
5	CROSSOVER	5.938	2.563	0.9	
20	FLUSH JOINT ANCHOR	5.750	3.500	20.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	7132.0
	TOTAL DEPTH				7135.0

EQUIPMENT DATA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490
GAUGE NO CIP 1 2
198
10000
1000
100
DP, PSI
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1.
10.
100.
T*DT/(T+DT)

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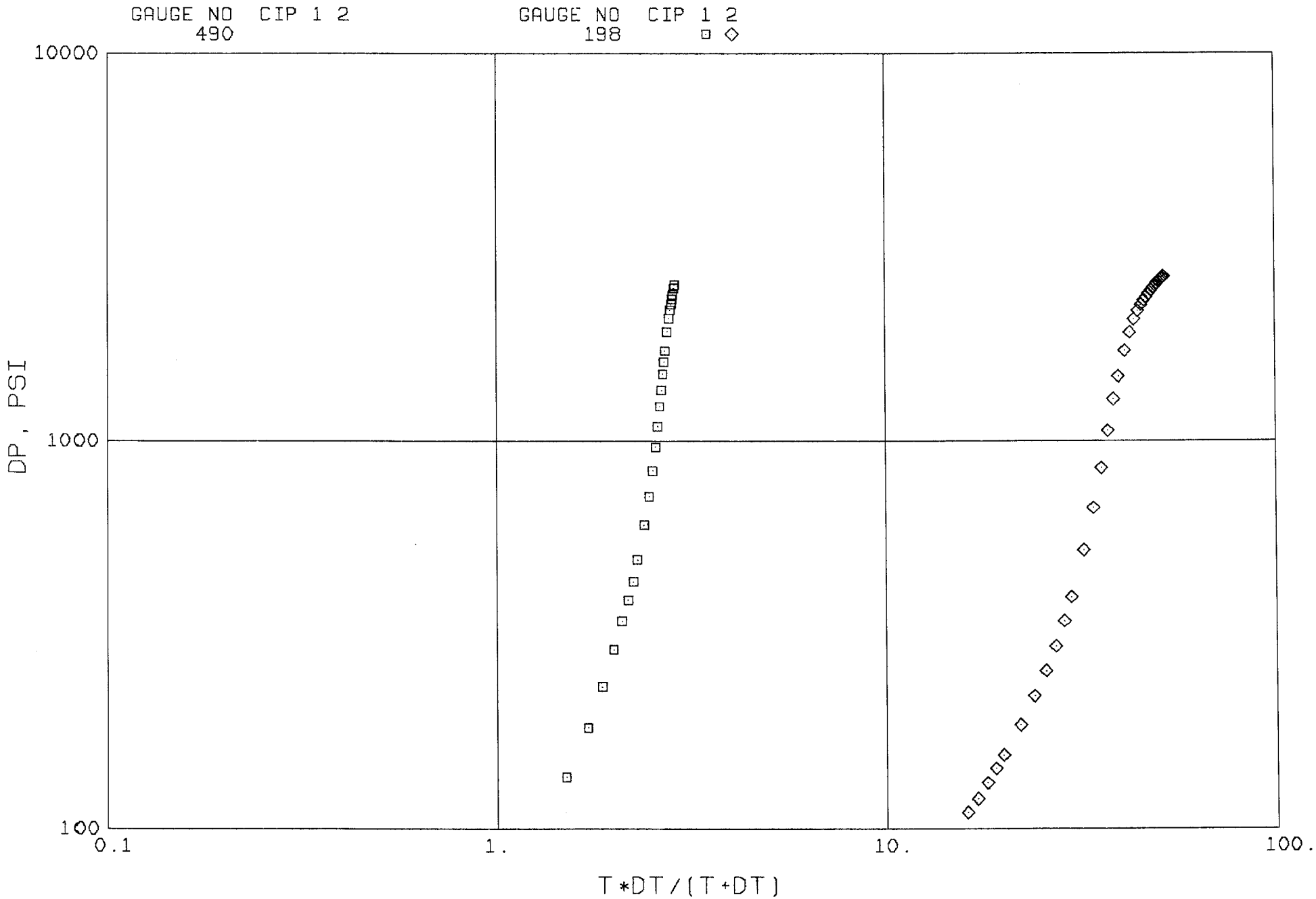

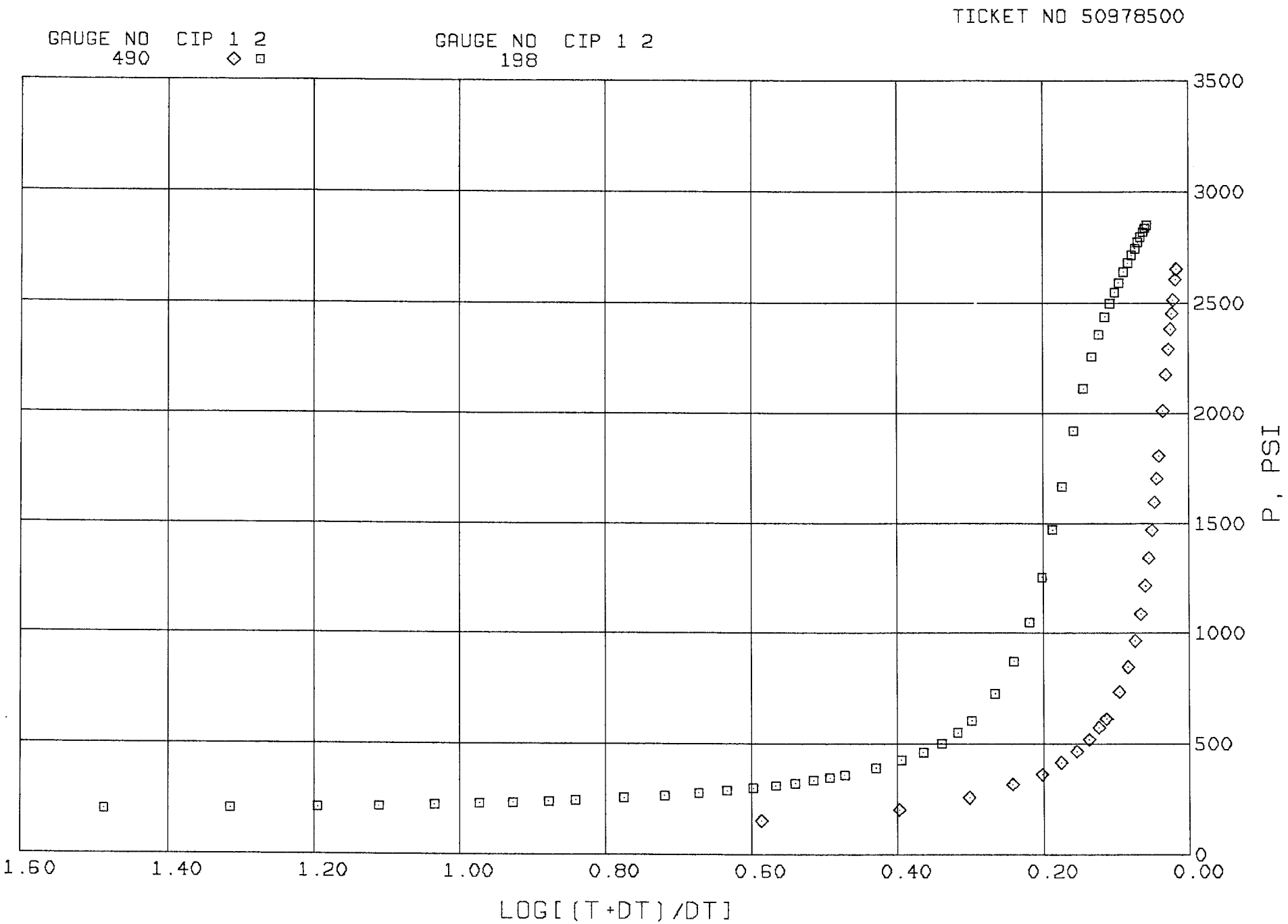
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490 ◇ □
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1500
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0
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1.20
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0.20
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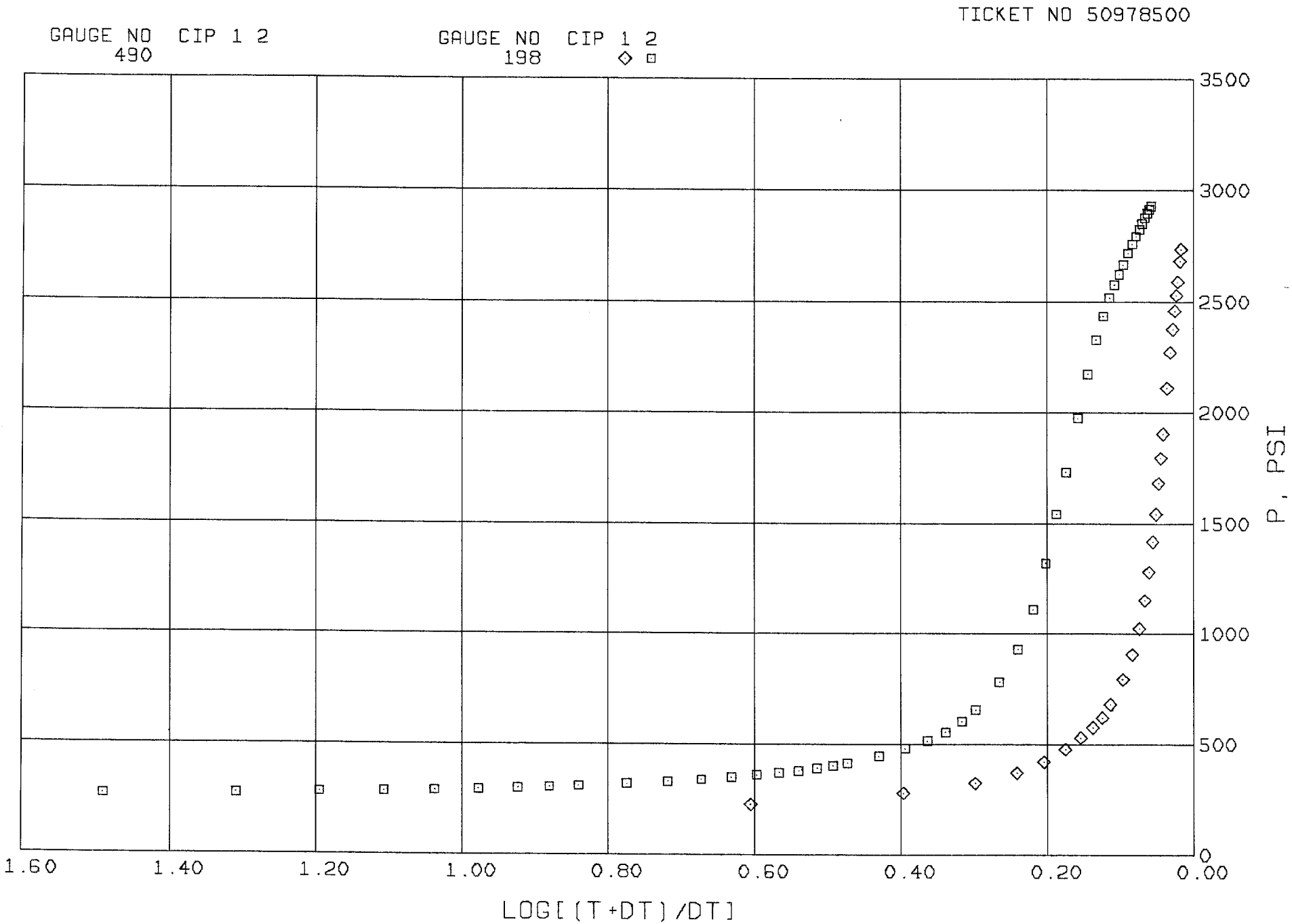
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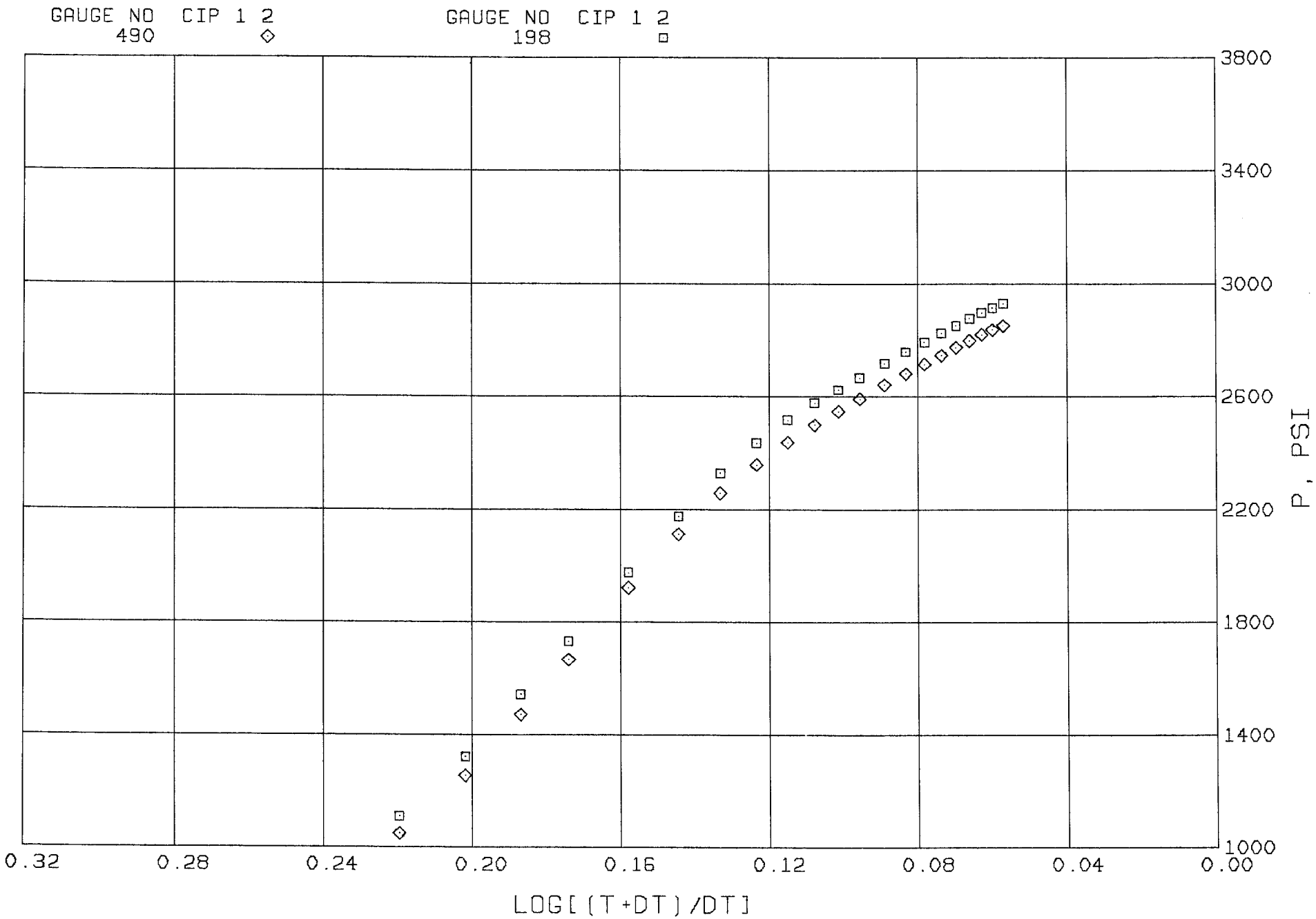
3500
3000
2500
2000
1500
1000
500
0
P, PSI
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
LOG[(T+DT)/DT]

TICKET NO 50978500



HALLIBURTON SERVICES

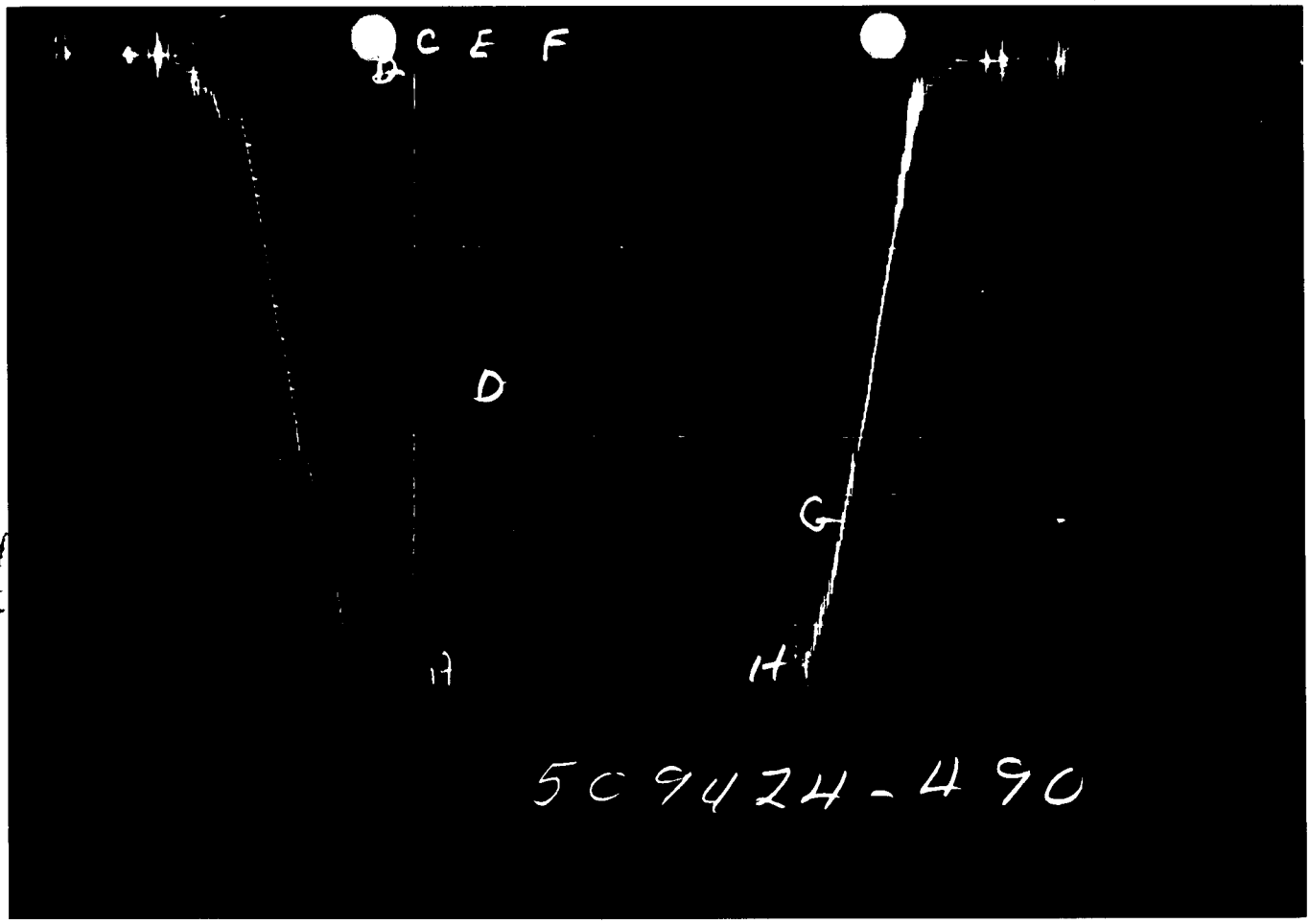
TICKET NO. 50942400

11-NOV-87

VERNAL

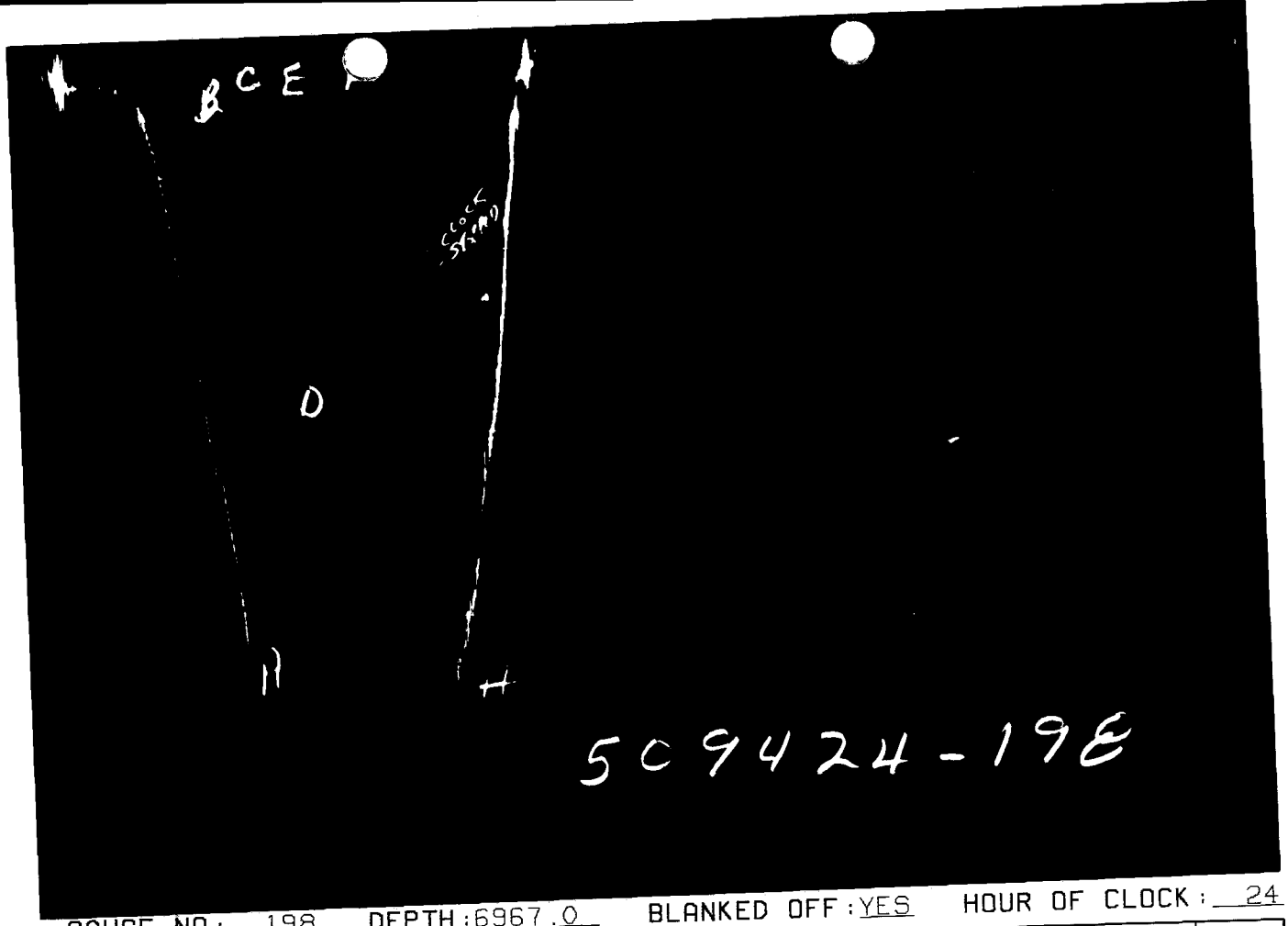
FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11A2	TEST NO.: 4	TESTED INTERVAL: 6810.0 - 6970.0	LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION AND PRODUCTION CO.	
LEGAL LOCATION SEC. - TWP. - RNG.: 11-15S-2W	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH	DR	



GAUGE NO: 490 DEPTH: 6787.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3232	3221.9			
B	INITIAL FIRST FLOW	13	42.2	2.0	2.9	F
C	FINAL FIRST FLOW	13	44.8			
C	INITIAL FIRST CLOSED-IN	13	44.8	75.0	73.4	C
D	FINAL FIRST CLOSED-IN	1526	1536.8			
E	INITIAL SECOND FLOW	27	58.2	75.0	75.3	F
F	FINAL SECOND FLOW	40	83.6			
F	INITIAL SECOND CLOSED-IN	40	83.6	300.0	300.4	C
G	FINAL SECOND CLOSED-IN	2525	2532.9			
H	FINAL HYDROSTATIC	3192	3205.1			



GAUGE NO: 198 DEPTH: 6967.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC		3312.2			
B	INITIAL FIRST FLOW		127.3	2.0	2.9	F
C	FINAL FIRST FLOW		123.9			
C	INITIAL FIRST CLOSED-IN		123.9	75.0	73.4	C
D	FINAL FIRST CLOSED-IN		1620.4			
E	INITIAL SECOND FLOW		144.4	75.0	75.3	F
F	FINAL SECOND FLOW		165.2			
F	INITIAL SECOND CLOSED-IN		165.2	300.0		C
G	FINAL SECOND CLOSED-IN					
H	FINAL HYDROSTATIC		3295.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER GREEN RIVER
NET PAY (ft):
GROSS TESTED FOOTAGE: 160.0
ALL DEPTHS MEASURED FROM: KELLY BUSHING
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5759.0
TOTAL DEPTH (ft): 6970.0
PACKER DEPTH(S) (ft): 6802, 6810
FINAL SURFACE CHOKE (in):
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 38
ESTIMATED HOLE TEMP. (°F): 120
ACTUAL HOLE TEMP. (°F): 123 @ 6960.0 ft

TICKET NUMBER: 50942400
DATE: 11-7-87 TEST NO: 4
TYPE DST: OPEN HOLE
HALLIBURTON CAMP: VERNAL
TESTER: DANNY CARTER
WITNESS: PETE HAGIST
DRILLING CONTRACTOR: LOFFLAND #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	2.400 @ 66 °F	1515 ppm
TOP	2.400 @ 63 °F	1636 ppm
MIDDLE	2.700 @ 63 °F	1455 ppm
SAMPLE CHAMBER	2.400 @ 96 °F	970 ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 60.0
cu.ft. OF GAS: 0.110
cc OF OIL: 1225.0
cc OF WATER:
cc OF MUD: 525.0
TOTAL LIQUID cc: 1750.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl): 14
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

APPROXIMATELY 120' OF OIL CUT MUD

MEASURED FROM TESTER VALVE

REMARKS:

CLOCK IN GAUGE #198 STOPPED DURING FINAL CLOSED-IN, RESTARTED WHEN BYPASS OPENED.

INSUFFICIENT OIL RECOVERY FOR DETERMINATION OF OIL GRAVITY. COMPANY MAN TOOK SAMPLE.....

TYPE & SIZE MEASURING DEVICE: LT-20 MANIFOLD | TICKET NO: 50942400

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-7-87					
0001					ON LOCATION
0008					STARTED CLOCKS
0044					MADE UP TOOLS, WENT IN HOLE
0655					SET WEIGHT ON TOOLS
0658	1/8BH				OPENED TOOL WITH 1 1/2" BLOW IN
					BUCKET
0700					CLOSED TOOL WITH 6" BLOW
0815					OPENED TOOL WITH 1 1/2" BLOW
0820	16/64				BLEEDING OFF--OPENED 1/4" CHOKE
0825	1/8BH	5			8" BLOW--CLOSED CHOKE
0830					9 1/2" BLOW
0845	16/64	1/2			KILLED BLOW--1/4" CHOKE
0854	1/8BH				9 1/2" BLOW--CLOSED CHOKE
0903	"				9 1/2" BLOW
0912					13" BLOW
0930		1			CLOSED TOOL--BLED OFF
1431					OPENED BYPASS, PULLED OUT OF
					HOLE
1945					LAID DOWN TOOLS
					STOPPED CLOCKS
2000					JOB COMPLETED

TICKET NO: 50942400	GAUGE NO: 490
CLOCK NO: 11654 HOUR: 24	DEPTH: 6787.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	42.2			
C	2	2.9	44.8	2.7		
			FIRST CLOSED-IN			
C	1	0.0	44.8			
	2	1.0	60.0	15.2	0.8	0.577
	3	2.0	69.8	24.9	1.2	0.389
	4	3.0	81.1	36.3	1.5	0.292
	5	4.0	89.1	44.3	1.7	0.237
	6	5.0	99.5	54.7	1.8	0.199
	7	6.0	107.8	62.9	2.0	0.172
	8	7.0	117.0	72.1	2.1	0.151
	9	8.0	128.4	83.6	2.1	0.135
	10	9.0	139.1	94.3	2.2	0.121
	11	10.0	151.1	106.3	2.3	0.110
	12	12.0	167.9	123.1	2.3	0.094
	13	14.0	187.0	142.1	2.4	0.082
	14	16.0	203.9	159.1	2.5	0.072
	15	18.0	223.6	178.8	2.5	0.065
	16	20.0	245.8	201.0	2.5	0.059
	17	22.0	271.8	227.0	2.6	0.054
	18	24.0	297.1	252.3	2.6	0.050
	19	26.0	321.8	277.0	2.6	0.046
	20	28.0	352.3	307.5	2.6	0.043
	21	30.0	392.2	347.4	2.6	0.040
	22	35.0	475.0	430.2	2.7	0.035
	23	40.0	591.0	546.1	2.7	0.030
	24	45.0	714.5	669.7	2.7	0.027
	25	50.0	850.1	805.3	2.7	0.025
	26	55.0	1002.3	957.4	2.8	0.022
	27	60.0	1158.4	1113.6	2.8	0.020
	28	70.0	1454.6	1409.7	2.8	0.018
D	29	73.4	1536.8	1491.9	2.8	0.017
			SECOND FLOW			
E	1	0.0	58.2			
	2	15.0	73.3	15.1		
	3	30.0	75.8	2.5		
	4	45.0	77.2	1.3		
	5	60.0	80.5	3.3		
F	6	75.3	83.6	3.1		
			SECOND CLOSED-IN			
F	1	0.0	83.6			
	2	1.0	86.4	2.8	0.9	1.917
	3	2.0	89.2	5.6	2.0	1.602

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND CLOSED-IN - CONTINUED				
	4	3.0	92.2	8.7	2.9	1.429
	5	4.0	95.0	11.5	3.8	1.309
	6	5.0	98.1	14.5	4.7	1.221
	7	6.0	100.6	17.1	5.6	1.146
	8	7.0	103.7	20.1	6.4	1.084
	9	8.0	106.1	22.5	7.3	1.030
	10	9.0	109.0	25.5	8.0	0.987
	11	10.0	112.2	28.7	8.9	0.945
	12	12.0	118.4	34.8	10.4	0.877
	13	14.0	124.2	40.7	11.9	0.819
	14	16.0	132.9	49.3	13.3	0.770
	15	18.0	138.8	55.2	14.6	0.728
	16	20.0	146.1	62.5	16.0	0.690
	17	22.0	154.2	70.7	17.2	0.659
	18	24.0	161.8	78.3	18.4	0.629
	19	26.0	170.4	86.8	19.5	0.603
	20	28.0	177.1	93.5	20.6	0.579
	21	30.0	187.1	103.5	21.7	0.557
	22	35.0	212.8	129.2	24.2	0.510
	23	40.0	242.9	159.4	26.5	0.470
	24	45.1	280.4	196.8	28.6	0.437
	25	50.0	320.5	237.0	30.5	0.409
	26	55.0	368.3	284.7	32.3	0.384
	27	60.0	427.0	343.4	34.0	0.362
	28	70.0	567.8	484.2	36.9	0.326
	29	80.0	735.8	652.2	39.5	0.296
	30	90.0	937.4	853.8	41.8	0.271
	31	100.0	1137.7	1054.1	43.9	0.251
	32	110.0	1322.6	1239.0	45.7	0.233
	33	120.0	1488.5	1405.0	47.3	0.218
	34	135.0	1692.2	1608.7	49.5	0.198
	35	150.0	1861.4	1777.8	51.4	0.182
	36	165.0	2006.7	1923.1	53.0	0.168
	37	180.0	2119.7	2036.2	54.5	0.157
	38	195.0	2209.2	2125.6	55.8	0.146
	39	210.0	2269.9	2186.3	57.0	0.137
	40	225.0	2334.6	2251.0	58.0	0.130
	41	240.0	2389.9	2306.3	59.0	0.122
	42	260.0	2449.4	2365.8	60.1	0.114
	43	280.1	2492.3	2408.7	61.1	0.107
G	44	300.4	2532.9	2449.3	62.0	0.100

REMARKS:

TICKET NO: 50942400	
CLOCK NO: 2290	HOUR: 24

GAUGE NO: 198	
DEPTH: 6967.0	

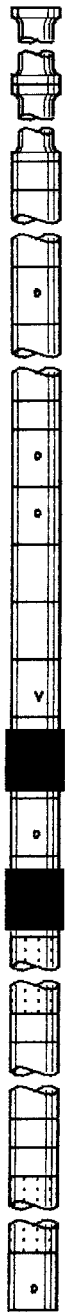
REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	127.3			
C 2	2.9	123.9	-3.4		
		FIRST CLOSED-IN			
C 1	0.0	123.9			
2	1.0	137.9	14.0	0.7	0.594
3	2.0	150.7	26.8	1.2	0.392
4	3.0	159.4	35.5	1.5	0.296
5	4.0	169.3	45.4	1.7	0.236
6	5.0	177.5	53.6	1.8	0.199
7	6.0	189.6	65.7	2.0	0.171
8	7.0	197.6	73.8	2.0	0.151
9	8.0	211.4	87.5	2.1	0.134
10	9.0	219.8	95.9	2.2	0.122
11	10.0	226.0	102.1	2.2	0.111
12	12.0	245.2	121.3	2.3	0.094
13	14.0	263.8	139.9	2.4	0.082
14	16.0	283.7	159.8	2.5	0.072
15	18.0	305.2	181.3	2.5	0.065
16	20.0	327.6	203.8	2.5	0.059
17	22.0	351.4	227.5	2.6	0.054
18	24.0	375.3	251.4	2.6	0.050
19	26.0	401.4	277.5	2.6	0.046
20	28.0	429.9	306.0	2.6	0.043
21	30.0	462.9	339.0	2.6	0.040
22	35.0	547.5	423.6	2.7	0.035
23	40.0	658.9	535.1	2.7	0.030
24	45.0	788.7	664.8	2.7	0.027
25	50.0	931.9	808.1	2.7	0.025
26	55.0	1078.8	954.9	2.8	0.022
27	60.0	1238.2	1114.3	2.8	0.020
28	70.0	1539.2	1415.3	2.8	0.018
D 29	73.4	1620.4	1496.6	2.8	0.017
		SECOND FLOW			
E 1	0.0	144.4			
2	15.0	151.4	7.0		
3	30.0	154.0	2.6		
4	45.0	157.5	3.4		
5	60.0	160.8	3.3		
F 6	75.3	165.2	4.5		
		SECOND CLOSED-IN			
F 1	0.0	165.2			
2	1.1	167.1	1.8	1.0	1.876

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN - CONTINUED					
3	2.0	170.4	5.1	2.0	1.593
4	3.0	172.5	7.3	2.9	1.431
5	4.0	175.4	10.2	3.8	1.310
6	5.0	178.4	13.2	4.7	1.222
7	6.0	182.0	16.8	5.5	1.150
8	7.0	184.6	19.4	6.4	1.087
9	8.0	188.3	23.1	7.3	1.031
10	9.0	190.6	25.3	8.1	0.987
11	10.0	193.1	27.8	8.8	0.947
12	12.0	200.1	34.8	10.4	0.875
13	14.0	205.5	40.3	11.8	0.820
14	16.0	212.4	47.1	13.3	0.771
15	18.0	219.1	53.8	14.7	0.727
16	20.0	226.7	61.5	15.9	0.692
17	22.0	234.5	69.3	17.2	0.658
18	24.0	243.4	78.1	18.4	0.629
19	26.0	251.0	85.8	19.5	0.603
20	28.0	259.2	94.0	20.6	0.579
21	30.0	266.5	101.2	21.7	0.557
22	35.0	291.3	126.0	24.2	0.509
23	40.0	321.2	156.0	26.5	0.471
24	45.1	354.8	189.5	28.6	0.437
25	50.0	393.0	227.8	30.5	0.409
26	55.0	440.4	275.2	32.3	0.384
27	60.0	499.3	334.0	34.0	0.362
28	70.0	628.8	463.5	36.9	0.326
29	80.0	795.3	630.1	39.5	0.296
30	90.0	991.0	825.7	41.8	0.271
[1] 31	95.7	1094.5	929.3	43.0	0.259
G 32	NO DATA FOR THIS POINT				

LEGEND:
[1] CLOCK STOPPED

REMARKS:

TICKET NO. 50942400



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	6133.5	
4	FLEX WEIGHT	5.000	3.125	272.6	
5	CROSSOVER	7.000	2.938	3.2	
3	DRILL COLLARS	8.000	2.750	276.8	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	6686.0
3	DRILL COLLARS	8.000	2.750	86.7	
5	CROSSOVER	7.750	2.875	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	6.1	
60	HYDROSPRING TESTER	5.000	0.750	5.0	6785.0
80	AP RUNNING CASE	5.000	2.250	4.1	6787.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6802.0
18	DISTRIBUTOR VALVE	5.000	1.530	2.2	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6810.0
20	FLUSH JOINT ANCHOR	5.750	3.500	25.0	
5	CROSSOVER	7.500	3.250	0.8	
3	DRILL COLLARS	8.000	2.750	117.5	
5	CROSSOVER	7.625	2.750	4.2	
5	CROSSOVER	7.750	2.875	0.8	
20	FLUSH JOINT ANCHOR	5.750	3.500	6.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	6967.0
	TOTAL DEPTH				6970.0

EQUIPMENT DATA

HALLIBURTON SERVICES

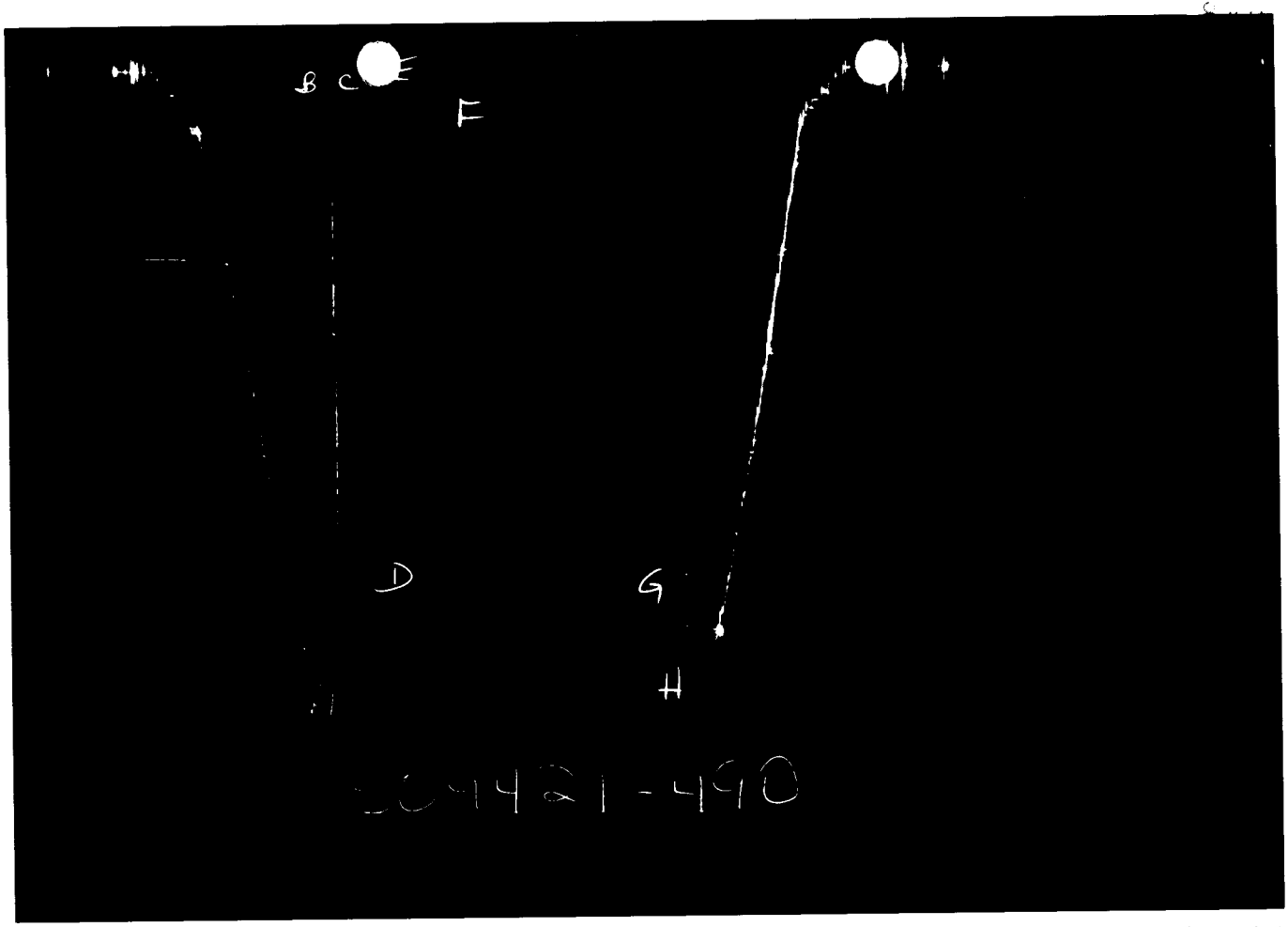
TICKET NO. 50942100

09-NOV-87

VERNAL

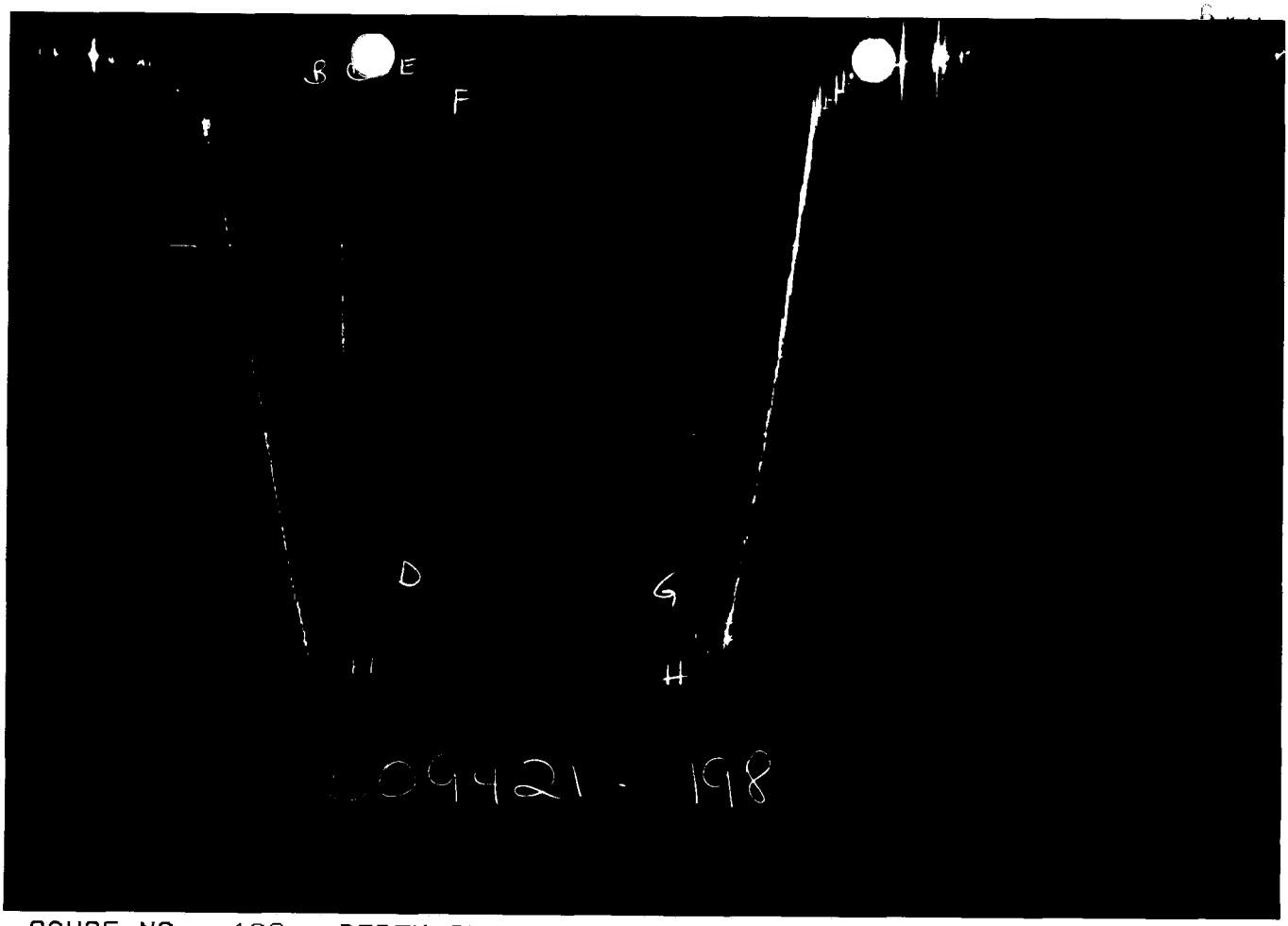
FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11 A 2	TEST NO.: 3	TESTED INTERVAL: 6663.0 - 6761.0
LEGAL LOCATION SEC. - TWP. - RNG.: SEC. 11 - 1 S - 2 W	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH
LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION & PRODUCTION CO.			PF



GAUGE NO: 490 DEPTH: 6640.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3152	3164.3			
B	INITIAL FIRST FLOW	27	61.9	2.0	2.0	F
C	FINAL FIRST FLOW	27	61.9			
C	INITIAL FIRST CLOSED-IN	27	61.9	60.0	60.1	C
D	FINAL FIRST CLOSED-IN	2579	2571.5			
E	INITIAL SECOND FLOW	80	103.7	60.0	60.3	F
F	FINAL SECOND FLOW	213	224.3			
F	INITIAL SECOND CLOSED-IN	213	224.3	300.0	299.6	C
G	FINAL SECOND CLOSED-IN	2605	2608.6			
H	FINAL HYDROSTATIC	3139	3134.4			



GAUGE NO: 198 DEPTH: 6758.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3235	3225.9			
B	INITIAL FIRST FLOW	79	105.9	2.0	2.0	F
C	FINAL FIRST FLOW	79	106.1			
C	INITIAL FIRST CLOSED-IN	79	106.1	60.0	60.1	C
D	FINAL FIRST CLOSED-IN	2629	2619.8			
E	INITIAL SECOND FLOW	132	140.6	60.0	60.3	F
F	FINAL SECOND FLOW	251	252.8			
F	INITIAL SECOND CLOSED-IN	251	252.8	300.0	299.6	C
G	FINAL SECOND CLOSED-IN	2695	2648.0			
H	FINAL HYDROSTATIC	3169	3192.6			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER GREEN RIVER
NET PAY (ft): 82.0
GROSS TESTED FOOTAGE: 98.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5759.0
TOTAL DEPTH (ft): 6761.0
PACKER DEPTH(S) (ft): 6655, 6663
FINAL SURFACE CHOKE (in): 16/64"
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 9.10
MUD VISCOSITY (sec): 38
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 118 @ 6758.0 ft

TICKET NUMBER: 50942100

DATE: 11-4-87 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: DANNY CARTER
RICHARD MC DONALD

WITNESS: PETER W. HAGIST

DRILLING CONTRACTOR: LOFFLAND BROTHERS #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	2.100 @ 68 °F	1700 ppm
TOP FLUID	1.900 @ 74 °F	1700 ppm
REVERSING SUB	1.400 @ 74 °F	2485 ppm
SAMPLER	1.400 @ 67 °F	2727 ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: 200.0
cu.ft. OF GAS: 1.400
cc OF OIL:
cc OF WATER:
cc OF MUD: 415.0
TOTAL LIQUID cc: 415.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

514 FEET OF GAS CUT MUD WITH SLIGHT TRACE OF OIL

MEASURED FROM TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: LT-20 MANIFOLD | TICKET NO: 50942100

TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
11-3-87					
2111					STARTED CLOCKS
2157					PICKED-UP TOOLS AND RUN IN HOLE
11-4-87					
0251					SET WEIGHT ON TOOLS
0254	1/8"	2			OPENED TOOL
0256	"	2			CLOSED TOOL - BLED OFF PRESSURE
0356	16/64"				REOPENED TOOL - 8" BLOW
0358	"	20	51.5		
0408	"	29	65		GAS TO SURFACE
0417	"	36.5	76		
0427	"	48	93		
0437	"	61	112		
0447	"	85	147		
0456	"	100	169		CLOSED TOOL
					RELEASED PRESSURE
0956					OPENED BYPASS - PULLED OUT OF
					HOLE.
1430					OUT OF HOLE - LAID DOWN TOOLS
1509					SHUT OFF CLOCKS
1540					JOB COMPLETED

TICKET NO: 50942100	GAUGE NO: 490
CLOCK NO: 32034 HOUR: 24	DEPTH: 6640.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	61.9			
C	2	2.0	61.9	0.0		
			FIRST CLOSED-IN			
C	1	0.0	61.9			
	2	1.0	177.0	115.1	0.7	0.471
	3	2.0	252.6	190.7	1.0	0.293
	4	3.0	326.6	264.7	1.2	0.217
	5	4.0	388.5	326.6	1.3	0.174
	6	5.0	456.7	394.9	1.4	0.144
	7	6.0	521.4	459.5	1.5	0.123
	8	7.0	574.7	512.8	1.5	0.108
	9	8.0	627.7	565.9	1.6	0.095
	10	9.0	677.5	615.6	1.6	0.086
	11	10.0	726.3	664.4	1.6	0.078
	12	12.0	838.5	776.6	1.7	0.066
	13	14.0	937.7	875.8	1.7	0.057
	14	16.0	1049.2	987.4	1.8	0.050
	15	18.0	1163.7	1101.8	1.8	0.045
	16	20.0	1283.8	1221.9	1.8	0.041
	17	22.0	1404.5	1342.6	1.8	0.037
	18	24.0	1518.3	1456.5	1.8	0.034
	19	26.0	1639.2	1577.4	1.8	0.032
	20	28.0	1748.8	1687.0	1.8	0.030
	21	30.0	1859.1	1797.2	1.9	0.028
	22	35.0	2100.1	2038.2	1.9	0.024
	23	40.0	2297.3	2235.4	1.9	0.021
	24	45.0	2427.6	2365.7	1.9	0.019
	25	50.0	2502.3	2440.4	1.9	0.017
	26	55.0	2548.3	2486.4	1.9	0.015
D	27	60.1	2571.5	2509.6	1.9	0.014
			SECOND FLOW			
E	1	0.0	103.7			
	2	10.0	143.2	39.5		
	3	20.0	151.5	8.3		
	4	30.0	169.0	17.5		
	5	40.0	186.3	17.3		
	6	50.0	203.6	17.3		
F	7	60.3	224.3	20.7		
			SECOND CLOSED-IN			
F	1	0.0	224.3			
	2	1.0	491.7	267.4	1.0	1.793
	3	2.0	696.9	472.6	2.0	1.499
	4	3.0	881.7	657.4	2.9	1.334

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			SECOND CLOSED-IN - CONTINUED			
	5	4.0	1032.4	808.1	3.8	1.215
	6	5.0	1175.6	951.3	4.6	1.131
	7	6.0	1324.9	1100.6	5.5	1.057
	8	7.0	1485.4	1261.1	6.3	0.993
	9	8.0	1593.0	1368.7	7.1	0.945
	10	9.0	1716.7	1492.4	7.9	0.898
	11	10.0	1826.7	1602.4	8.6	0.860
	12	12.0	2037.6	1813.3	10.1	0.792
	13	14.0	2231.7	2007.4	11.4	0.736
	14	16.0	2358.9	2134.6	12.7	0.689
	15	18.0	2453.9	2229.6	14.0	0.650
	16	20.0	2511.9	2287.6	15.1	0.614
	17	22.0	2552.4	2328.1	16.3	0.583
	18	24.0	2570.3	2346.0	17.3	0.556
	19	26.0	2581.0	2356.7	18.4	0.530
	20	28.0	2588.0	2363.7	19.3	0.508
	21	30.0	2591.8	2367.5	20.2	0.488
	22	35.0	2596.7	2372.4	22.4	0.444
	23	40.0	2598.3	2374.0	24.4	0.407
	24	45.0	2600.4	2376.1	26.1	0.377
	25	50.0	2600.8	2376.5	27.7	0.352
	26	55.0	2601.5	2377.2	29.2	0.329
	27	60.0	2601.5	2377.2	30.6	0.309
	28	70.0	2602.3	2378.0	33.0	0.276
	29	80.0	2603.4	2379.1	35.0	0.250
	30	90.0	2603.4	2379.1	36.8	0.228
	31	100.0	2603.4	2379.1	38.4	0.210
	32	110.0	2603.8	2379.5	39.8	0.195
	33	120.0	2603.8	2379.5	41.0	0.182
	34	150.0	2604.8	2380.5	44.0	0.151
	35	180.0	2605.8	2381.5	46.3	0.129
	36	210.0	2606.2	2381.9	48.0	0.113
	37	240.0	2607.0	2382.7	49.4	0.100
	38	270.0	2608.2	2383.9	50.6	0.090
G	39	299.6	2608.6	2384.3	51.6	0.082

REMARKS:

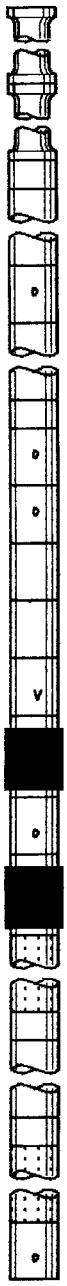
TICKET NO: 50942100	GAUGE NO: 198
CLOCK NO: 11654 HOUR: 24	DEPTH: 6758.0

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			FIRST FLOW			
B	1	0.0	105.9			
C	2	2.0	106.1	0.3		
			FIRST CLOSED-IN			
C	1	0.0	106.1			
	2	1.0	179.0	72.8	0.7	0.460
	3	2.0	246.0	139.9	1.0	0.301
	4	3.0	319.3	213.1	1.2	0.218
	5	4.0	380.7	274.6	1.3	0.175
	6	5.0	445.8	339.7	1.4	0.145
	7	6.0	508.4	402.3	1.5	0.123
	8	7.0	562.0	455.8	1.5	0.108
	9	8.0	613.3	507.2	1.6	0.096
	10	9.0	662.0	555.9	1.6	0.086
	11	10.0	715.8	609.7	1.6	0.078
	12	12.0	810.7	704.6	1.7	0.066
	13	14.0	910.6	804.5	1.7	0.057
	14	16.0	1011.3	905.2	1.8	0.050
	15	18.0	1119.5	1013.4	1.8	0.045
	16	20.0	1237.0	1130.9	1.8	0.041
	17	22.0	1361.6	1255.4	1.8	0.037
	18	24.0	1481.0	1374.9	1.8	0.034
	19	26.0	1605.3	1499.2	1.8	0.032
	20	28.0	1718.5	1612.3	1.8	0.030
	21	30.0	1834.9	1728.8	1.8	0.028
	22	35.0	2106.4	2000.3	1.9	0.024
	23	40.0	2328.4	2222.2	1.9	0.021
	24	45.0	2468.0	2361.9	1.9	0.019
	25	50.0	2550.1	2443.9	1.9	0.017
	26	55.0	2596.4	2490.3	1.9	0.015
D	27	60.1	2619.8	2513.6	1.9	0.014
			SECOND FLOW			
E	1	0.0	140.6			
	2	10.0	176.2	35.6		
	3	20.0	186.1	9.9		
	4	30.0	202.2	16.1		
	5	40.0	216.5	14.3		
	6	50.0	233.7	17.2		
F	7	60.3	252.8	19.1		
			SECOND CLOSED-IN			
F	1	0.0	252.8			
	2	1.0	419.6	166.8	1.0	1.795
	3	2.0	607.0	354.2	1.9	1.507
	4	3.0	770.0	517.2	2.9	1.339

REF		MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
			SECOND CLOSED-IN - CONTINUED			
	5	4.0	952.8	700.0	3.8	1.216
	6	5.0	1114.6	861.8	4.6	1.132
	7	6.0	1270.6	1017.8	5.5	1.058
	8	7.0	1438.8	1186.0	6.3	0.994
	9	8.0	1564.4	1311.6	7.1	0.942
	10	9.0	1705.9	1453.1	7.8	0.900
	11	10.0	1858.1	1605.3	8.6	0.859
	12	12.0	2076.5	1823.8	10.1	0.791
	13	14.0	2282.6	2029.8	11.5	0.735
	14	16.0	2414.0	2161.2	12.7	0.690
	15	18.0	2507.3	2254.5	13.9	0.650
	16	20.0	2569.7	2316.9	15.2	0.614
	17	22.0	2597.8	2345.1	16.2	0.584
	18	24.0	2615.1	2362.3	17.3	0.555
	19	26.0	2623.7	2370.9	18.4	0.531
	20	28.0	2629.8	2377.0	19.3	0.509
	21	30.0	2632.2	2379.4	20.3	0.488
	22	35.0	2636.8	2384.0	22.4	0.444
	23	40.0	2638.1	2385.3	24.4	0.408
	24	45.0	2639.4	2386.6	26.1	0.377
	25	50.0	2639.5	2386.8	27.7	0.351
	26	55.0	2639.8	2387.0	29.2	0.329
	27	60.0	2640.2	2387.4	30.6	0.309
	28	70.0	2640.7	2387.9	33.0	0.276
	29	80.0	2641.5	2388.7	35.0	0.250
	30	90.0	2642.1	2389.3	36.8	0.228
	31	100.0	2642.8	2390.1	38.4	0.210
	32	110.0	2642.8	2390.1	39.8	0.195
	33	120.0	2642.8	2390.1	41.0	0.182
	34	150.0	2643.8	2391.0	44.0	0.151
	35	180.0	2643.8	2391.0	46.3	0.129
	36	210.0	2645.0	2392.2	48.0	0.113
	37	240.0	2646.8	2394.0	49.4	0.100
	38	270.0	2647.3	2394.5	50.6	0.090
G	39	299.6	2648.0	2395.2	51.6	0.082

REMARKS:

TICKET NO. 50942100



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	5968.0	
4	FLEX WEIGHT	5.000	3.125	272.6	
5	CROSSOVER	7.000	2.038	2.8	
3	DRILL COLLARS	8.000	2.750	293.0	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	6537.0
3	DRILL COLLARS	8.000	2.750	88.2	
5	CROSSOVER	7.750	2.875	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	6.1	
60	HYDROSPRING TESTER	5.000	0.750	5.0	6638.0
80	AP RUNNING CASE	5.000	2.250	4.1	6640.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6654.7
18	DISTRIBUTOR VALVE	5.000	1.530	2.2	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6663.0
20	FLUSH JOINT ANCHOR	5.750	3.500	24.0	
5	CROSSOVER	6.000	2.813	0.8	
3	DRILL COLLARS	6.750		61.8	
5	CROSSOVER	5.938	2.563	0.9	
20	FLUSH JOINT ANCHOR	5.750	3.500	5.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	6758.0
	TOTAL DEPTH				6761.0

EQUIPMENT DATA

HALLIBURTON SERVICES

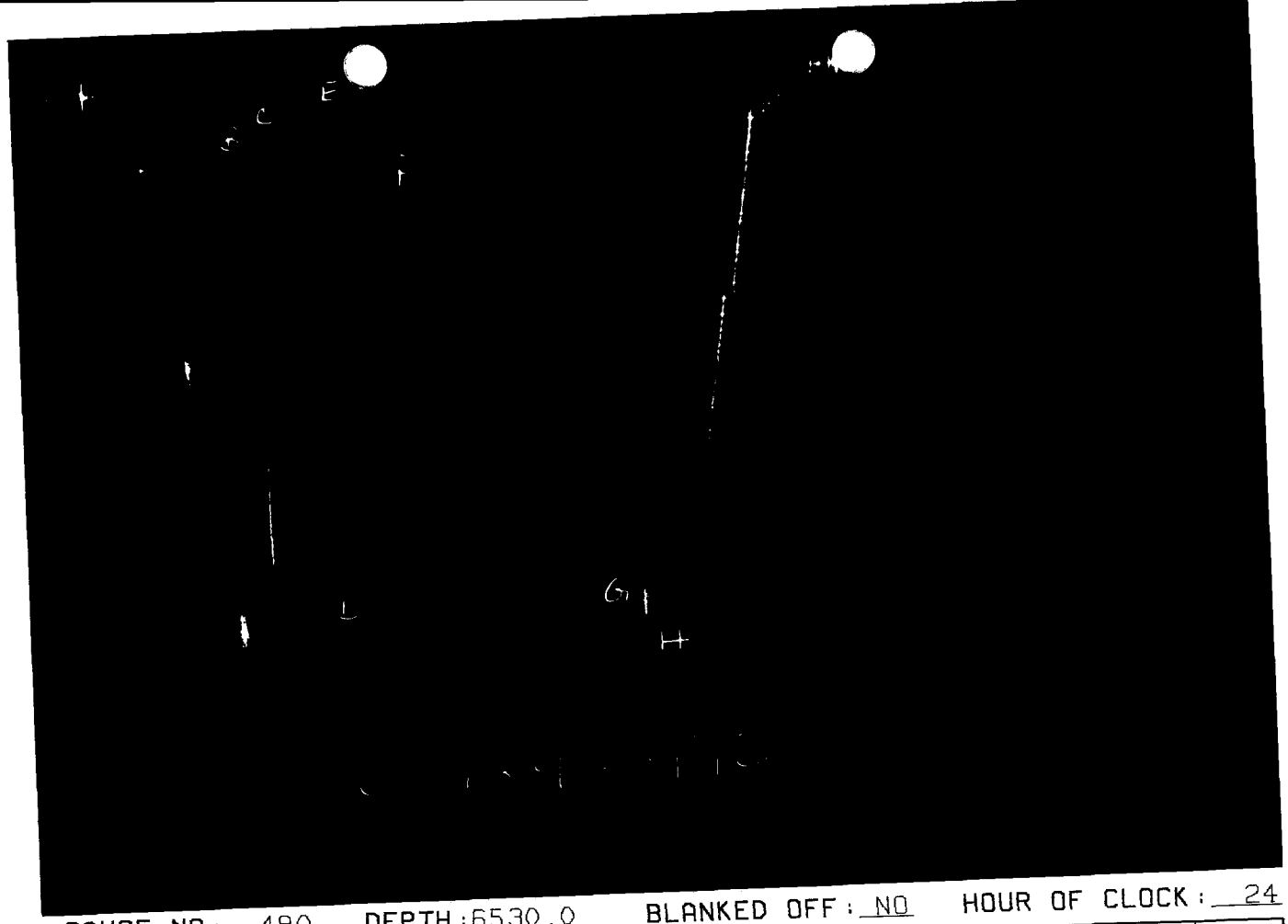
TICKET NO. 50978400

05-NOV-87

VERNAL

FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11 A2	TEST NO.: 2	TESTED INTERVAL: 6553.0 - 6620.0
LEGAL LOCATION SEC. - TWP. - RNG.: SEC. 11 - 1 S. - 2 W.	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH
LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION & PRODUCTION CO.			PF



GAUGE NO: 490 DEPTH: 6530.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE REPORTED	PRESSURE CALCULATED	TIME REPORTED	TIME CALCULATED	TYPE
A	INITIAL HYDROSTATIC	3032	3022.0			
B	INITIAL FIRST FLOW	133	210.1	2.0	1.3	F
C	FINAL FIRST FLOW	213	131.7			
C	INITIAL FIRST CLOSED-IN	213	131.7	60.0	61.2	C
D	FINAL FIRST CLOSED-IN	2925	2934.1			
E	INITIAL SECOND FLOW	120	112.0	87.0	86.0	F
F	FINAL SECOND FLOW	347	354.4			
F	INITIAL SECOND CLOSED-IN	347	354.4	300.0	300.5	C
G	FINAL SECOND CLOSED-IN	2965	2980.4			
H	FINAL HYDROSTATIC	3032	3022.0			

SC9184-198

GAUGE NO: 198 DEPTH: 6617.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC					
B	INITIAL FIRST FLOW			2.0		F
C	FINAL FIRST FLOW					
C	INITIAL FIRST CLOSED-IN			60.0		C
D	FINAL FIRST CLOSED-IN					
E	INITIAL SECOND FLOW			87.0		F
F	FINAL SECOND FLOW					
F	INITIAL SECOND CLOSED-IN			300.0		C
G	FINAL SECOND CLOSED-IN					
H	FINAL HYDROSTATIC					

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER GREEN RIVER
NET PAY (ft): 39.0
GROSS TESTED FOOTAGE: 67.0
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft):
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5759.0 G.L.
TOTAL DEPTH (ft): 6620.0
PACKER DEPTH(S) (ft): 6545, 6553
FINAL SURFACE CHOKE (in): 0.25000
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 8.70
MUD VISCOSITY (sec): 39
ESTIMATED HOLE TEMP. (°F):
ACTUAL HOLE TEMP. (°F): 118 @ 6616.0 ft

TICKET NUMBER: 50978400

DATE: 10-31-87 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: RANDY RIPPLE

WITNESS: WILL LUNA

DRILLING CONTRACTOR: LOFFLAND BROTHERS #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY			CHLORIDES
MUD PIT	2.900	@	68 °F	1181 ppm
TOP OF FLUID	1.500	@	68 °F	2400 ppm
BOTTOM OF FLUID	0.750	@	68 °F	4800 ppm
SAMPLE CHAMBER	0.550	@	68 °F	6600 ppm
		@	°F	ppm
		@	°F	ppm

SAMPLER DATA

Psig AT SURFACE: 340.0
cu.ft. OF GAS: 1.900
cc OF OIL:
cc OF WATER:
cc OF MUD: 400.0
TOTAL LIQUID cc: 400.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): @ °F
GAS/OIL RATIO (cu.ft. per bbl):
GAS GRAVITY:

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

445 FEET OF GAS CUT MUD

MEASURED FROM TESTER VALVE

REMARKS:

CHART FROM GAUGE #198 TOO FAINT TO PROCESS; NO READINGS AVAILABLE.....

TYPE & SIZE MEASURING DEVICE: LT-20 MANIFOLD					TICKET NO: 50978400
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
10-31-87					
0015					ON LOCATION - RIG CLEANING UP
					TIGHT SPOT.
0740					PICKED-UP TOOLS FOR DST #2
0900					RUN IN HOLE WITH TOOLS
1207	.125"				OPENED TOOL TO BOTTOM OF
					BUCKET INSTANTLY.
1209					CLOSED TOOL - 9# BUILD-UP IN
					30 SECONDS.
1309	.25"				REOPENED TOOL THROUGH 16/64"
					CHOKE.
1314	"	49	94		GAS TO SURFACE
1319	"	69	123		
1324	"	90	154		
1329	"	110	184		
1334	"	119	197		
1339	"	130	213		
1344	16/64"	142	231		
1349	"	150	243		
1353	"	150	243		
1359	"	155	250		
1404	"	170	272		
1409	"	175	280		
1419	"	186	296		
1429	"	193	306		
1436	"	202	319		CLOSED TOOL
1936					OPENED BYPASS
2400					LAID DOWN TOOLS
					READ CHARTS

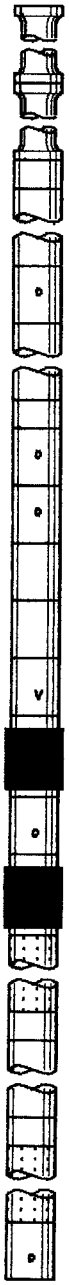
TICKET NO: 50978400	GAUGE NO: 490
CLOCK NO: 11654 HOUR: 24	DEPTH: 6530.0

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		FIRST FLOW			
B 1	0.0	210.1			
C 2	1.3	131.7	-78.4		
		FIRST CLOSED-IN			
C 1	0.0	131.7			
2	1.0	722.6	590.9	0.6	0.374
3	2.0	1147.2	1015.6	0.8	0.223
4	3.0	1449.7	1318.0	0.9	0.159
5	4.0	1707.8	1576.1	1.0	0.126
6	5.0	1971.8	1840.2	1.1	0.103
7	6.0	2247.1	2115.4	1.1	0.087
8	7.0	2463.9	2332.3	1.1	0.076
9	8.0	2583.3	2451.6	1.2	0.067
10	9.0	2684.0	2552.3	1.2	0.060
11	10.0	2764.0	2632.4	1.2	0.055
12	12.0	2827.9	2696.3	1.2	0.046
13	14.0	2861.9	2730.3	1.2	0.040
14	16.0	2884.1	2752.4	1.2	0.035
15	18.0	2894.9	2763.2	1.3	0.031
16	20.0	2903.8	2772.1	1.3	0.028
17	22.0	2909.0	2777.3	1.3	0.026
18	24.0	2912.9	2781.2	1.3	0.024
19	26.0	2916.6	2785.0	1.3	0.022
20	28.0	2919.8	2788.2	1.3	0.020
21	30.0	2922.0	2790.3	1.3	0.019
22	35.0	2926.1	2794.4	1.3	0.016
23	40.0	2928.9	2797.2	1.3	0.014
24	45.0	2930.9	2799.2	1.3	0.013
25	50.0	2932.4	2800.7	1.3	0.012
26	55.0	2933.7	2802.0	1.3	0.010
D 27	61.2	2934.1	2802.4	1.3	0.009
		SECOND FLOW			
E 1	0.0	112.0			
2	5.0	123.8	11.9		
3	10.0	152.5	28.7		
4	15.0	180.4	27.9		
5	20.0	209.8	29.5		
6	25.0	233.3	23.5		
7	30.0	252.9	19.6		
8	35.0	266.3	13.3		
9	40.0	279.3	13.1		
10	45.0	290.7	11.3		
11	50.0	300.5	9.9		
12	55.0	309.6	9.1		
13	60.0	318.7	9.1		
14	65.0	327.0	8.3		
15	70.0	335.2	8.3		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
		SECOND FLOW - CONTINUED			
16	75.0	341.5	6.3		
17	80.0	348.4	6.9		
F 18	86.0	354.4	6.0		
		SECOND CLOSED-IN			
F 1	0.0	354.4			
2	1.0	925.3	570.9	1.0	1.952
3	2.0	1282.8	928.4	2.0	1.650
4	3.0	1584.0	1229.6	2.9	1.480
5	4.0	1845.1	1490.7	3.8	1.358
6	5.0	2061.6	1707.2	4.7	1.267
7	6.0	2243.8	1889.3	5.6	1.189
8	7.0	2376.5	2022.1	6.4	1.132
9	8.0	2484.9	2130.5	7.3	1.077
10	9.0	2566.4	2212.0	8.2	1.029
11	10.0	2627.2	2272.8	9.0	0.988
12	12.0	2694.8	2340.4	10.6	0.917
13	14.0	2737.1	2382.7	12.1	0.860
14	16.0	2765.1	2410.7	13.5	0.811
15	18.0	2785.5	2431.1	14.9	0.767
16	20.0	2803.9	2449.5	16.3	0.729
17	22.0	2817.3	2462.8	17.6	0.696
18	24.0	2828.3	2473.9	18.8	0.667
19	26.0	2836.2	2481.8	20.0	0.640
20	28.0	2844.6	2490.2	21.2	0.614
21	30.0	2852.5	2498.1	22.4	0.592
22	35.0	2866.1	2511.7	25.0	0.544
23	40.0	2876.5	2522.1	27.4	0.503
24	45.0	2884.2	2529.8	29.7	0.468
25	50.0	2889.2	2534.7	31.8	0.439
26	55.0	2893.3	2538.9	33.8	0.413
27	60.0	2897.2	2542.7	35.6	0.390
28	70.0	2902.0	2547.5	38.9	0.352
29	80.0	2906.6	2552.2	41.8	0.321
30	90.0	2909.8	2555.4	44.3	0.295
31	100.0	2913.2	2558.7	46.6	0.273
32	110.0	2916.6	2562.2	48.7	0.254
33	120.0	2921.7	2567.3	50.5	0.238
34	135.0	2927.8	2573.4	53.0	0.217
35	150.0	2934.5	2580.1	55.2	0.199
36	165.0	2940.0	2585.6	57.1	0.185
37	180.0	2944.9	2590.5	58.8	0.172
38	195.0	2951.7	2597.3	60.3	0.161
39	210.0	2956.4	2602.0	61.7	0.151
40	225.0	2960.9	2606.5	62.9	0.142
41	240.0	2966.9	2612.5	64.0	0.135
42	260.0	2971.6	2617.2	65.4	0.126
43	280.0	2976.3	2621.8	66.6	0.118
G 44	300.5	2980.4	2626.0	67.7	0.111

REMARKS:

TICKET NO. 50978400



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276	5948.0	
4	FLEX WEIGHT	5.000	3.125	212.9	
5	CROSSOVER	7.000	2.938	2.8	
3	DRILL COLLARS	8.000	2.750	265.4	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	6427.0
3	DRILL COLLARS	8.000	2.750	88.2	
5	CROSSOVER	7.750	2.875	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	6528.0
80	AP RUNNING CASE	5.000	2.250	4.1	6530.0
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6545.0
18	DISTRIBUTOR VALVE	5.000	1.530	2.2	
70	OPEN HOLE PACKER	9.000	1.530	5.9	6553.0
20	FLUSH JOINT ANCHOR	5.750	3.500	23.0	
5	CROSSOVER	6.000	2.813	0.8	
3	DRILL COLLARS	6.750	2.750	31.1	
5	CROSSOVER	5.938	2.563	0.9	
20	FLUSH JOINT ANCHOR	5.750	3.500	5.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	6617.0
	TOTAL DEPTH				6620.0

EQUIPMENT DATA

HALLIBURTON SERVICES

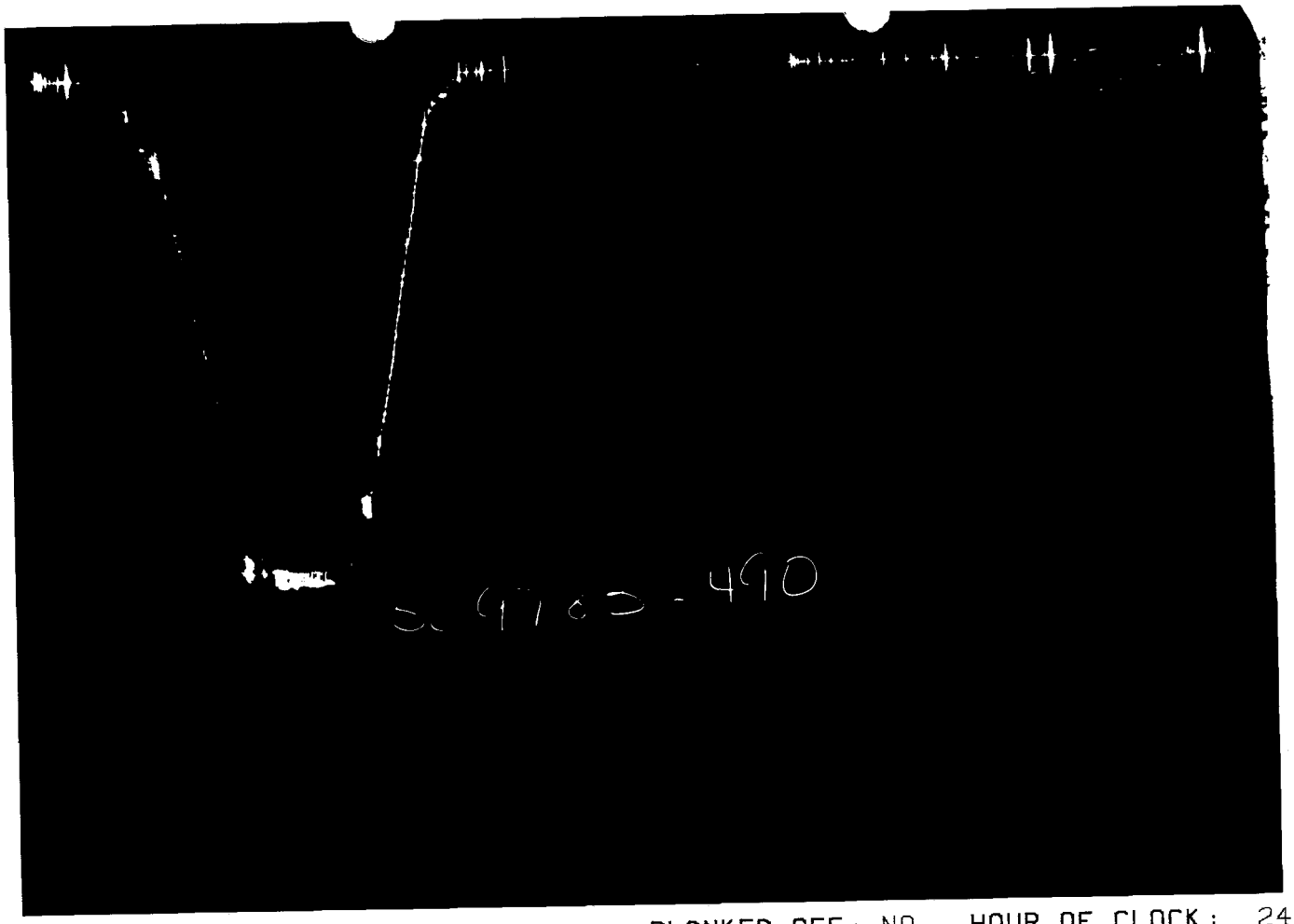
TICKET NO. 50978300

06-NOV-87

VERNAL

FORMATION TESTING SERVICE REPORT

LEASE NAME: BOREN	WELL NO.: 3-11 - A 2	TEST NO.: 1	LEASE OWNER/COMPANY NAME: PENNZOIL EXPLORATION & PRODUCTION CO.
LEGAL LOCATION SEC. - TWP. - RNG.: SEC. 11 - 1 S - 2 W	FIELD AREA: BLUE BELL	COUNTY: DUCHESNE	STATE: UTAH
TESTED INTERVAL:			PF



GAUGE NO: 490 DEPTH: _____ BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

509783-198

GAUGE NO: 198 DEPTH: _____ BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	FAILED TO REACH BOTTOM					

R Firth FYI & file

UINTAH BASIN DISTRICT HEALTH DEPARTMENT

Reply To:
Uintah County Courthouse, Vernal, UT 84078 - (801) 781-0770 ☐
Duchesne County Courthouse, Box 210, Duchesne, UT 84021 - (801) 738-5370 ☐
Daggett County Courthouse, Box 156, Manila, UT 84046 - (801) 784-3494 ☐
Roosevelt Branch Office, 57 No. 100 East (83-7), Roosevelt, UT 84066 - (801) 722-5085 ☐

Joseph B. Shaffer, M.A.
Director
Health Officer

Norma Nawahine, R.N.
Nursing Supervisor

Lowell Card, R.S.
Environmental Health Supervisor

Katherine Gardiner
Office Manager

Board of Health Members

LaRae Sadlier
Lee Nelson
Jim Reidhead
Ellen Rawlings
Kay Campbell
Keith Goodspeed
Richard Jolley, D.D.S.
Wm. T. Durant, M.D.
Gary Wold, M.D.

110405

TO: Loffland Bros Co.
Box 3000
Casper, WYO 82602

RE: Drilling for Pennzoil
Boren 3-11A2 43-013-31190

DATE OF INSPECTION: October 21, 1987

Dear Sirs:

This letter is to verify a wastewater inspection made at the above mentioned site and date. An inspection report is enclosed. This letter constitutes approval of the wastewater facilities as constructed and operating at the time of the inspection.

We appreciate your cooperation in designing and maintaining facilities in the interest of public health.

Sincerely,

Ed Riege R.S.

Ed Riege R.S.
Environmental Health Specialist

RECEIVED
OCT 29 1987
DIVISION OF
OIL, GAS & MINING

EQUIPMENT & HOLE DATA

FORMATION TESTED: _____
NET PAY (ft): 35.0
GROSS TESTED FOOTAGE: _____
ALL DEPTHS MEASURED FROM: KB
CASING PERFS. (ft): _____
HOLE OR CASING SIZE (in): 9.875
ELEVATION (ft): 5759.0
TOTAL DEPTH (ft): 6620.0
PACKER DEPTH(S) (ft): _____
FINAL SURFACE CHOKE (in): _____
BOTTOM HOLE CHOKE (in): 0.750
MUD WEIGHT (lb/gal): 8.70
MUD VISCOSITY (sec): _____
ESTIMATED HOLE TEMP. (°F): _____
ACTUAL HOLE TEMP. (°F): ____ @ _____ ft

TICKET NUMBER: 50978300

DATE: 10-30-87 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: VERNAL

TESTER: RANDY RIPPLE

WITNESS: PETE HAGIST

DRILLING CONTRACTOR: LOFFLAND BROTHERS DRILLING #60

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Psig AT SURFACE: _____
cu.ft. OF GAS: _____
cc OF OIL: _____
cc OF WATER: _____
cc OF MUD: _____
TOTAL LIQUID cc: _____

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ ____ °F
GAS/OIL RATIO (cu.ft. per bbl): _____
GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT

RECOVERED:

MEASURED FROM TESTER VALVE

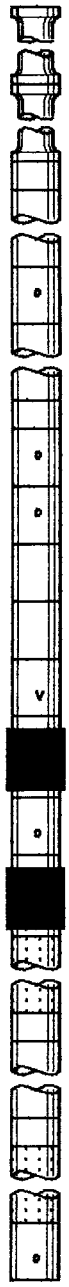
REMARKS:

HIT BRIDGE - COULDN'T GET THROUGH - PULLED TOOLS OUT AND CONDITIONED HOLE -

- ATTEMPTING TO TEST FROM 6553' - 6620' -

TYPE & SIZE MEASURING DEVICE: LT-20 MANIFOLD					TICKET NO: 50978300
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
10-30-87					
2220					ON LOCATION
10-31-87					
0035					PICKED-UP TOOLS FOR DST #1
0234					RUN IN HOLE WITH TOOLS
0530					HIT BRIDGE AND WORKED TOOLS
					THROUGH.
0609					HIT BRIDGE - COULDN'T GET
					THROUGH.
0800					PULLED OUT OF HOLE
					LAID TOOLS DOWN ON CATWALK
1110					CONDITIONED HOLE - JOB COMPLETED

TICKET NO. 50978300



		O.D.	I.D.	LENGTH	DEPTH
1	DRILL PIPE	5.000	4.276		
4	FLEX WEIGHT	5.000		212.9	
5	CROSSOVER	7.000	2.938	2.8	
3	DRILL COLLARS	8.000	2.750	265.4	
50	IMPACT REVERSING SUB	7.750	2.813	1.2	
3	DRILL COLLARS	8.000	2.750	88.2	
5	CROSSOVER	7.500	2.875	0.8	
13	DUAL CIP SAMPLER	5.000	0.750	7.0	
60	HYDROSPRING TESTER	5.000	0.750	5.0	
80	AP RUNNING CASE	5.000	2.250	4.1	
15	JAR	5.000	1.750	5.0	
16	VR SAFETY JOINT	5.000	1.000	2.8	
70	OPEN HOLE PACKER	9.000	1.530	5.9	
18	DISTRIBUTOR VALVE	5.000	1.530	2.2	
70	OPEN HOLE PACKER	9.000	1.530	5.9	
20	FLUSH JOINT ANCHOR	5.750	3.500	23.0	
5	CROSSOVER	7.500	3.250	0.8	
3	DRILL COLLARS	8.000	3.000	31.9	
5	CROSSOVER	7.750	2.500	0.8	
20	FLUSH JOINT ANCHOR	5.750	3.500	5.0	
81	BLANKED-OFF RUNNING CASE	5.750		4.1	
	TOTAL DEPTH				6620.0

EQUIPMENT DATA

DOUBLE JACK TESTING & SERVICES, INC.

Orl.
43-013-31192

B.O.P. TEST REPORT

011103

B.O.P. Test performed on (date) 11/11/88

Oil Company Inexco

Well Name & Number Ute 3-11-B2

Section 11

Township 1S

Range 2W

County Duchesne

Drilling Contractor Leland Bros #6

Oil Company Site Representative [illegible]

Rig Tool Pusher [illegible]

Tested out of Vernal

Notified Prior to Test [illegible]

Copies of this test report sent to: Inexco
Leland Bros
Ute

Original chart & test report on file at: Vernal office

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5039

DATE 11/11/1[illegible]

RIG NAME AND # Loffland Bros #60

OPERATOR [illegible]

WELL NAME AND NO. Bowen 3-11 A2

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Duchesne	Utah	11	1S	2W

EQUIPMENT TESTED

(Top) Blind	RAMS	2700 psi	15 min OK
upper Pipe 5"	RAMS	2700 psi	15 min OK
Lower Pipe 5"	RAMS	2700 psi	15 min OK
13 3/8 5000	ANNULAR B.O.P.	2,000 psi	15 min OK
	CHOKE LINE	2700 psi	15 min OK
	KILL LINE	2700 psi	15 min OK
	UPPER KELLY	2700 psi	15 min OK
	LOWER KELLY	2700 psi	15 min OK
Tiw + Dart	SAFETY VALVES	2700 psi	15 min OK

ADDITIONAL TESTS & COMMENTS

Surface Casing Gauge Read 2700 @ 2700 psi
Lower Kelly Valve. Had to work several times to be very loose

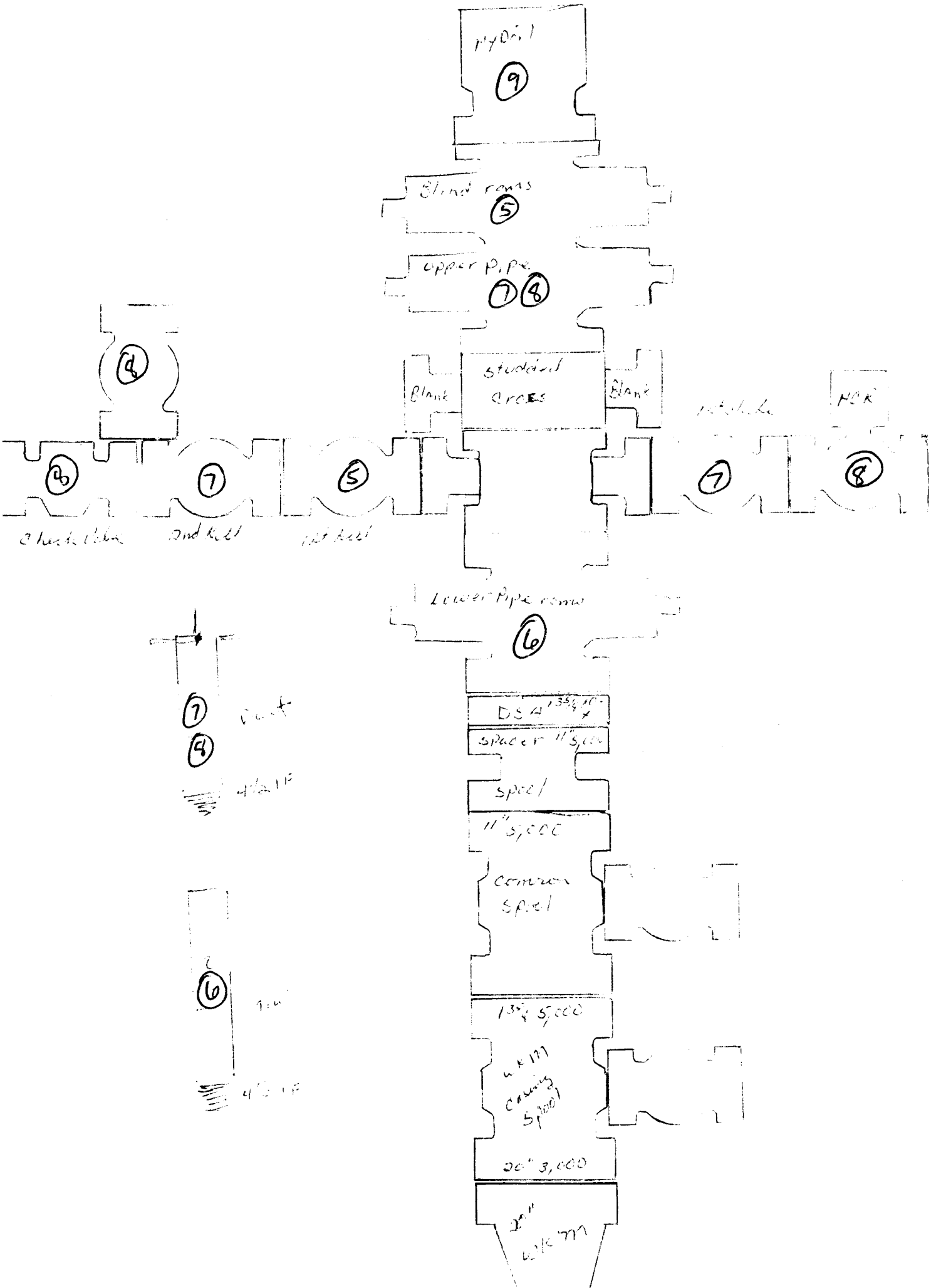
CLOSING UNIT PSI 3000 CLOSING TIME OF RAMS 7 sec HYDRIL 16 sec

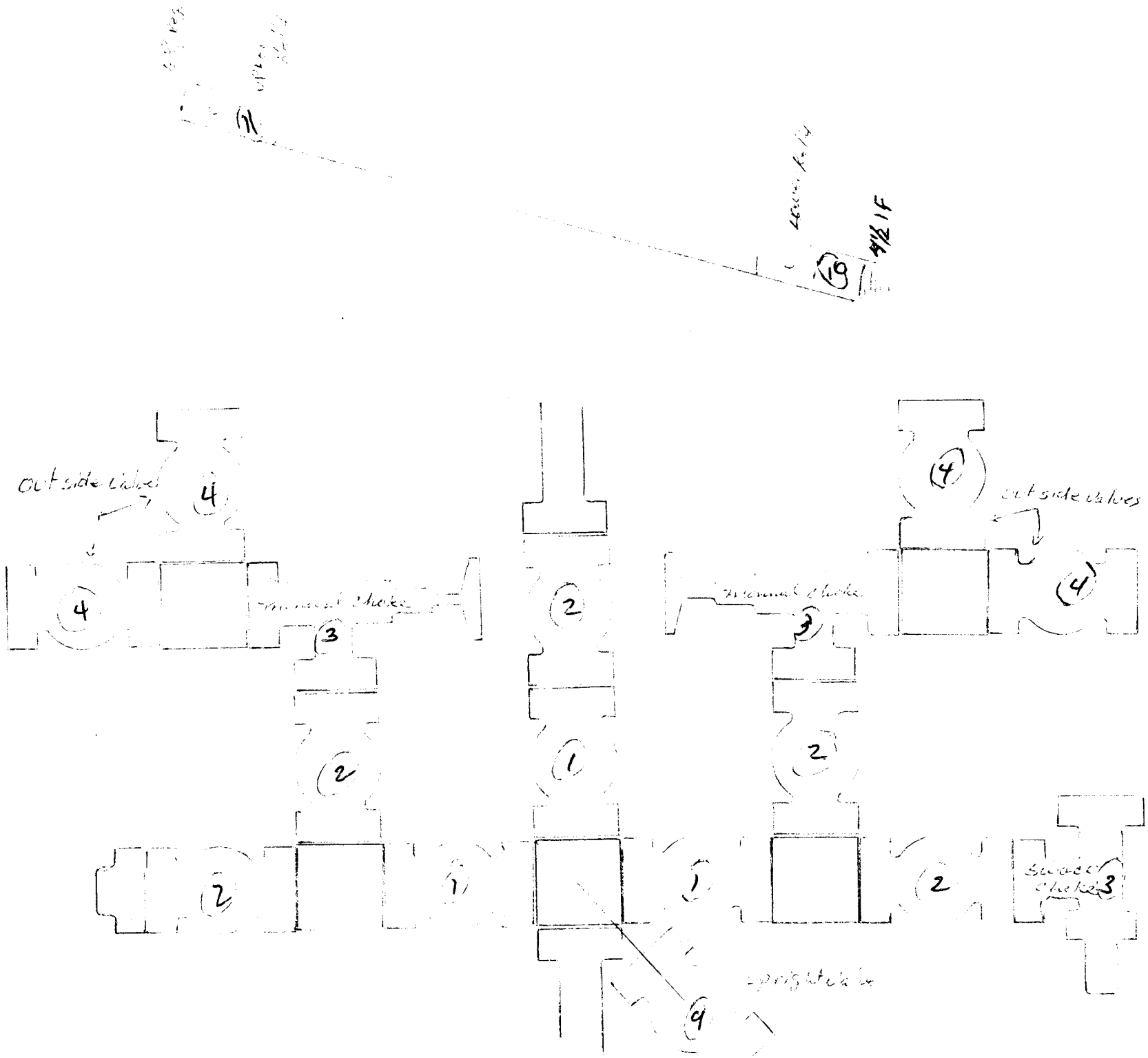
CLOSED CASING HEAD VALVE yes SET WEAR RING yes

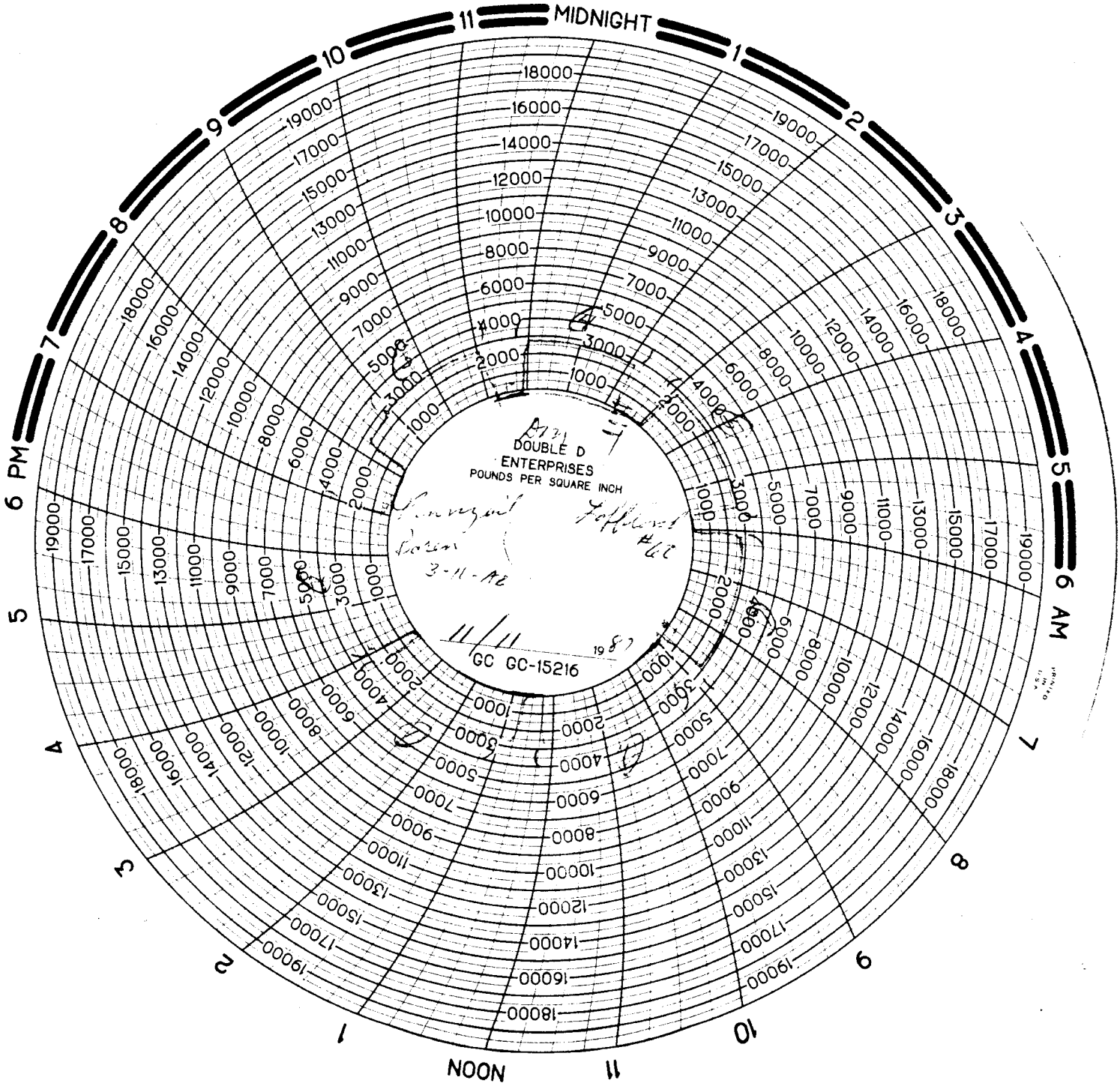
RATES [illegible] $[illegible]

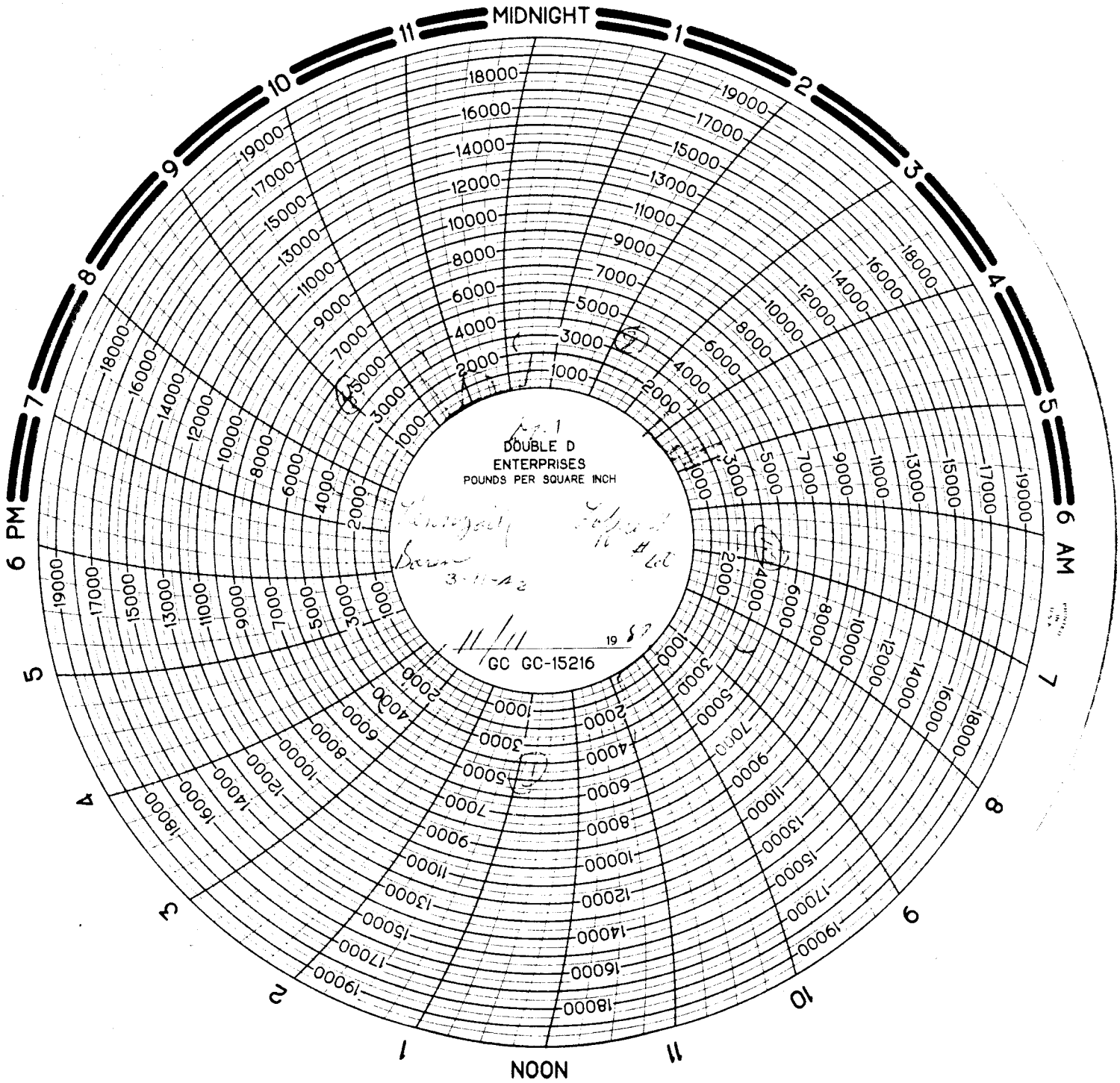
COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND NAME
Amoco	Baker 3-11-A2	11/11/87	Jaffland Bros #60

#	TIME	
		Arrive @ 5:00 pm - 11/11/87 - Rig Program Down - Contacts
		Rig up on Choke Manifold to Start Testing
	pm	1st set Choke Manifold Valves + HCR
	5:15 - 5:30	2700 psi 15 min - OK
		2nd set Choke Manifold Valves + HCR
	5:35 - 5:50	2700 psi 15 min - OK
		Lower Hydraulic Choke + Both Manual Chokes + HCR
	5:55 - 6:10	2700 psi 15 min
		Lower Man. Manual Choke + HCR
	6:17 - 6:32	2700 psi 15 min - OK
		W/L Rig Log Down Lower Kelly - Pull Wear Ring + wash
		Out Equip. - Set Plug + Fill Stack - Close Blinds
5		Blind Rams (Top) + 1st Kill Valve Down
	7:45 - 8:00	2700 psi 15 min - OK
		Run in Test Equip. with Tree + Dart + Test Sub
		Sting into plug
6		Lower Pipe Rams 5" + Tree Flow Valve
	8:20 - 8:35	2700 psi 15 min - OK
7		Upper Pipe Rams 5" + Dart Valve + 2nd Kill + 1st Choke Line Valves
	8:40 - 8:55	2700 psi 15 min - OK
8		Upper Pipe Rams + Check Valve + HCR + Dart Valve
	9:00 - 9:15	2700 psi 15 min
9		Hydril + upright valve on Choke Manifold
	9:40 - 9:55	2000 psi 15 min
		Pull plug + Set wear Sleeve - Break Down Tools + Stand
		by Down Drill pipe + P.U. Kelly
		Lower Kelly Valve
10	10:45 - 11:00	2700 psi 15 min - OK
11		Upper Kelly Valve
	11:10 - 11:25	2700 psi 15 min - OK
		Closed inner Bop Valves + [illegible]
		Bleed Choke Line + Manifold
		Thank You


Hydril
9
Blind rams
5
Upper Pipe
7 8
8
Blank
Standard cross
Blank
HCR
8
7
5
7
8
Lower Pipe rams
6
DSA 13 3/4 10M
Spacer 11" 5,000
Spool
11" 5,000
Common Spool
13 3/4 5,000
20" 3,000
7
8
6


11
10
4½ 1F
outside valves
4
4
minimal choke
3
2
2
1
2
1
1
9
minimal choke
3
4
4
outside valves
2
2
Swaco choke
3
straight choke


MIDNIGHT
NOON
6 AM
6 PM
DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216


MIDNIGHT
NOON
6 AM
6 PM
DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216

DOUBLE JACK TESTING & SERVICES, INC.

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 10/23/87

Oil Company Quinzoil

Well Name & Number Boren 3-11-A2

Section 11

Township 1-S

Range 2-W

County Duchesne

Drilling Contractor Loffland #60

Oil Company Site Representative

Rig Tool Pusher

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Quinzoil
Loffland
State

Original chart & test report on file at:

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

NOV 5 1987

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5457

DATE 10/23/87

RIG NAME AND # Lafflad Bros #60

OPERATOR Pennzoil

WELL NAME AND NO. Lorenz 3-11-12

COUNTY Duchesne | STATE Utah | SECTION 11 | TOWNSHIP 1S | RANGE 2W

EQUIPMENT TESTED

Blind (top)	RAMS	2700 psi	15 min - ok
Pipe 5"	RAMS	2700 psi	15 min - ok
Pipe 5"	RAMS	2700 psi	15 min - ok
13 3/8 5000	ANNULAR B.O.P.	2700 psi	15 min ok
	CHOKE LINE	2700 psi	15 min - ok
	KILL LINE	2700 psi	15 min - ok
	UPPER KELLY	2700 psi	15 min - ok
	LOWER KELLY	2700 psi	15 min - ok
Dart + Tiw	SAFETY VALVES	2700 psi	15 min ok

NOV 5 1987

ADDITIONAL TESTS & COMMENTS

Swaco Super Choke (Hydraulic) - 2700 psi 15 min - ok

CLOSING UNIT PSI 2900 CLOSING TIME OF RAMS 7 sec HYDRIL 15 sec

CLOSED CASING HEAD VALVE yes SET WEAR RING yes

RATES

UNIT RATES	Bop test up to 10,000 psi (First 8 Hrs	
ADDITIONAL		
MILEAGE	round trip out of Vernal 80 miles	
TEST PLUG	10" Common	
RET. TOOL	4-5 x 4 1/2 IF - on location	
TOP SUB.	4 1/2 IF	
KELLY SUB.	4 1/2 IF	
X-OVER SUB.	4 1/2 IF x 4 1/2 x 10 pin	
METHENAL		
OTHER		
	SUBTOTAL	
	TAX	
	TOTAL	

TESTED BY Don Morris

SIGNATURE Gene R McCartney

COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Baren 3-11-A2	10/23/87	Loffland #60

ST#	TIME	
		Arrive @ 2:00 Am 10-22-87
		Rig up to test @ 11:00 pm
1	11-35 Pm	First set choke manifold valves. HCR. Have to work HCR
	11:50 10-22	2700 For 15 min OK
2	12:00 Am	Second set of valves on manifold + HCR
	12:15 10-23	2700 psi For 15 min OK
3	12:25	Manual chokes + Swaco Super choke.
	12:40	2700 psi For 15 min OK. (Rig up Floor valves Set plug)
4	12:45	Valves Past manual chokes
	1:00	2700 psi For 15 min OK
5	2:00	Blind rams, First Kill line valve.
	2:15	2700 psi For 15 min OK
6	2:30	Lower pipes, TIW Safty valve.
	2:45	2700 psi For 15 min OK
7	2:50	Upper pipes Second Kill + First choke line valves.
	3:05	2700 psi for 15 min OK
8	3:15	Upper pipes, check valve, HCR + Dart Safty valve
	3:30	2700 psi For 15 min OK
9	3:50	Hydrill, + up right on choke manifold + Dart Safty valve.
	4:05	2700 psi For 15 min. OK (pull plug, pick up Kelly)
10	5:05	Lower Kelly valve.
	5:20	2700 psi for 15 min OK
11	5:25	Upper Kelly valve
	5:40	2700 psi for 15 min OK

Thank You For Your Business

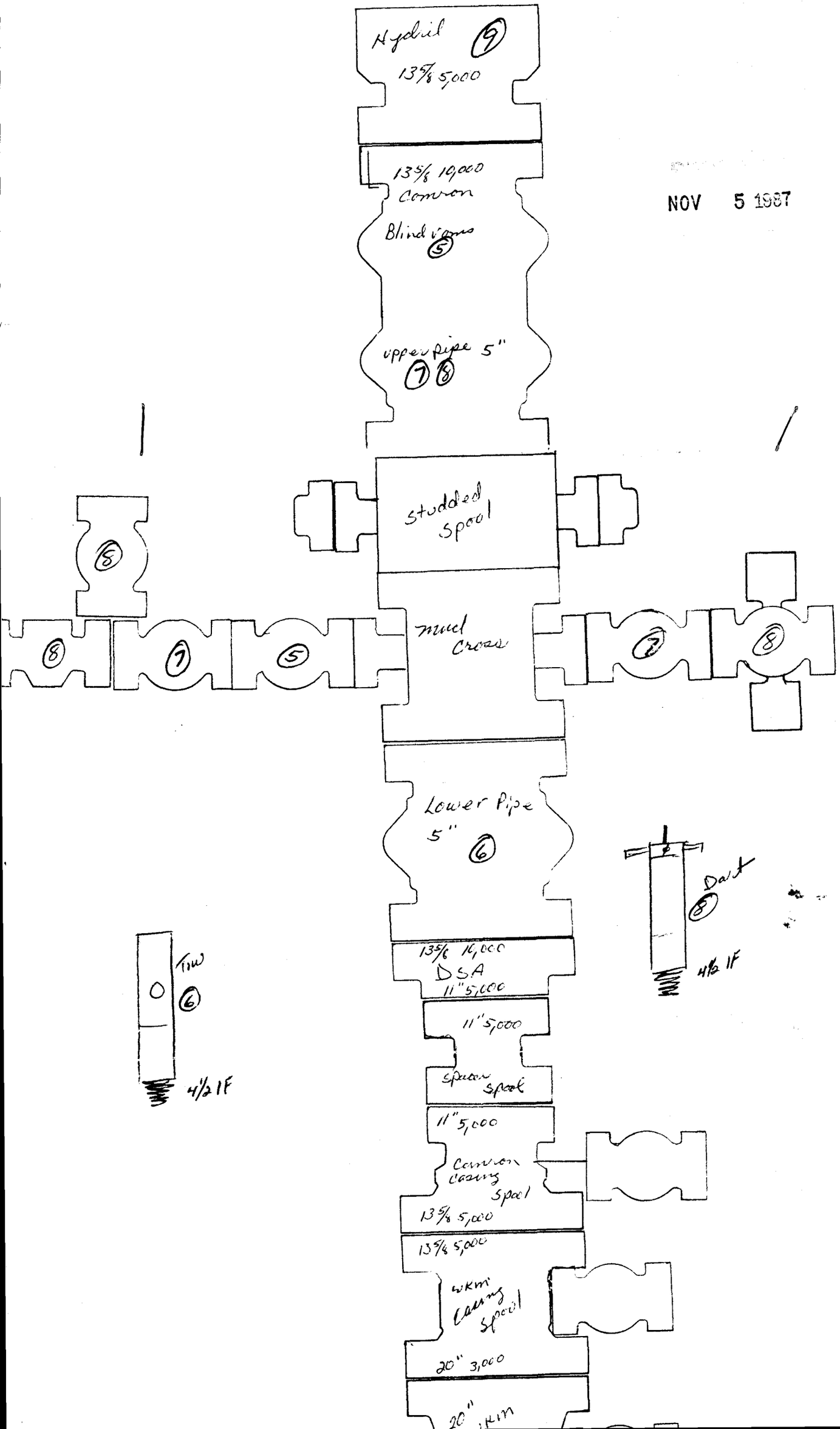
Double Jack Testing & Services

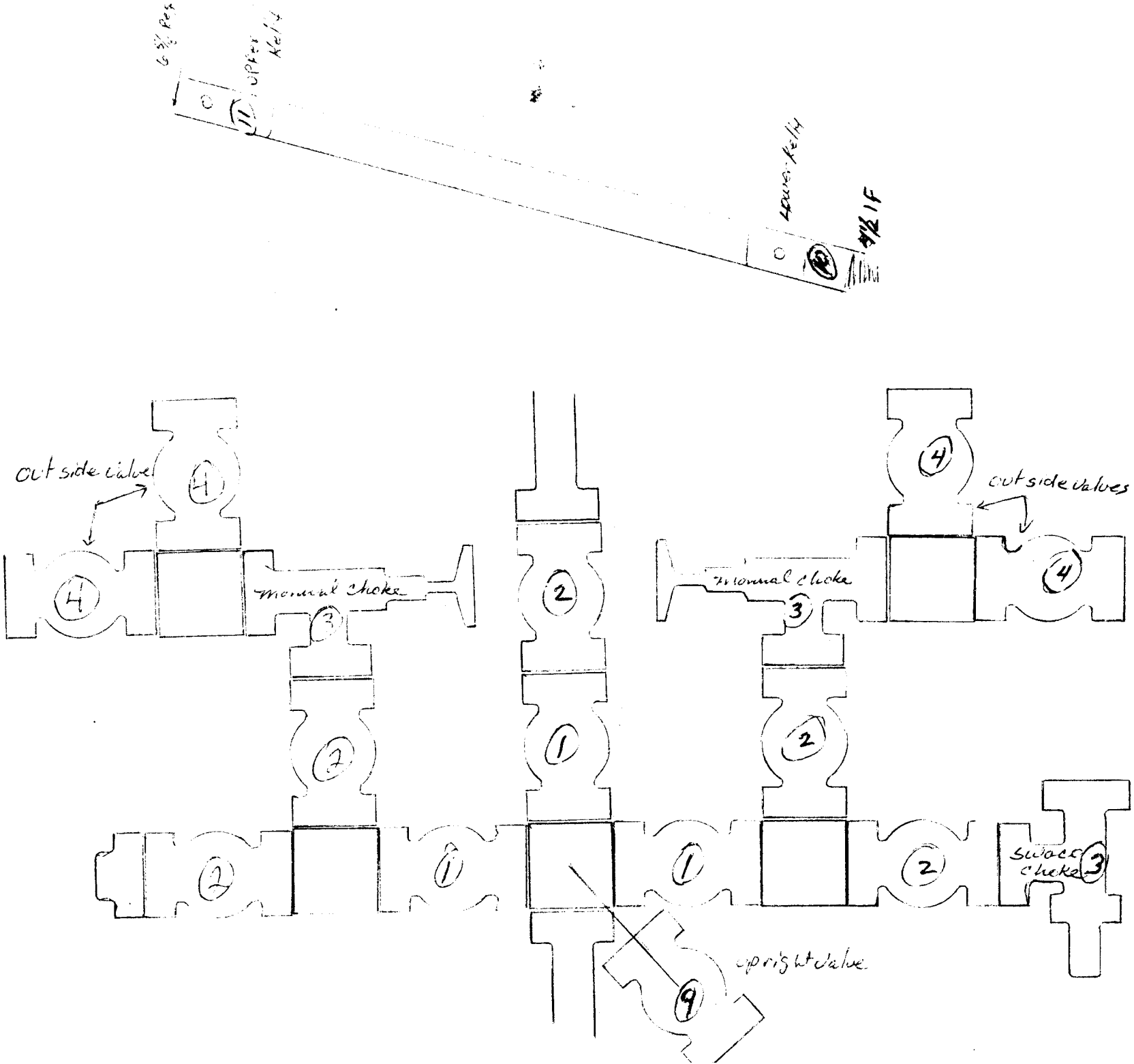
NOV 5 1987

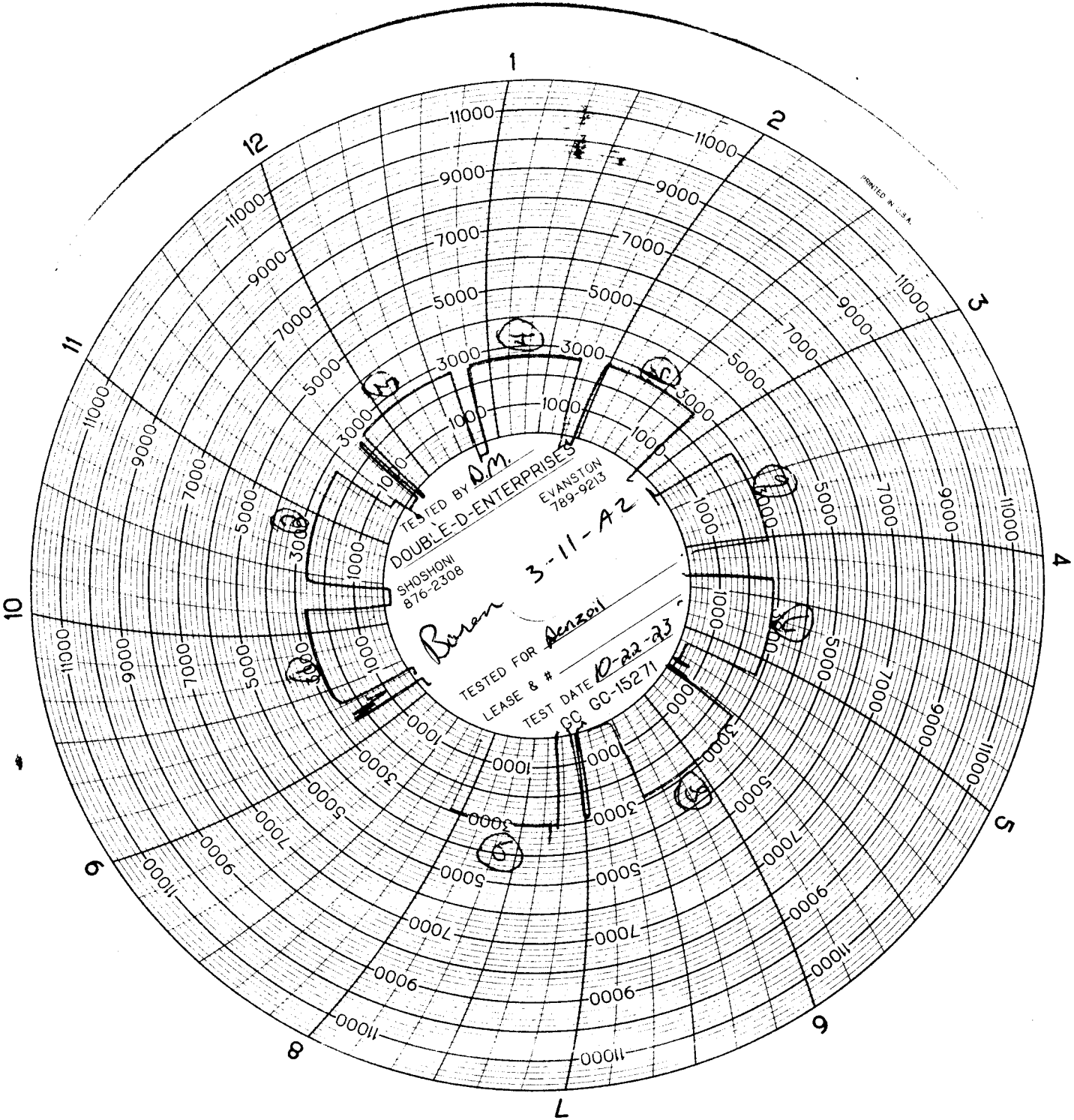
Don Morris

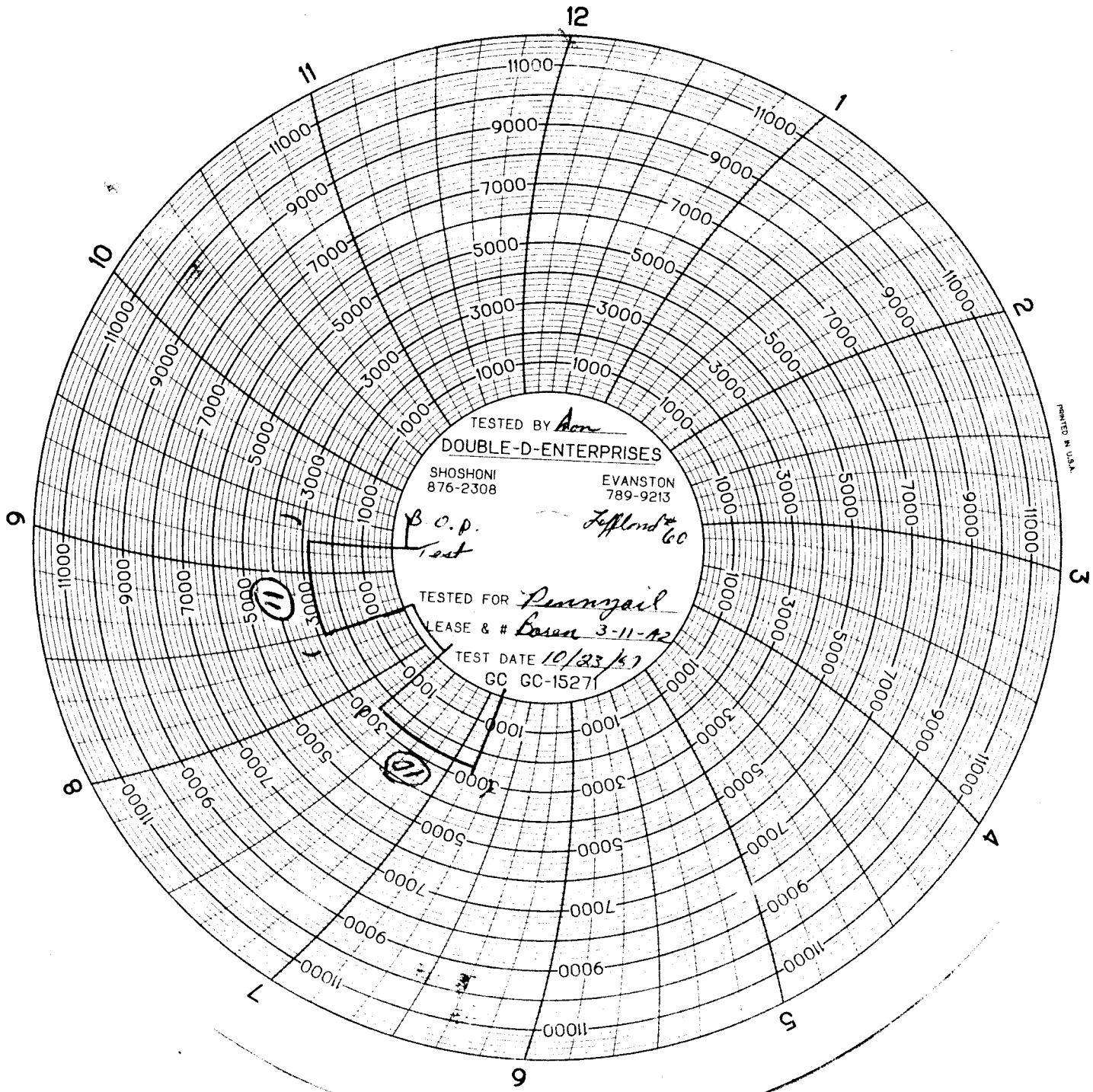
Dm/km

NOV 5 1987


Hydril 9
13 5/8 5,000
13 5/8 10,000
Cameron
Blind rams 5
upper pipe 5"
7 8
studded spool
8
8
7
5
mud Cross
7
8
Lower Pipe
5" 6
Dart
8
4 1/2 IF
TIW
6
4 1/2 IF
13 5/8 10,000
DSA
11" 5,000
11" 5,000
Spacer spool
11" 5,000
Cameron
Casing
Spool
13 5/8 5,000
13 5/8 5,000
WKM
Casing
Spool
20" 3,000
20" WKM


6 3/4 Reg
upper Kelly
11
lower Kelly
12
1F
outside valve
4
4
normal choke
3
2
1
2
1
1
2
4
outside valves
4
normal choke
3
2
2
swacco choke
3
upright valve
9


TESTED BY D.M.
DOUBLE-D-ENTERPRISES
SHOSHONI
876-2308
EVANSTON
789-9213
Baron 3-11-A2
TESTED FOR Penzoil
LEASE & # GC GC-15271
TEST DATE 10-22-23
PRINTED IN U.S.A.


TESTED BY Acm
DOUBLE-D-ENTERPRISES
SHOSHONI
876-2308
EVANSTON
789-9213
B.O.P.
Test
Lafflond #60
TESTED FOR Pennzoil
LEASE & # Boren 3-11-12
TEST DATE 10/23/87
GC GC-15271
11
10
PRINTED IN U.S.A.

110601

DOUBLE JACK TESTING & SERVICES, INC.

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 10/23/87 Orl.

Oil Company Pennzoil

Well Name & Number Baron 3-11-42 API 4301331192

Section 11

Township 1S

Range 2W

County Duchesne Utah

Drilling Contractor Loffland Bros Daly Co #60

Oil Company Site Representative Paul Deaton

Rig Tool Pusher Gene McCarty

Tested out of Vernal

Notified Prior to Test State

Copies of this test report sent to: Pennzoil
Lafflend #60
State

Original chart & test report on file at: Vernal

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

NOV 5 1987

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5458

DATE 10/23/87

RIG NAME AND # Leffland Bros - #60

OPERATOR Pennzoil

WELL NAME AND NO. Roberts 3-11-A2

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Duchesne	Utah	11	1-S	2 W

EQUIPMENT TESTED

RAMS

RAMS

RAMS

ANNULAR B.O.P.

CHOKE LINE

KILL LINE

UPPER KELLY

LOWER KELLY

SAFETY VALVES

NOV 5 1987

ADDITIONAL TESTS & COMMENTS

Test 10 3/4 K-55 45.50 Casing set @ 4560' to 2700 psi Held 30 min OK
Casing Shoe test @ 4575' increase in 100 psi increments to 13.0 ppg - Equivalent mud wt
@ 4182 psi - increase to leak off in 50 psi increments Stop @ 2700 psi
Held 2700 psi on formation 15 min - no leak

CLOSING UNIT PSI _____ CLOSING TIME OF RAMS _____ HYDRIL _____

CLOSED CASING HEAD VALVE _____ SET WEAR RING _____

RATES

UNIT RATES High Press + High Volume pumptruck services

ADDITIONAL

MILEAGE Round trip out of Vernal Utah 80 miles @ 1.00 per

TEST PLUG

RET. TOOL

TOP SUB.

KELLY SUB.

X-OVER SUB.

METHENAL 25 gal in test water to prevent freeze up @ 2.00 per

OTHER

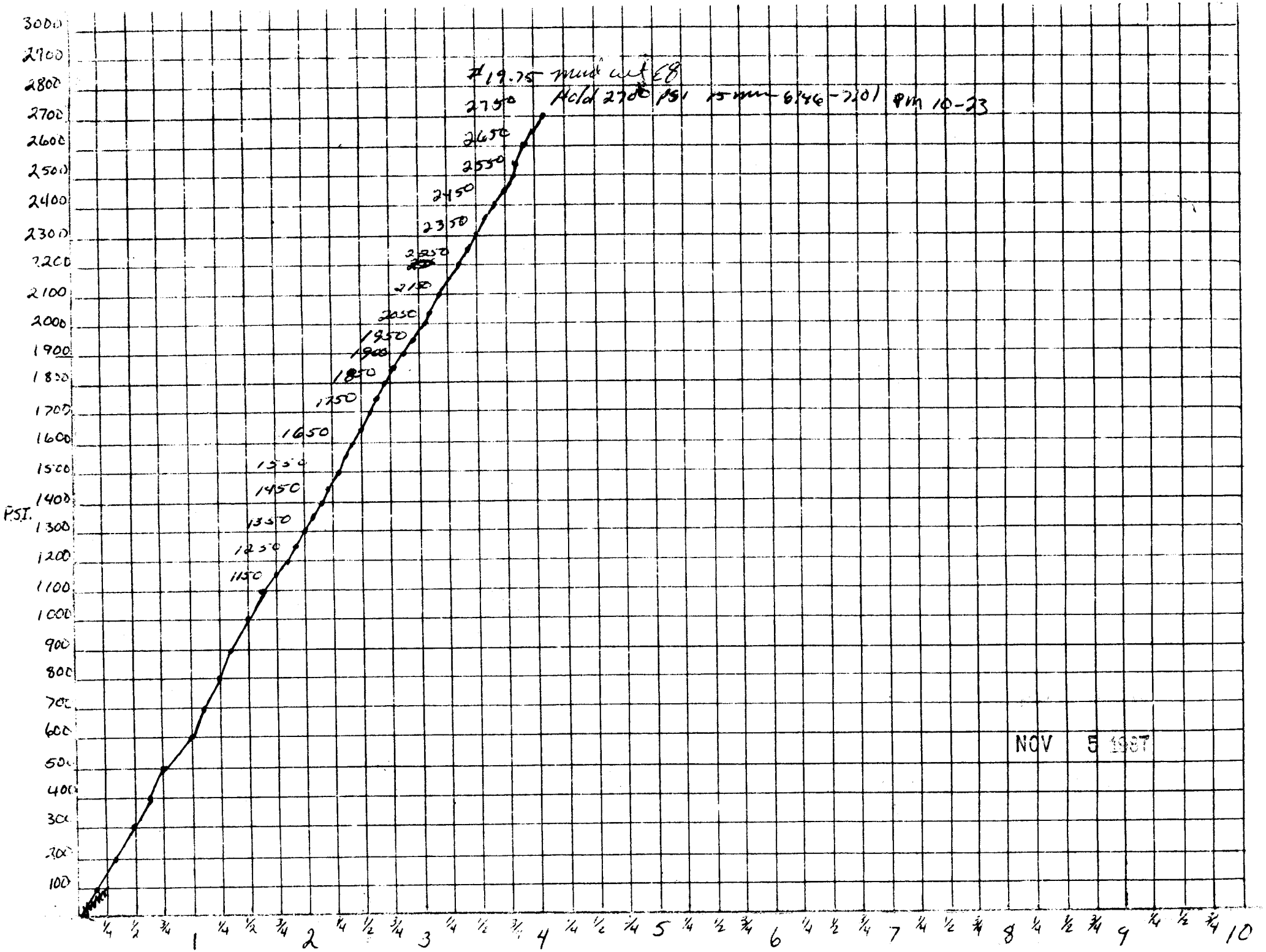
TESTED BY Don Morris

SIGNATURE Don Morris

SUBTOTAL

TA

TOTA


#19.75 mud wt E8
Hold 2700 PSI 15 min 6:46-7:01 PM 10-23
P.S.I.
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
2750
2650
2550
2450
2350
2250
2150
2050
1950
1900
1850
1750
1650
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2
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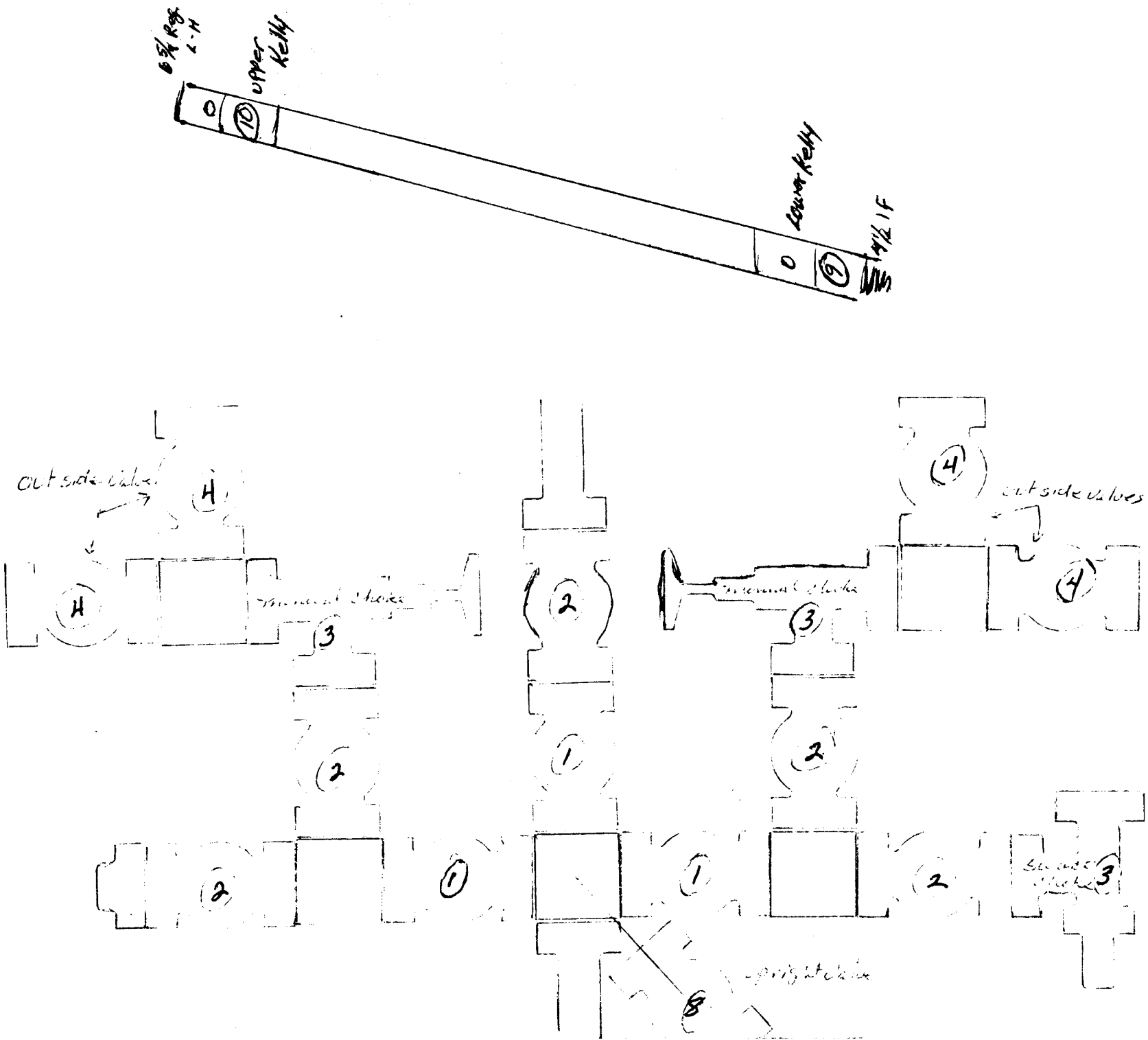
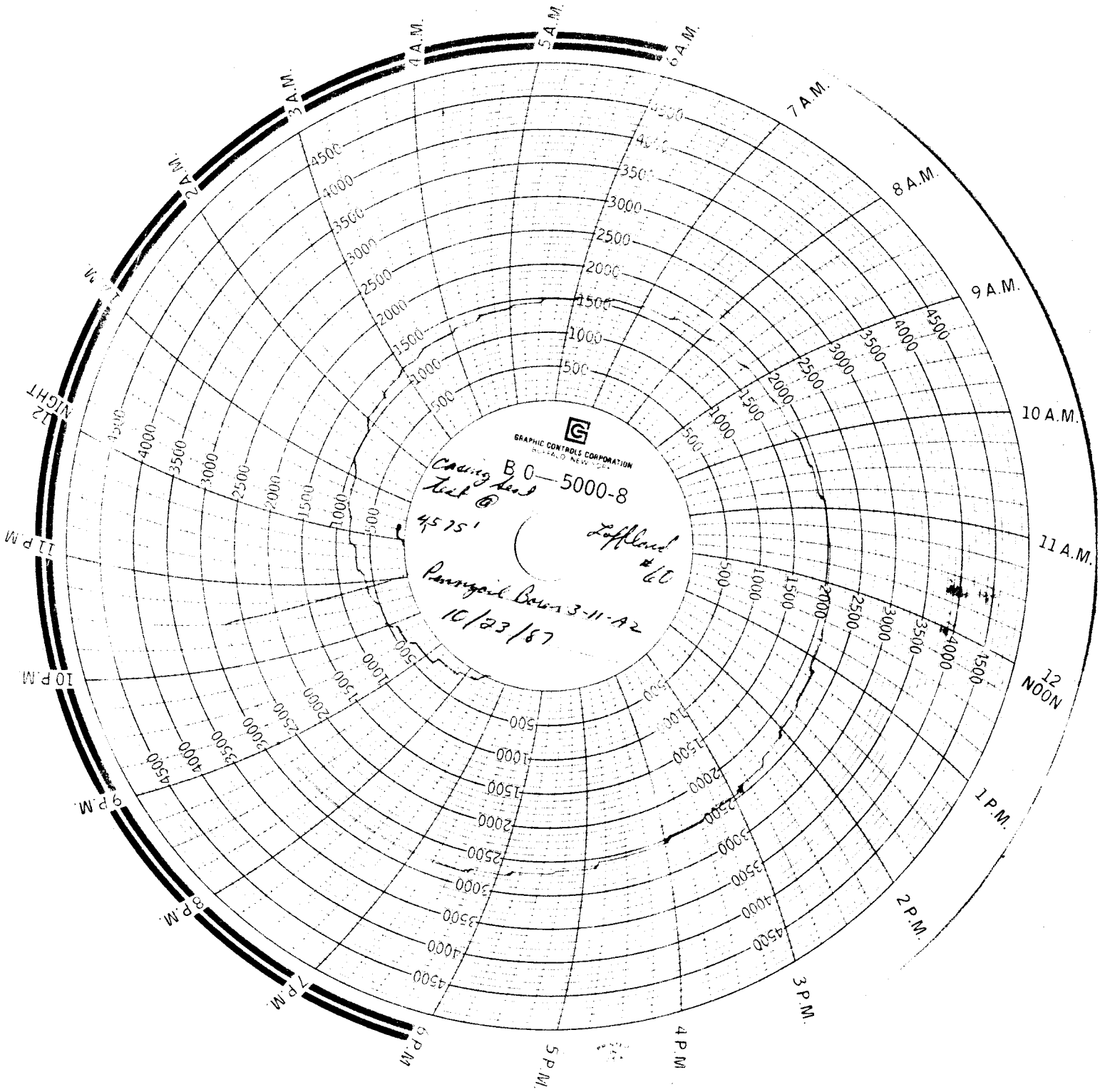
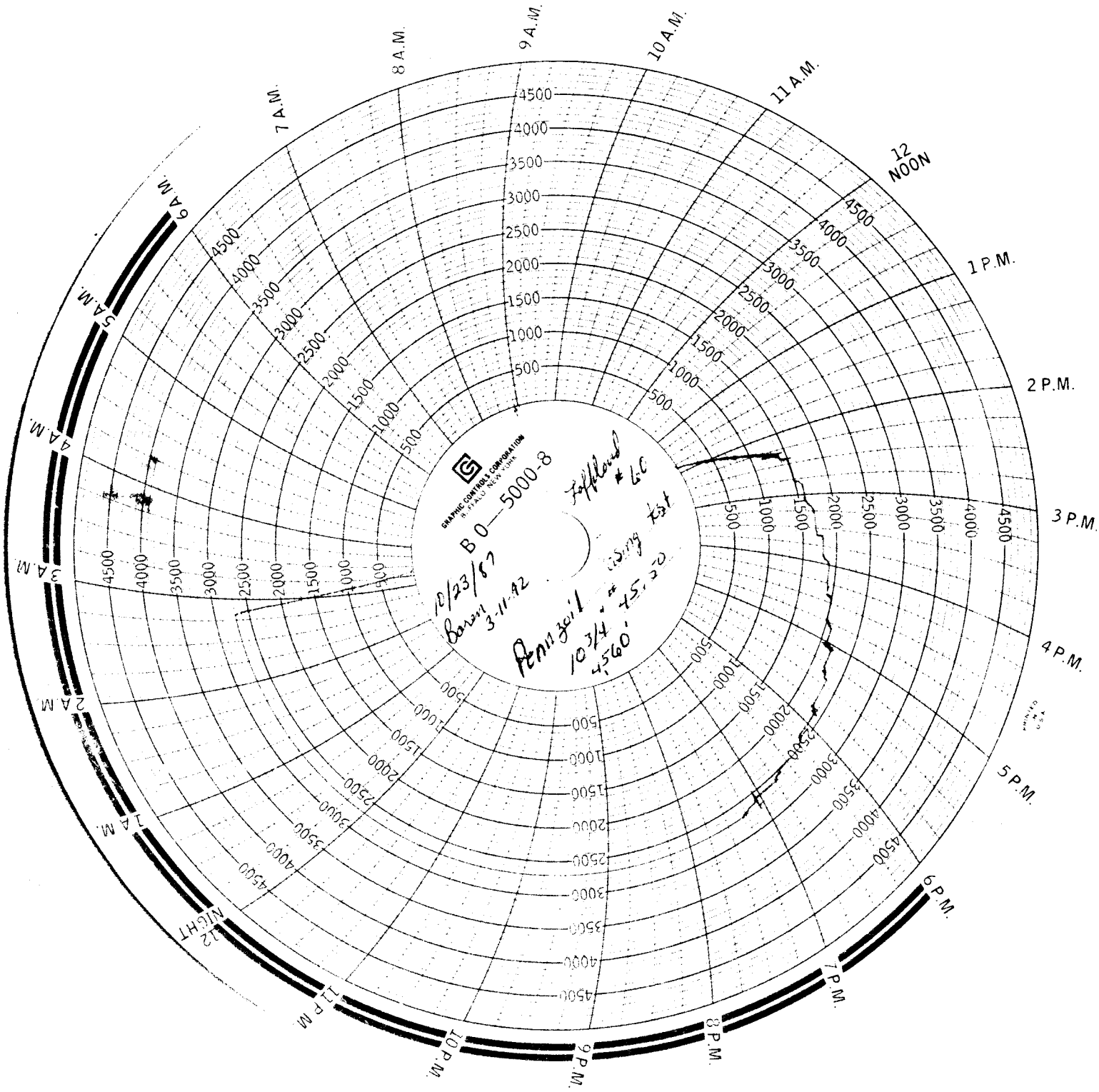
6
7
8
9
10
NOV 5 1987


6 5/8 Reg L.H.
Upper Kelly
Lower Kelly
4 1/2 IF
outside valves
outside valves
Internal Choke
Internal Choke
Internal Choke
Internal Choke
Inside Choke
Inside Choke


GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
B O — 5000-8
Casing head test @
4575'
Loffland #10
Pennzoil Bass 3-11-A2
10/23/87
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

NOV 5 1987


GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
B 0—5000-8
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

NOV 5 1987

112413

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

November 17, 1987

Orl.

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: October 1987 operations Report For:

Boren No. 3-11A2
SWSW Section 11, T1S, R2W
Duchesne County, Utah
API 43-013-31192

~~Lamicq No. 2-20A2~~
~~SESE Section 20, T1S, R2W~~
~~Duchesne County, Utah~~
~~API 43-013-31191~~

Gentlemen:

Enclosed please find the original and three (3) copies of your form OGC-1b "SUNDRY NOTICES & REPORTS ON WELLS" for captioned operations on captioned wells.

Should there be any question, please contact the undersigned at (801) 353-4397.

Sincerely,

Pennzoil Company

Wilburn L. Luna

Wilburn L. Luna

Enclosure

DOGM Form 5

State of Utah
DEPARTMENT OF Nat. Resources
Division of Oil, Gas & Mining

SUBMIT IN TRIPLICATE (Other instructions reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

NOV 19 1987

1. OIL WELL [XXX] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Pennzoil Company

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: 660' FSL & 825' FWL

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: Orl.

8. FARM OR LEASE NAME: Boren

9. WELL NO.: 3-11A2

10. FIELD AND POOL, OR WILDCAT: BlueBell-Wasatch

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec. 11 T1S R2W

12. COUNTY OR PARISH: Duchesne 13. STATE: UT

14. PERMIT NO.: API 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) Monthly Operations			[XXX]
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

- Spudded well @ 9:30AM on 9-12-87 with rathole machine.
- Started drilling with rig at 9:00PM on 9-30-87.
- Drilled 26" hole to 1996' with fresh water.
- Ran 52jts (2000.35')20", 133#, K-55 Butt csg. Set & cmted same @ 1996'
- Cemented w/110% excess, 3630 sks. Cement circulated and fell back.
- Recemented from 85' w/195 sks, cement circulated & did not fall back.
- N/U 20" BOPs & test same & 20" casing to 2700 Psi.

See: Sheet 2 of 2 for the remainder of this report.

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

SIGNED Wilburn L. Lana TITLE Drilling Superintendent DATE 11-17-87

Office (801) 353-4397 Home (801) 781-062

Wilburn L. Lana

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UT-5

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

October 1987 Monthly Operations Report - Sheet 2 of 2 Dated 11-17-87

API 43-013-31192 Boren No. 3-11A2

- Drilled out & to 2011' test csg seat to 25.8# eq. mud weight.
- Drilled 9 1/2" hole to 4560' & ream hole to 14 3/4" w/fresh water.
- Ran 109jts (4571.94') 10 3/4", 45.5#, K055, Butt csg. Set & cemented same at 45.5#, K-55, Butt csg. Set & cenented same at 4560' w/3213 sks, cement circulated and did not fall back.
- N/U 13 3/.8" BOP stack, testing it & csg to 2700 Psi.
- Drilled out to 4575'. Tested csg seat to 19.7# eq. mud weight.
- Drilled to 6526' w/fresh water. Displaced Fresh water w/gel-wtr-mud 8.6#, 39vis, 12.8WL.

-- Drilled, cored and tested to 7405' on 11-14-87 --

- Cut core No. 1 from 6528' to 88'.
- Ran DST No. 1, misrun.
- Ran DST No. 2, 6553'-6620'.
- Cut core No. 2, 6713' to 44'.
- Cut core No. 3, 6744' to 61'.
- Ran DST No. 3, 6663' to 6761'.
- Ran DST No. 4, 6813' 6970'.
- Cut core No. 4, 6970' to 7000'.
- Cut core No. 5. 7085' to 7135'.
- Ran DST No. 5, 6970' to 7135'.
- Ran DST No. 6, 7377' to 7405'.
- At 6:00AM on 11-16-87, preparing to drill ahead at 7405', with 9.1#, 37vis drilling fluid.

DST and core reports to be sent under seperate cover.

Wilbur L. Lewis

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353 - 4397

RECEIVED
DEC 7 1987
DIVISION OF
OIL, GAS & MINING

December 3, 1987

121101

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: November 1987 Operations Report For:

Boren No. 3-11A2	Lamicq No. 2-20A2
SWSW Section 11, T1S, R2W	SESE Section 20, T1S, R2W
Duchesne County, Utah	Duchesne County, Utah
API 43-013-31192	API 43-013-31191

Gentlemen:

Enclosed please find the original and three (3) copies of your DOGM Form 5 "SUNDRY NOTICES & REPORTS ON WELLS" for captioned operations on captioned wells.

Should there be any question, please contact the undersigned at (801) 353-4397.

Sincerely,

Pennzoil Company

Wilburn L. Luna

Wilburn L. Luna
Drilling Superintendent

Enclosure

UT-4

DCGM FORM 5

state of UTAH

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE (Other instructions reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

DEC 7 1987
DIVISION OF OIL, GAS & MINING

1. OIL WELL XXX GAS WELL ☐ OTHER

2. NAME OF OPERATOR: Pennzoil Company

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 660' FSL & 825' FWL

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ord.

7. UNIT AGREEMENT NAME: 12110

8. FARM OR LEASE NAME: Boren

9. WELL NO.: 3-11A2

10. FIELD AND POOL, OR WILDCAT: BlueBell-Wasatch

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec. 11, T1S, R2W

12. COUNTY OR PARISH: Duchesne

13. STATE: UT

14. PERMIT NO.: API 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other) November Monthly Operations			XXX
(Other)	☐			(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

- Drilled from 7405' to 9685' with 9.1 to 9.4# mud weight.
- Ran DST No. 7, 8560'-8634'.
- Ran DST No. 8, 8984'-9067'.
- No cores were cut and the DST data will be sent under seperate cover.
- At 6:00 AM on 12-1-87, drilling at 9685' with 9.3#, 35 vis, 10.4 WL.

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

SIGNED W. L. Luna Wilburn L. Luna TITLE Office 801-353-4397 Drilling Superintendent DATE 12-1-87

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

DOUBLE JACK TESTING & SERVICES, INC.

Dpl.
43-013-31192

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 11/27/87

Oil Company Pennzoil

Well Name & Number Boren 3-11-A2

Section 11

Township 1-S

Range 2W

County Duchesne

Drilling Contractor Leffland Bros Drlg Co #20

Oil Company Site Representative Mike Rouse

Rig Tool Pusher Gene

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Pennzoil
Leffland
State

Original chart & test report on file at: Vernal office

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

JAN 07 1988
DIVISION OF
OIL, GAS & MINING

Doubl Jack Testing & Services ıc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5042

DATE 11/27/87

RIG NAME AND # Lafferland Bros Drlg # 60

OPERATOR Pennzoil

WELL NAME AND NO. Boren 3-11-A2

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
Duchesne	Utah	11	1-S	2-W

EQUIPMENT TESTED

Blind	Top RAMS	2700 psi	Held 15 minutes
Pipe 5"	RAMS	"	"
Pipe 5"	Bottom RAMS	"	"
13 5/8 5,000	ANNULAR B.O.P.	2000 psi	"
	CHOKE LINE	2700 psi	"
	KILL LINE	"	"
	UPPER KELLY	"	"
	LOWER KELLY	"	"
Tiw & Dart	SAFETY VALVES	"	"

ADDITIONAL TESTS & COMMENTS

Swaco Hydraulic Choke - 2700 psi - OK
Swaco Comale Gauge 2750 psi @ 2700 psi

CLOSING UNIT PSI 2800 CLOSING TIME OF RAMS 6 sec HYDRIL 14 sec

CLOSED CASING HEAD VALVE yes SET WEAR RING yes

RATES

UNIT RATES Bop. test up to 10,000 psi - first 8 hrs @

ADDITIONAL

MILEAGE out of Vernal Round trip 80 miles @ $1.00 per

TEST PLUG 10" common

RET. TOOL 4-3 on location

TOP SUB. 4 1/2 IF

KELLY SUB. 4 1/2 IF

X-OVER SUB. 4 1/2 X H Pin X 4 1/2 IF

METHENAL 25% for testing (25 gl per 100 gl @ $2.00 per gl

OTHER

TESTED BY Don Morris

SIGNATURE Mike Rousse
COMPANY REPRESENTATIVE

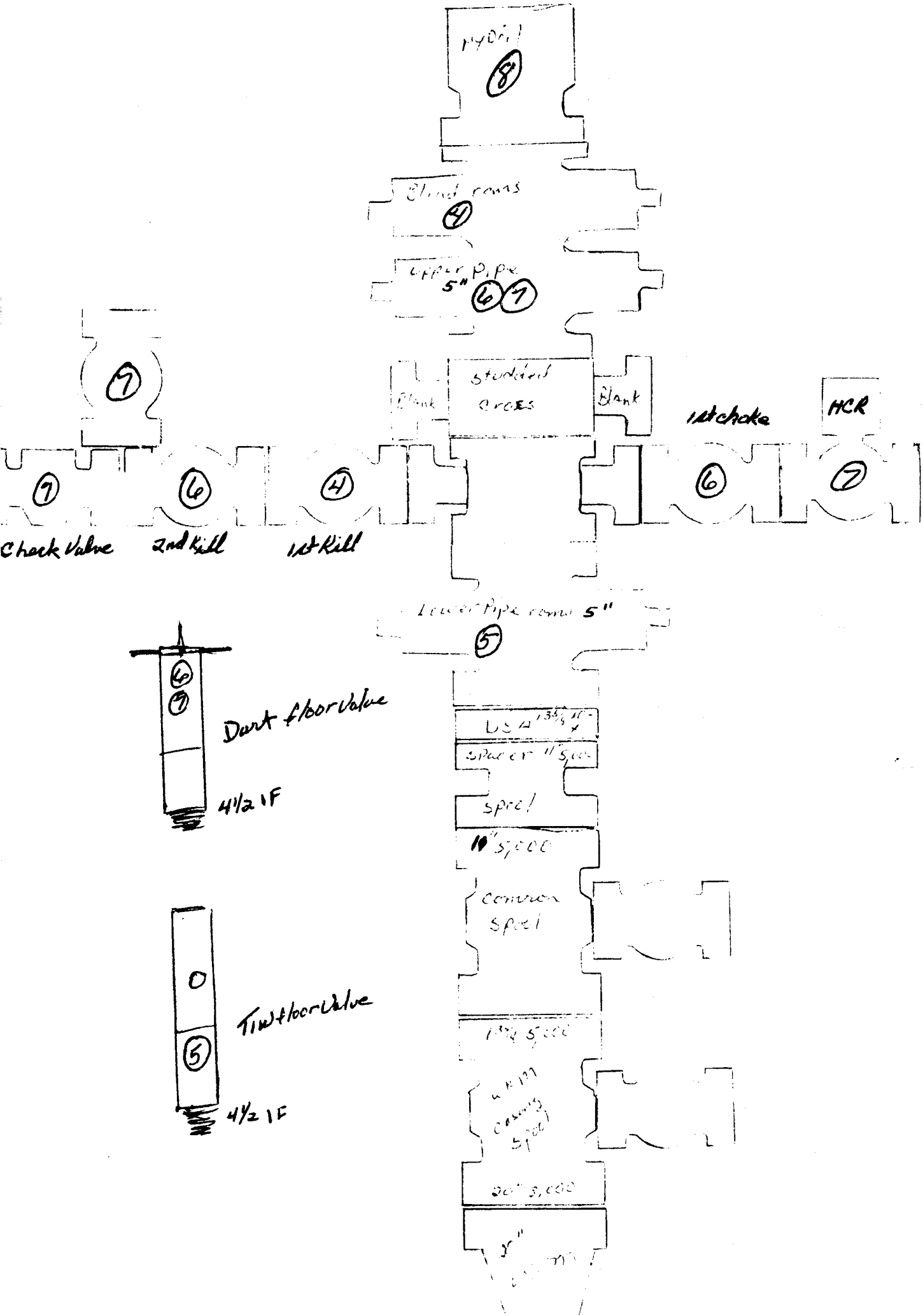
SUBTOT

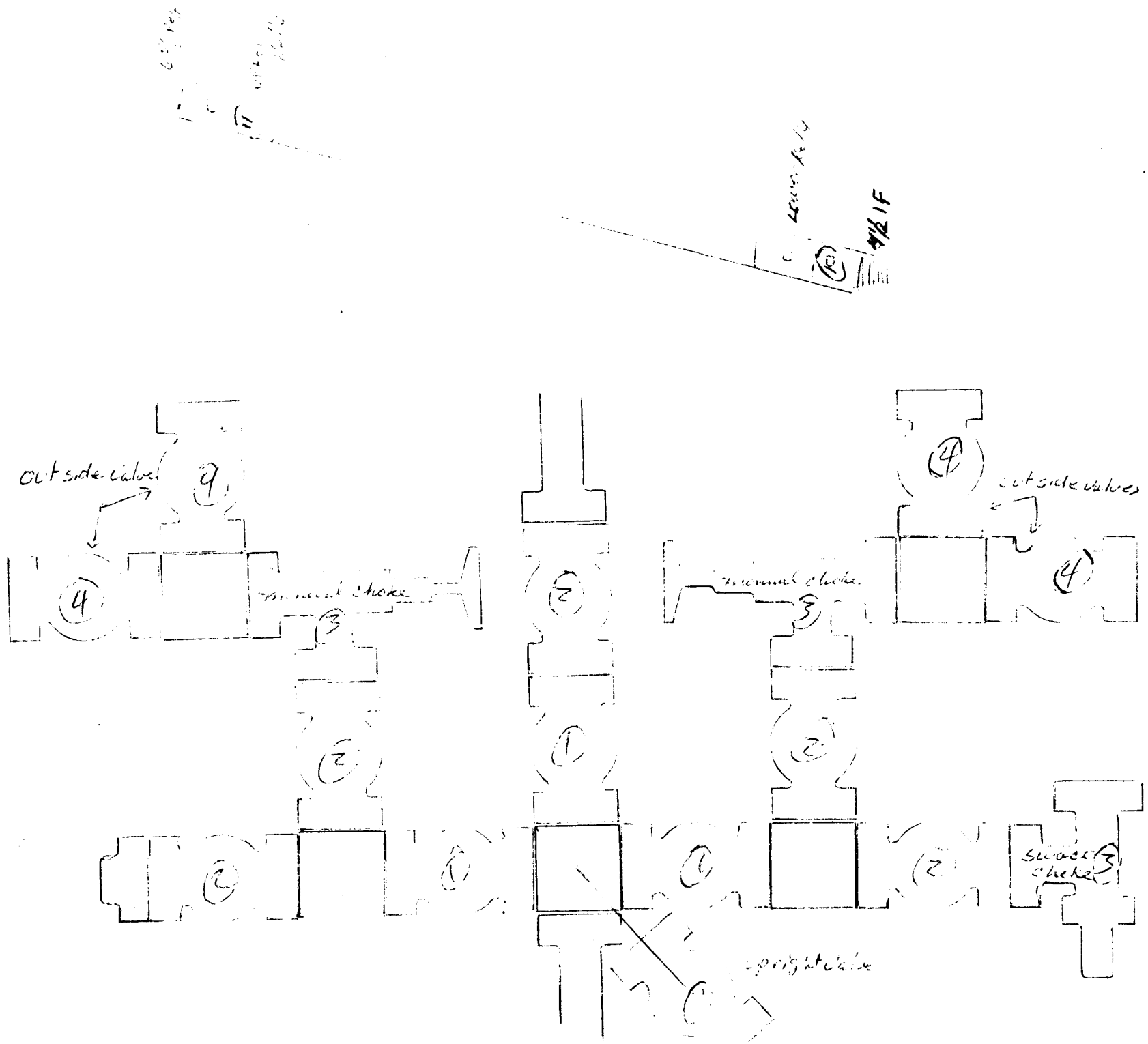
T

TOT

COMPANY	LEASE AND WEL NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Baren 3-11-A2	11/27/87	Lafflond # 60

ST#	TIME	
		Arrive on Location @ 11:30 PM 11/26 - fill with H_2O + Rig up on Choke Manifold - unload Plug + Subs
1	11:11 11/27	1st set Choke Manifold Valves + HCR
	12:15-12:30	2700 PSI 15 minutes - OK
2		2nd set Choke Manifold Valves + HCR
	12:40-12:55	2700 PSI - 15 min - OK { Swaco Console Gauge 2750 @ 2700
3		Swaco Hydraulic Choke + Manual Chokes + HCR
	1:00-1:15	2700 PSI - 15 min - OK { Pullwear Ring - work + Fill B.O.Ps
4		Blind rams (Top) + 1st Kill line Valve + Valves past Manual Chokes
	1:45-2:00	2700 PSI - 15 min - OK
		Run in Int Drill pipe with Tiw + Dart + Test sub
		String into plug + test Pipes + Hydril
5		Lower Pipe Rams 5" + Tiw Floor Valve
	2:20-2:35	2700 PSI - 15 min - OK
6		Upper Pipe Rams + 2nd Kill + 1st Choke line Valves + Dart Valve
	2:45-3:00	2700 PSI - 15 min - OK
7		Upper Pipe rams + Check Valve + HCR Valve + Dart Valve
	3:05-3:20	2700 PSI - 15 min OK
8		Hydril & Upright Valve on Choke Manifold + Dart Valve
	3:50-4:05	2000 PSI 15 min OK { work Hydril + increase Closing Pressure
		Pull test plug + Breakdown tools +
		Set Wear Ring - Pick up Kelly + test Subs
9		Lower Kelly Valve { work several times - no go - P.U. -
	5:15-5:30	2700 PSI 15 min { stnd By Valve - OK
10		Upper Kelly Valve
	5:40-5:55	2700 PSI 15 min - OK
		Drain Choke line + Manifold
		Spool up tools
		Thank you!!


Hydril
8
Blind rams
4
Upper Pipe
5"
6 7
7
Studded
cross
Blank
Blank
1st choke
HCR
7
6
4
6
7
Check Valve
2nd Kill
1st Kill
Lower Pipe rams 5"
5
6
7
Dart floor Valve
4 1/2 IF
Spacer 11" 5,000
Spool
11" 5,000
common
spool
0
Tiw floor Valve
5
4 1/2 IF
20" 5,000


#12 1F
outside valves
normal choke
outside valves
normal choke
swacco choke
upright valve

DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216
19 87
NOON
MIDNIGHT
AM
PM
PRINTED IN U.S.A.

NOON
1
2
3
4
5
6 PM
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8
9
10
11
MIDNIGHT
1
2
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6 AM
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9
10
11
DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
PRINTED IN U.S.A.

PENNZOIL EXPLORATION AND PRODUCTION COMPANY
P. O. BOX 290 • NEOLA, UTAH 84053 • (801) 353-4397

February 11, 1988

RECEIVED
FEB 16 1988
DIVISION OF
OIL, GAS & MINING

State of Utah, Dept of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203

Re: December 1987 & January & February 1988 Operations report:
Boren No. 3-11A2
SWSW Section 11, T1S, R2W
Duchesne County, Utah
API 43-013-31192

Gentlemen:

Enclosed please find the original and three (3) copies of your DOGM Form 5 "SUNDRY NOTICES & REPORTS ON WELLS" for captioned operations on captioned well.

Should there be any question, please contact the undersigned at (801) 353-4397.

Sincerely,

Pennzoil Company

Wilburn L. Luna
Operations/Drilling Superintendent

Enclosure

UT-100a

DOUBLE JACK TESTING & SERVICES, INC.

RECEIVED
APR 14 1988
DIVISION OF
OIL, GAS & MINING

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 1-5-88

Oil Company Pennzoil

Well Name & Number Boren 3-11A2

Section 11

Township 1-S

Range 2-W

County Duchesne

Drilling Contractor Loffland #60

Oil Company Site Representative Paul Deaton

Rig Tool Pusher Howard

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Pennzoil
Loffland
State

Original chart & test report on file at:

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5636

DATE 1-5-88

RIG NAME AND # Loffland #60

OPERATOR Pennzoil

WELL NAME AND NO. Boren 3-11A2

COUNTY

STATE Utah

SECTION 11

TOWNSHIP 15

RANGE 2W

EQUIPMENT TESTED

Upper Pipes 3½	RAMS	High 5000 psi	15 min		
Lower Pipes 3½	RAMS	"	"	"	"
Blinds	RAMS	"	"	"	"
	ANNULAR B.O.P.	High 2500 psi	15 min		
	CHOKE LINE	High 2500 psi	15 min		
	KILL LINE	"	"	"	
	UPPER KELLY	"	"	"	
	LOWER KELLY				
T.I.W.	SAFETY VALVES	"	"	"	

ADDITIONAL TESTS & COMMENTS

3½" Dart safty valve Did not Test

CLOSING UNIT PSI 2800 psi CLOSING TIME OF RAMS 7 sec HYDRIL 14 sec

CLOSED CASING HEAD VALVE yes SET WEAR RING yes

RATES

UNIT RATES B.O.P. Test up to 10,000 psi

ADDITIONAL

MILEAGE 1.00 a mile out of vernal Round Trip

TEST PLUG 10" ~~cameron~~ WKM

RET. TOOL

TOP SUB. 3½ IF

KELLY SUB. 3½ IF

X-OVER SUB. 3½ IF Box 4½ X hole

METHENAL 2.00 a gal 60 gal 50% for Test

OTHER

TESTED BY Joel Hagstrom

SIGNATURE Paul A. Deaton
COMPANY REPRESENTATIVE

SUBTOTA

TA

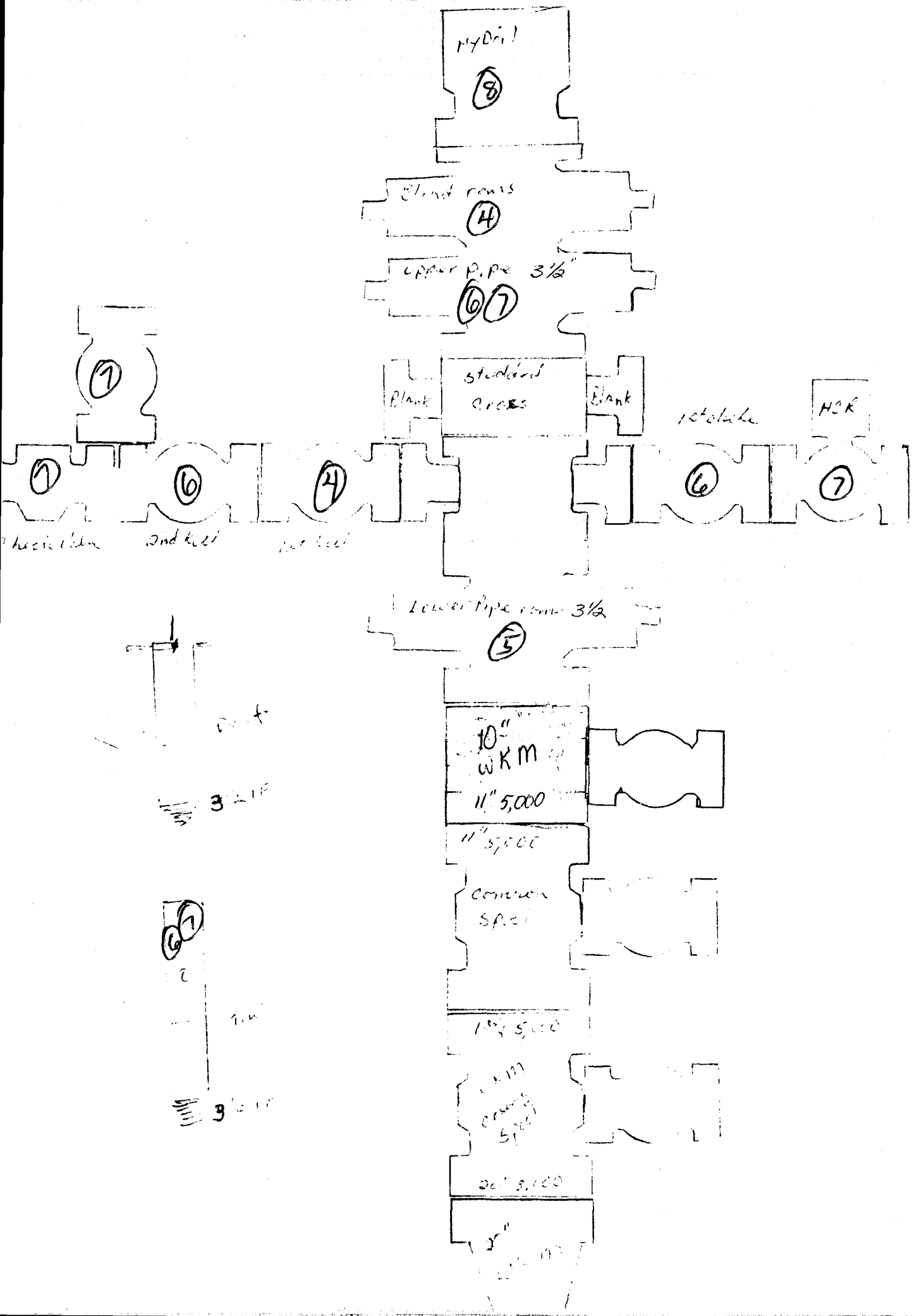
TOTA

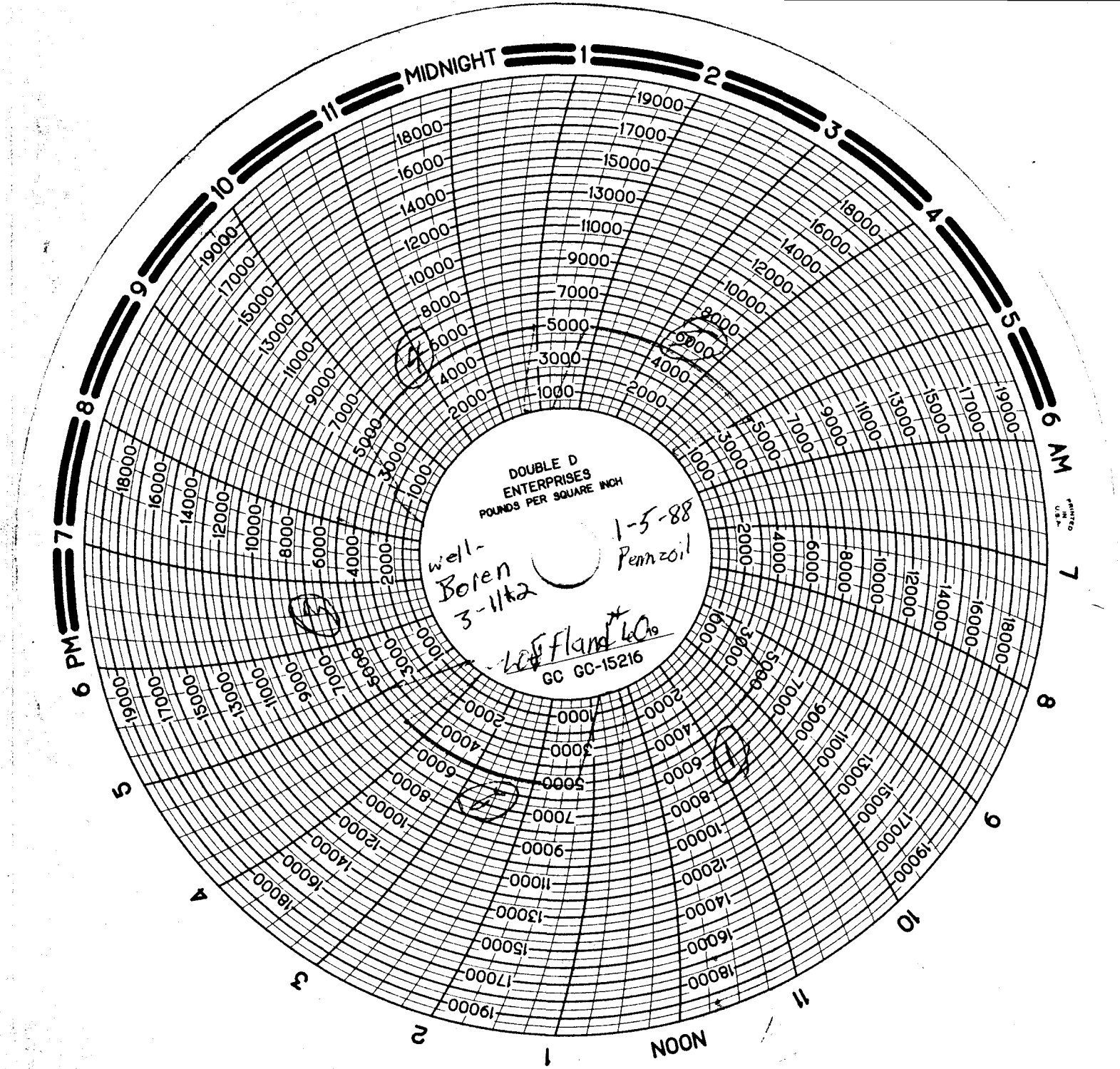
COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Baren 3-11A2	1-5-88	Roffland 60

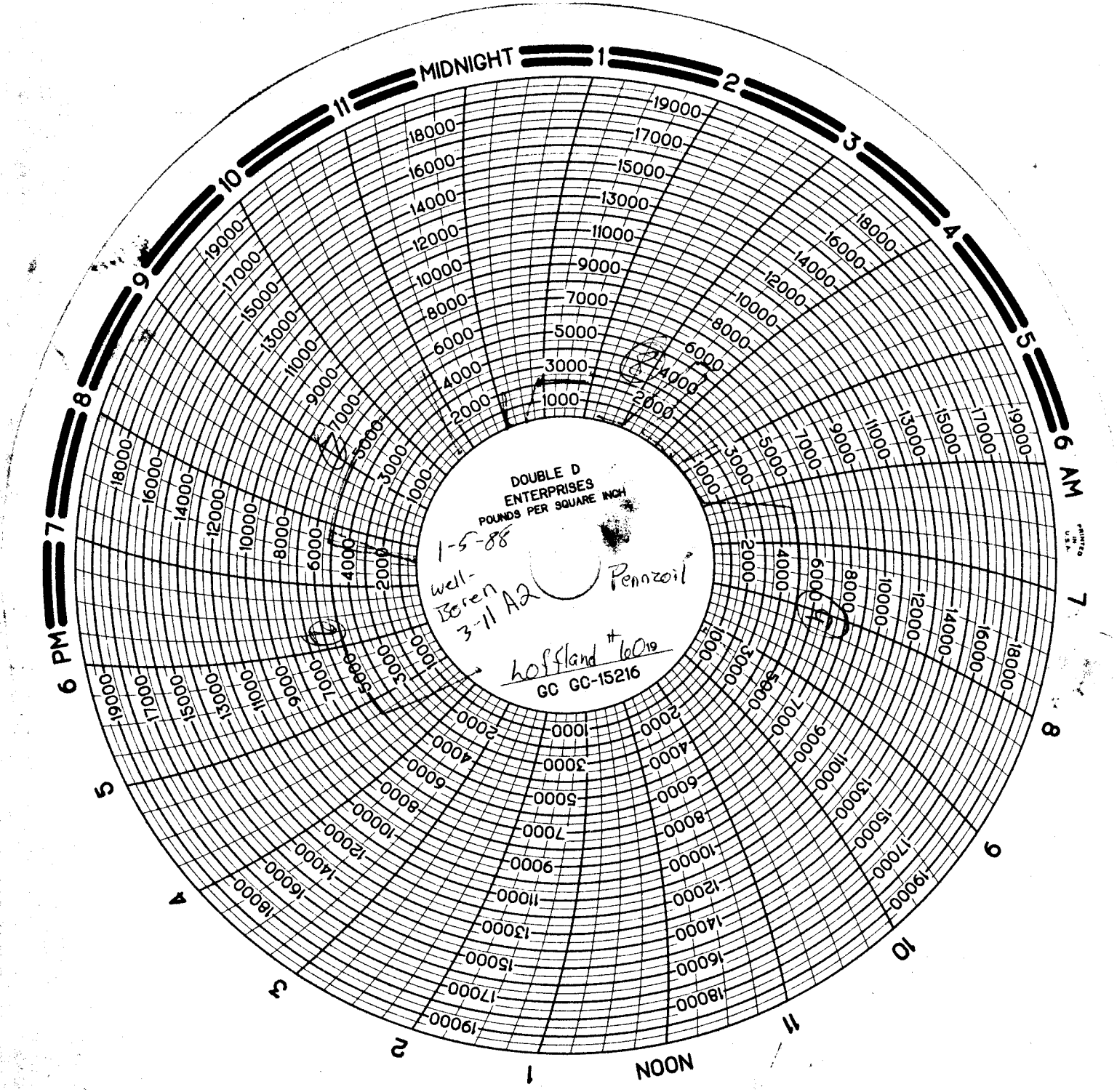
TEST#	TIME	
	9:30	Arrive on Location. rig up & get ready to test.
1	10:05-10:20	1st set of manifold valves & HCR 5000 psi - 15 min - OK
2	10:28-10:43	2nd set manifold valves & HCR 5000 psi - 15 min - OK
3	10:45-11:00	3rd set manifold valves & super choke & HCR 5000 psi - 15 min - OK
4	11:45-12:00	Blind rams - outside manifold valves & 1st Kill line valve 5000 psi - 15 min - OK
5	1:00-1:15	Lower pipe rams & JIW 5000 psi - 15 min - OK
6	1:20-1:35	Upper pipe rams & 2nd Kill line valve - JIW - manual choke line valve (Dart valve did not test) 5000 psi - 15 min - OK
7	1:40-1:55	Upper Pipe rams & Check valve - HCR & JIW 5000 psi - 15 min - OK Put steam in stack - warm up rubber on Hydril - work Hydril 2 times
8	2:15-2:30	Hydril & upright on manifold 2500 psi - 15 min - OK Pull plug - set wear ring - closed casing head valve - Drain manifold. wait for crew to lay down 4½" Kelly - Pick up 3½" Kelly
9	6:15-6:30	Upper Kelly 5000 psi - 15 min - OK
		Spool up tools. write ticket & leave location.

Thank You

Double Jack Testing & Services


HYDRIL
8
Blind rams
4
Upper pipe 3½"
6 7
7
Blank
Standard Cross
Blank
rotatable
HCR
7
6
4
6
7
2nd kelly
Lower pipe rams 3½
5
10" WKM
11" 5,000
11" 5,000
Common Spool
6 7
3


DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
well-
Boren
3-11k2
1-5-88
Pennzoil
GC GC-15216
MIDNIGHT
NOON
6 AM
6 PM


MIDNIGHT
NOON
6 AM
6 PM
DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
1-5-88
well-
Boren
3-11 A2
Pennzoil
Hoffland # 6019
GC GC-15216

RECEIVED
AUG 8 1988
DIVISION OF
OIL, GAS & MINING

DOUBLE JACK TESTING & SERVICES, INC

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 1-5-88

Oil Company Pennzoil

Well Name & Number Boren 3-11A2

Section 11

Township 1-S

Range 2-W

County Duchesne

Drilling Contractor Loffland #60

Oil Company Site Representative Paul Deaton

Rig Tool Pusher Howard

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Pennzoil
Loffland
State

Original chart & test report on file at:

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

Double Jack Testing & Services Inc.

P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5636

DATE 1-5-88

RIG NAME AND # Loffland #60

OPERATOR Pennzoil

WELL NAME AND NO. Boren 3-11A2

COUNTY	STATE	SECTION	TOWNSHIP	RANGE
	Utah	11	15	2W

EQUIPMENT TESTED

Upper Pipes 3½	RAMS	High	5000 psi	15 min	
Lower Pipes 3½	RAMS	"	"	"	"
Blinds	RAMS	"	"	"	"
	ANNULAR B.O.P.	High	2500 psi	15 min	
	CHOKE LINE	High	2500 psi	15 min	
	KILL LINE	"	"	"	
	UPPER KELLY	"	"	"	
	LOWER KELLY				
T.I.W.	SAFETY VALVES	"	"	"	

ADDITIONAL TESTS & COMMENTS

3½" Dart safty Valve Did not Test

CLOSING UNIT PSI 2800 psi CLOSING TIME OF RAMS 7 sec HYDRIL 14 sec

CLOSED CASING HEAD VALVE yes SET WEAR RING yes

RATES

UNIT RATES B.O.P. Test up to 10,000 psi

ADDITIONAL

MILEAGE 1.00 a mile out of vernal Round Trip

TEST PLUG 10" ~~camco~~ WKM

RET. TOOL

TOP SUB. 3½ IF

KELLY SUB. 3½ IF

X-OVER SUB. 3½ IF Box 4½ X hole

METHENAL 2.00 a gal 60 gal 50% for Test

OTHER

TESTED BY Joel Hagstrom

SIGNATURE Paul A Deaton
COMPANY REPRESENTATIVE

SUBTOTA

TA

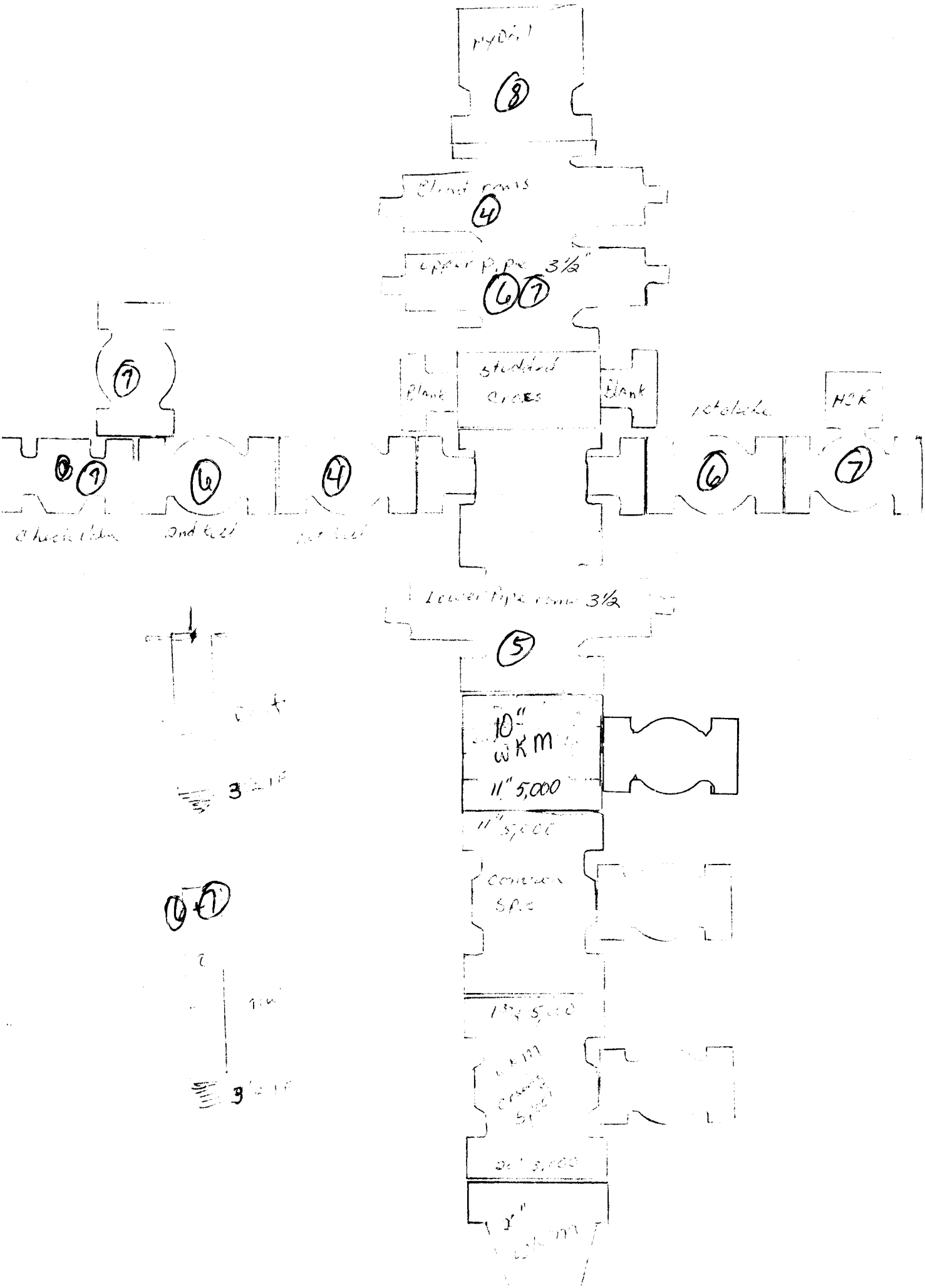
TOTA

COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Boren 3-11A2	1-5-08	Roffland 60

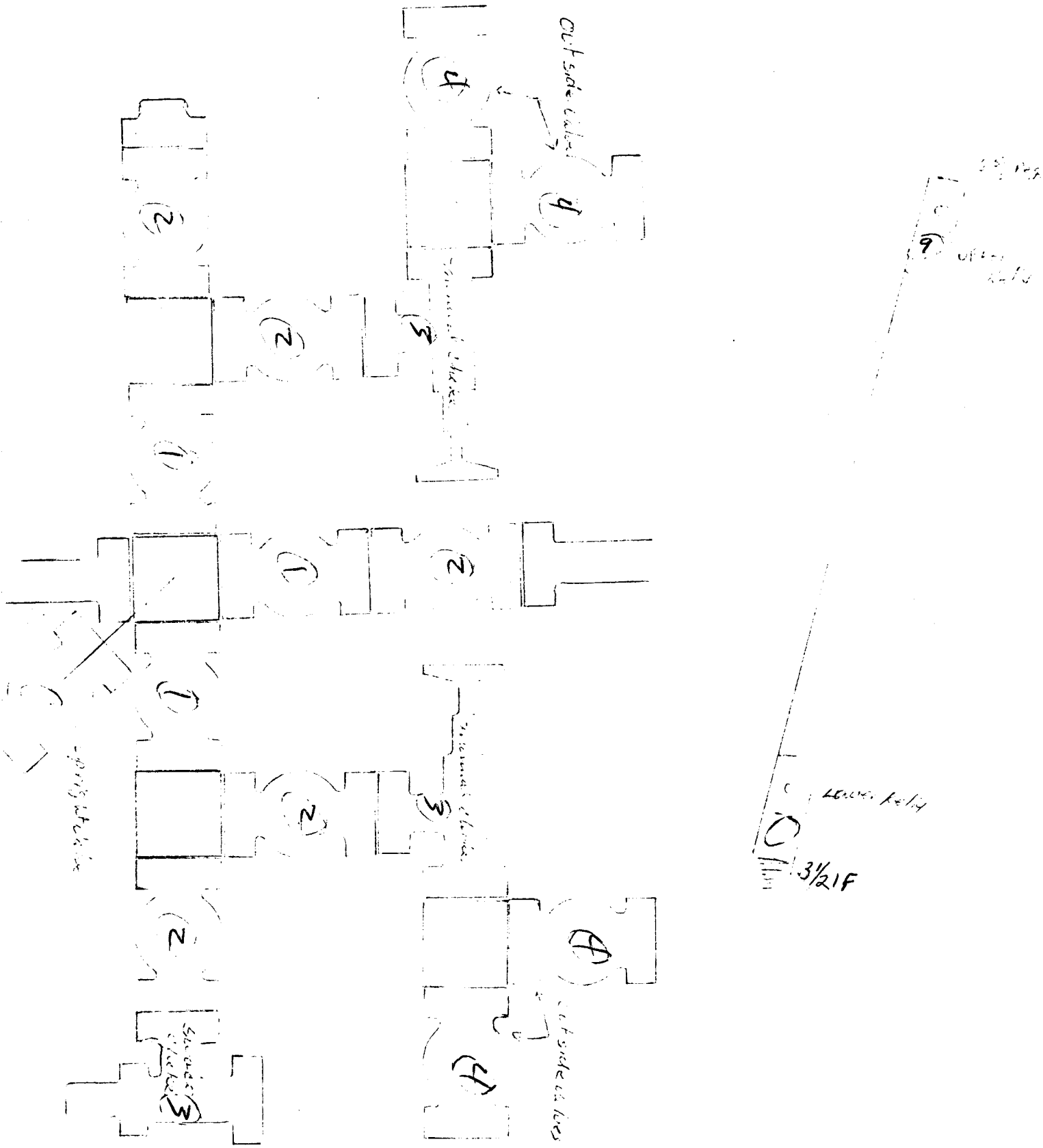
TEST#	TIME	
	9:30	Arrive on Location. Rig up & get ready to test.
1	10:05-10:20	1st set of manifold valves & HCR 5000 psi - 15 min - OK
2	10:28-10:43	2nd set manifold valves & HCR 5000 psi - 15 min - OK
3	10:45-11:00	3rd set manifold valves & super choke & HCR 5000 psi - 15 min - OK
4	11:45-12:00	Blind rams - outside manifold valves & 1st Kill line valve 5000 psi - 15 min - OK
5	1:00-1:15	Lower pipe rams & TIW 5000 psi - 15 min - OK
6	1:20-1:35	Upper pipe rams & 2nd Kill line valve - TIW - manual choke line valve (Dart valve did not test) 5000 psi - 15 min - OK
7	1:40-1:55	Upper Pipe rams & Check valve - HCR & TIW 5000 psi - 15 min - OK Put steam in stack - warm up rubber on Hydril - work Hydril 2 times
8	2:15-2:30	Hydril & upright on manifold 2500 psi - 15 min - OK Pull plug - set wear ring - closed casing head valve - Drain manifold - wait for crew to lay down 4½" Kelly - Pick up 3½" Kelly
9	6:15-6:30	Upper Kelly 5000 psi - 15 min - OK
		Spool up tools. Write ticket & leave location.

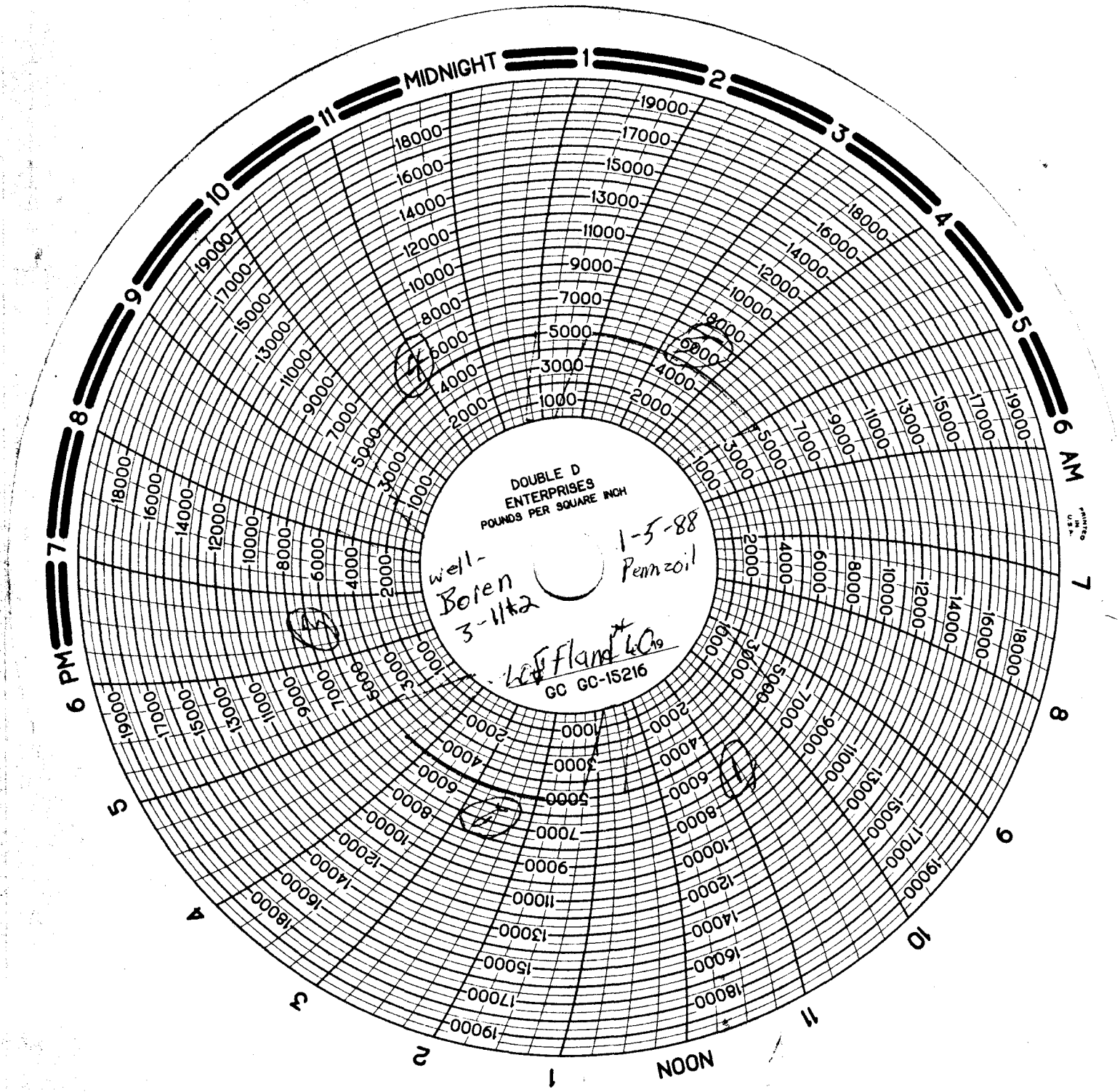
Thank You

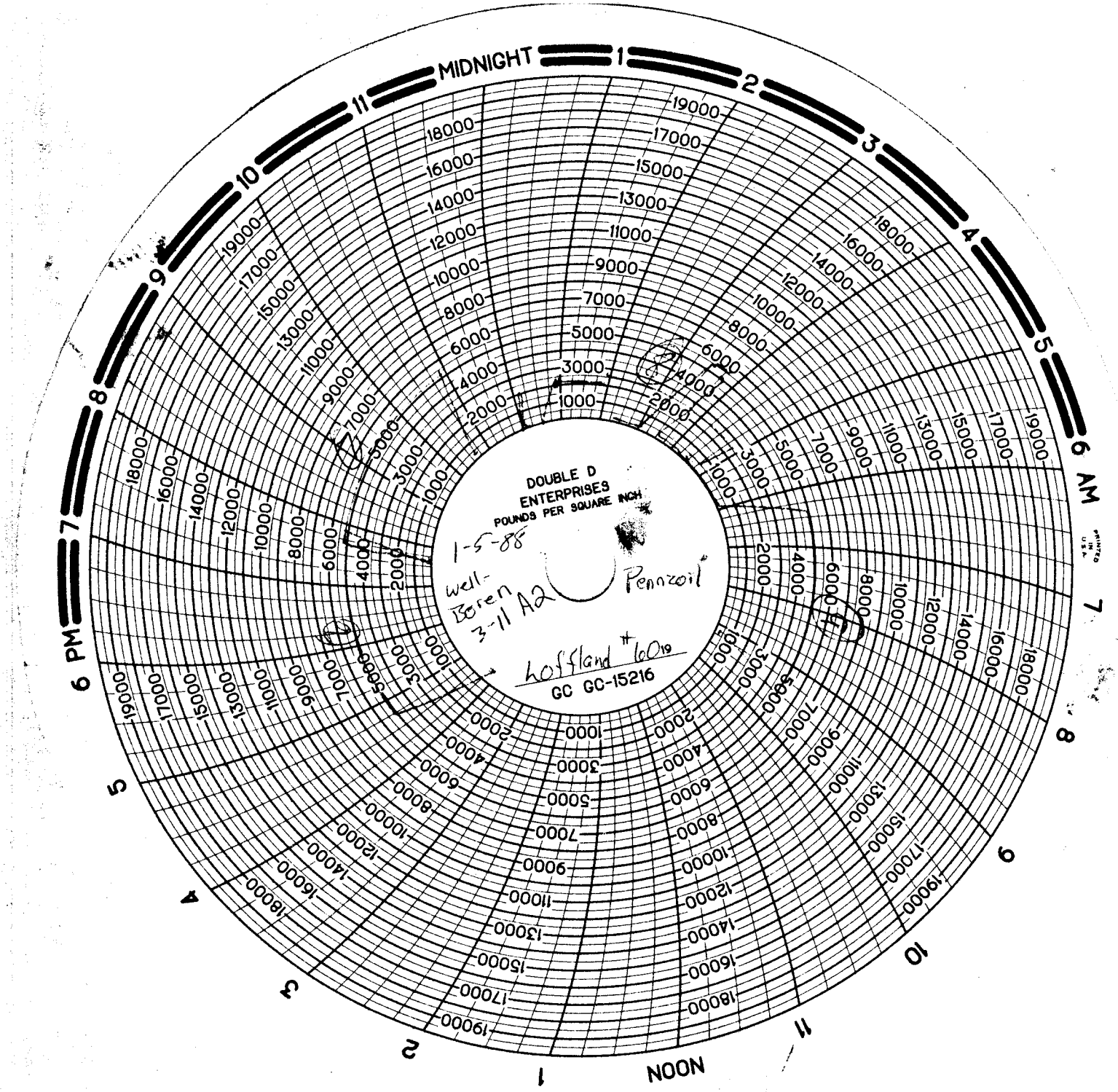
Double Jack Testing & Services


HYDRIL
8
Blind rams
4
Upper pipe 3½"
6 7
7
Blank
studded cross
Blank
rotatable
HCR
7
6
4
6
7
check valve
2nd kill
pipe kill
Lower pipe rams 3½
5
10" WKM
11" 5,000
11" spool
Common spool
13⅝" 5,000
WKM cross spool
20" 5,000
7
6 7
3

Zaffland Bros #60
Pennzoil - Boren 3-11-42




DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
well-
Boren
3-11k2
1-5-88
Pennzoil
GC GC-15216
MIDNIGHT
NOON
6 AM
6 PM


MIDNIGHT
NOON
6 AM
6 PM
DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
1-5-88
well-
Boren
3-11 A2
Pennzoil
Hoffland #1019
GC GC-15216

DOC FORM %

STATE OF UTAH
DEPARTMENT OF NAT. RESOURCES
Division of Oil, Gas and Mining

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

5. LEASE DESIGNATION AND SERIAL NO.: FEE LAND Orl.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 021702

1. OIL WELL [ ] GAS WELL [ ] OTHER XXX

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR: Pennzoil Company

8. FARM OR LEASE NAME: Boren

3. ADDRESS OF OPERATOR: P.O. Box 290 Neola, Utah 84053

9. WELL NO.: 3-11A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 660' FSL & 825' FWL

10. FIELD AND POOL, OR WILDCAT: BlueBell-Wasatch

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SWSW Sec. 11, T1S, R2W

14. PERMIT NO.: API 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

12. COUNTY OR PARISH: Duchesne

13. STATE: UT

FEB 16 1988
DIVISION OF OIL, GAS & MINING

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other) December 87, January & February 88 Monthly Operations XXX			
(Other)				(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

- Drilled from 9685'to 13000' and had 11.7#, 36vis, 8.8WL mud.
- Ran Logs: DLL-GR, FDC-CNL, SONIC w/wave form, Borehole Televiewer & Dipmeter.
- Ran 329 jts (13,024.17') 7 5/8", 29.7#, S-95/N-80/P-110, LT&C/Butt csg.
- Set & cmted same w/4576 Sks of cmt. Circulated 30 bbls of good cement.
- Tested BOP stacked an 7 5/8" csg to 5,000Psi.
- Drilled out & w/11.6# mud in wellbore tested csg seat w/950Psi for an equivalent mud weight of 13.0# at leak off.
- Drilled a 6 3/4" hole to 14,600' and had: 14.5#-40vis-7.6WL drilling mud.
- See attached sheet for balance of report.

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

SIGNED Wilburn L. Luna TITLE Drilling Superintendent Office 801-353-4397 DATE 2-11-88

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

BOREN NO. 3-11A2
API 43-013-32292
Final Sheet of for DOGM FORM 5 dated 2-11-88

- Ran logs: DLL-GR, FDC-CNL, Borehole Televiewer & Sonic w/waveform.

- On cleanout trip to run liner drilled to 14,025'

- Ran 47jts (1873.86') 5 1/2", 20#, P-110/S-95, FL-4S LINER.

- Set & cmted 5 1/2" liner from 14,622' to 12,748' w/205sks of cmt. On drill out found 467' of cmt on top of liner.

- Ran CBL from 14,584' to surface.

- Tested liner top & liner to 2000 Psi w/ 14.5# mud in wellbore.

- Displaced 14.2# mud with 10.0# brine water.

- Released drilling rig @ 11:00AM on 2-6-88.

- RDRT & MO.

- Reserve pit will be covered after spring thaw.

UT-100c

Wilburn L. Luna

Wilburn L. Luna
Pennzoil Company

DOUBLE JACK TESTING & SERVICES, INC.

RECEIVED
APR 14 1988
DIVISION OF
OIL, GAS & MINING

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 12/25/87

Oil Company Pennzoil

Well Name & Number Boren 3-11 A2

Section 11

Township 1-S

Range 2-W

County Duchesne

Drilling Contractor Loffland #60

Oil Company Site Representative Paul A Deaton

Rig Tool Pusher

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Pennzoil
Loffland

Original chart & test report on file at: Double Jack office in Vernal

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

Dou le Jack Testing & Servic Inc.
P.O. Box 2097
Evanston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5628

DATE 12-25-87

RIG NAME AND # Loffland #60

OPERATOR Pennzoil

WELL NAME AND NO. Boren 3-11A2

COUNTY Duchesene | STATE Utah | SECTION 11 | TOWNSHIP 15 | RANGE 2W

EQUIPMENT TESTED

Upper 4½ pipe	RAMS	High 2700 psi	15 min.
Lower 4½ pipe	RAMS	"	"	"
Blind	RAMS	"	"	"
	ANNULAR B.O.P.	High 1500 psi	15 min
	CHOKE LINE	High 2700 psi	15 min
	KILL LINE	"	"	"
	UPPER KELLY	"	"	"
	LOWER KELLY	"	"	"
Dart - TIW	SAFETY VALVES	"	"	"

ADDITIONAL TESTS & COMMENTS

Swacco super choke 2700 psi.

CLOSING UNIT PSI 2800 CLOSING TIME OF RAMS 6 HYDRIL 14

CLOSED CASING HEAD VALVE yes SET WEAR RING yes

RATES

UNIT RATES B.O.P. Test up to 10,000 psi

ADDITIONAL

MILEAGE 100 a mile at 80 miles Round Trip

TEST PLUG 10" WKm

RET. TOOL

TOP SUB. 4½ IF

KELLY SUB. 4½ IF

X-OVER SUB.

METHENAL 200 a gal. 50% For Test 45 gal.

OTHER

TESTED BY Joel Hagstrom

SIGNATURE Paul A Doster
COMPANY REPRESENTATIVE

SUBTOTAL

TAX

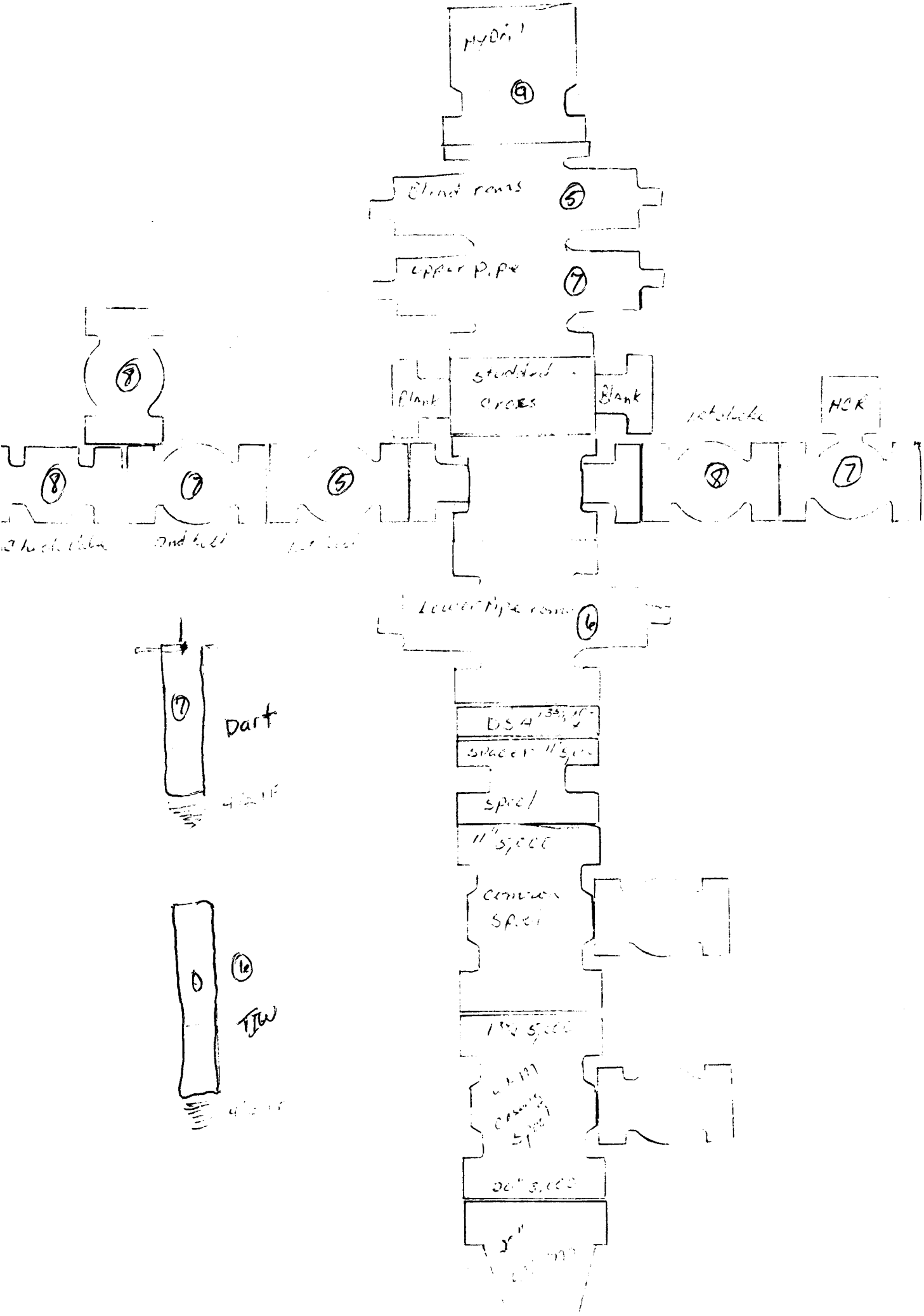
TOTAL

COMPANY	LEASE AND WI	NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Boren 3-11 A2		12/25/87	Loffland #60

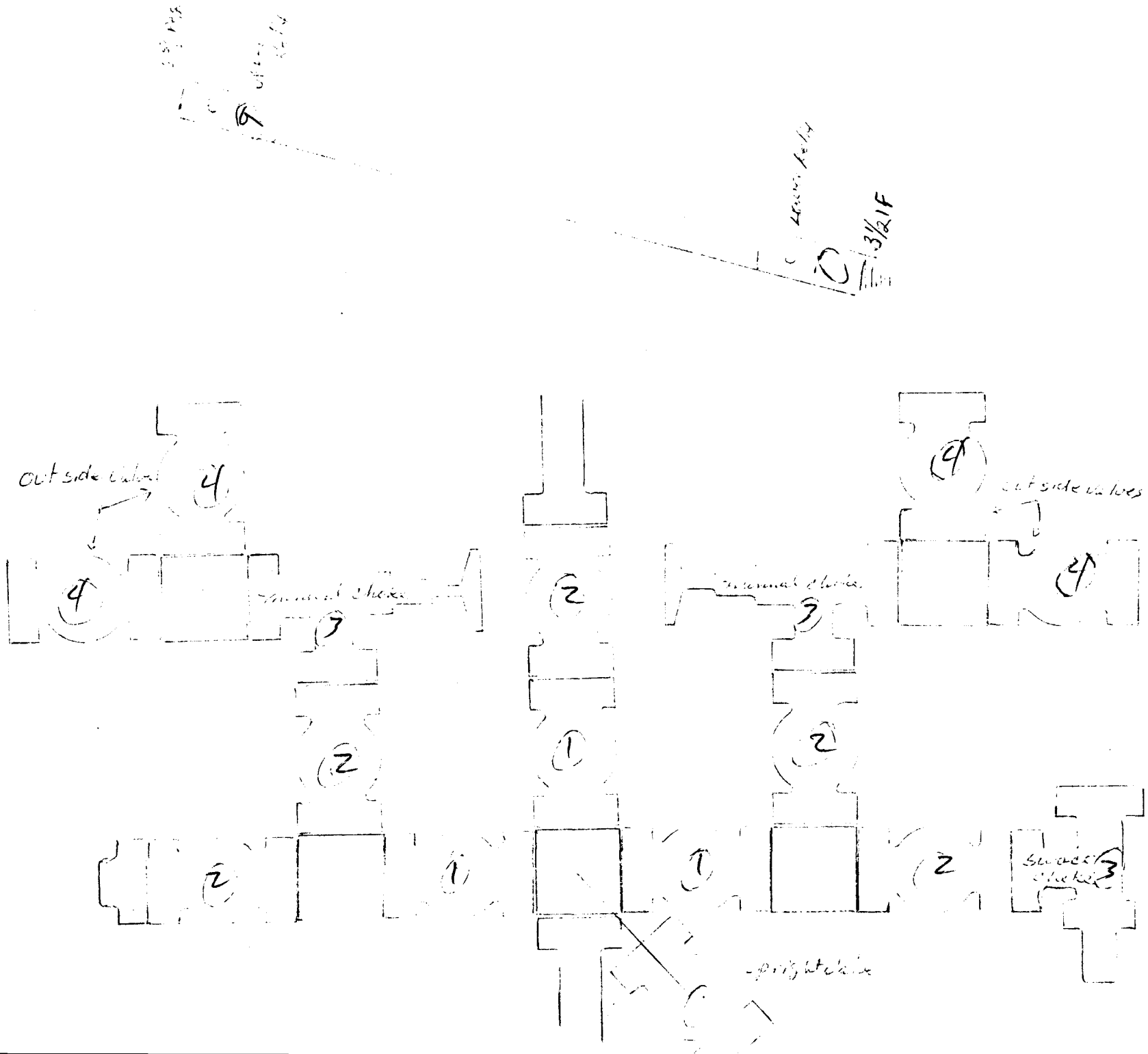
ST#	TIME	
	3:00 AM	Arrive on location - rig up to test
1	3:35 - 3:50	1st set manifold valves - HCR 2700 psi - 15 min - OK
2	3:55 - 4:10	2nd set manifold valves HCR 2700 psi - 15 min - OK
3	4:15 - 4:30	3rd set manifold valves - HCR 2700 psi - 15 min - OK
4	4:35 - 4:50	4th set manifold valves - HCR 2700 psi - 15 min - OK Come out of hole - lay down collars - set plug & test
5	5:55 - 6:10	Blind rams & 1st Kill line valve 2700 psi - 15 min - OK
6	6:40 - 6:55	Lower pipe rams & IJW 2700 psi - 15 min - OK
7	7:00 - 7:15	Upper pipe rams - 2nd Kill line valve - NCR & dart valve 2700 psi - 15 min - OK
8	7:20 - 7:35	Upper pipe rams - 3rd Kill line valve - 1st Choke manifold valve 2700 psi - 15 min - OK
9	7:40 - 7:55	Hydril 1500 psi - 15 min - OK Pull plug & pick up Kelly
10	8:30 - 8:45	Lower Kelly 2700 psi - 15 min - OK Upper Kelly iced up - put heat on it to come back.
11	9:30 - 9:45	Upper Kelly 2700 psi - 15 min - OK
		Rig down - spool up & leave location for Vernal.

Thank You!

Dookie Jack Testing & Services


Blank
Blank
HCR
Dart
DSA
Spool
11" Spool

Zoffland Bros #60
Pennzoil - Baron 3-11-92



DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216
MIDNIGHT
6 AM
NOON
6 PM

DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216
MIDNIGHT
NOON
6 AM
6 PM

RECEIVED
APR 14 1988
DIVISION OF
OIL, GAS & MINING

DOUBLE JACK TESTING & SERVICES, INC.

B.O.P. TEST REPORT

B.O.P. Test performed on (date) 12/10/87

Oil Company Pennzoil

Well Name & Number Boren 3-11-A2

Section 11

Township 1-S

Range 2-W

County Duchesne

Drilling Contractor Loffland # 60

Oil Company Site Representative Mike Rousse

Rig Tool Pusher

Tested out of Vernal

Notified Prior to Test

Copies of this test report sent to: Pennzoil
Loffland
State - Utah

Original chart & test report on file at: Double Jack Office in Vernal

Tested by: Double Jack Testing & Services, Inc
608 North Vernal Avenue
Vernal, Utah 84078

Double Jack Testing & Services Inc.

P.O. Box 2097
E\ .nston, Wyoming 82930
(307) 789-9213

FIELD TICKET 5057

TE 12-10-87

RIG NAME AND # Loffland #60

ERATOR Pennzoil ✓

WELL NAME AND NO. Baren 3-11-A2

UNTY Duchesne | STATE Utah | SECTION 11 | TOWNSHIP T-5 | RANGE 2-W

EQUIPMENT TESTED

nd Top	RAMS	2700 psi	Held 15 min
Pe 5"	RAMS	"	"
Pe 5"	RAMS	"	"
5/8 Blind	ANNULAR B.O.P.	2000 psi	"
	CHOKE LINE	2700 psi	"
	KILL LINE	"	"
	UPPER KELLY	"	"
	LOWER KELLY	"	"
Kw-Dart	SAFETY VALVES	"	"

ADDITIONAL TESTS & COMMENTS

Swaco Hyd. choke 2700 psi - OK
Swaco Comp. 2750 @ psi

LOSING UNIT PSI 2800 | CLOSING TIME OF RAMS 6 sec | HYDRIL 14 sec

LOSED CASING HEAD VALVE yes | SET WEAR RING yes

ATES

NIT RATES Bop Test up to 10,000 psi. First 4 hrs

DDITIONAL

ILEAGE out of Vernal Round Trip 90 miles @ 1.00 a mile

EST PLUG 10" cement

ET. TOOL 4 3/4 on location

DP SUB. 4 1/2 if

ELLY SUB. 4 1/2 if

-OVER SUB. 4 1/2 xh pin 4 1/2 if Box

IETHENAL 25% for Testing 40 gal at 2.00 a gal

THER

TESTED BY Joel Hughton

SIGNATURE Mike Rouse
COMPANY REPRESENTATIVE

SUBTOTA

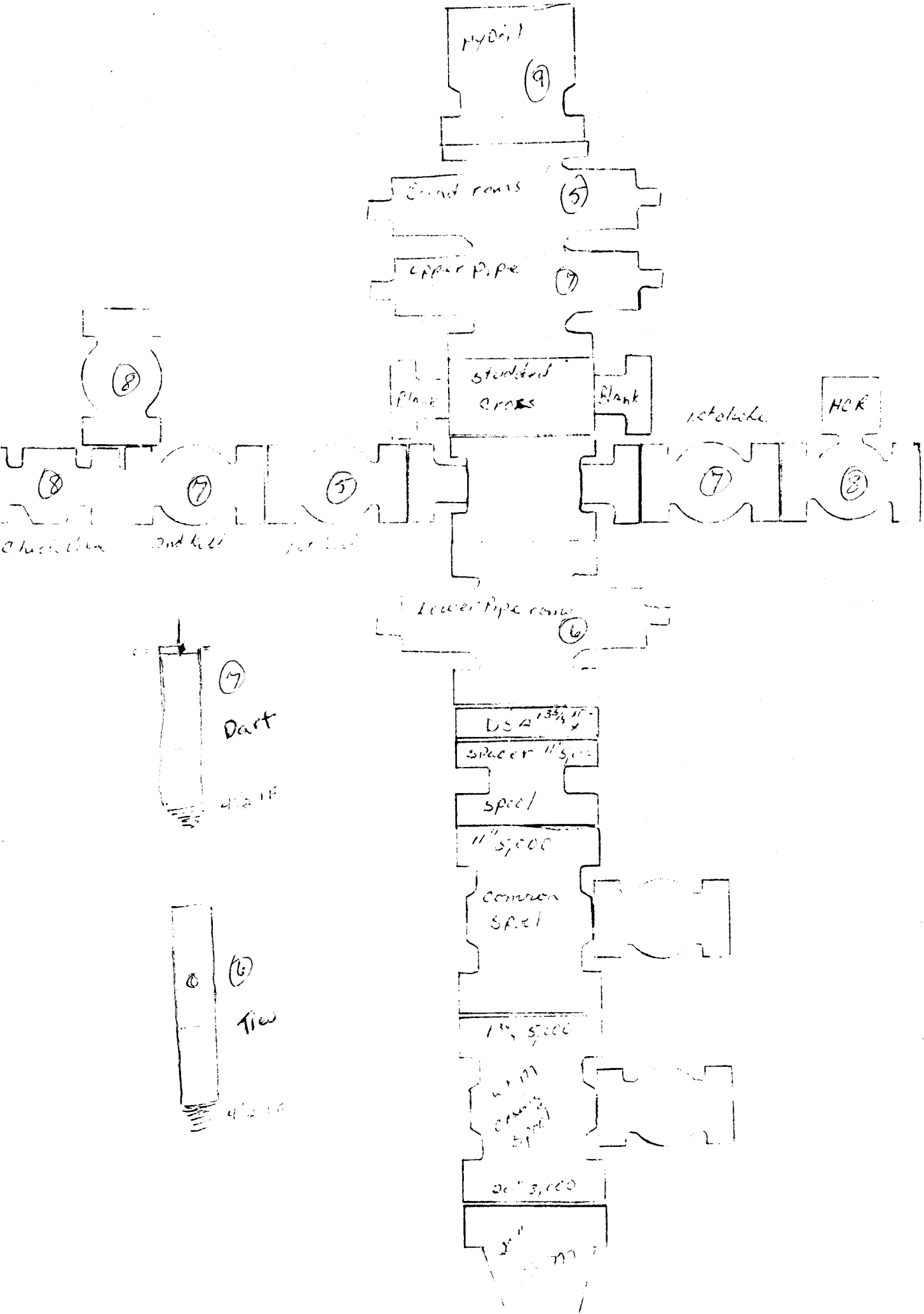
TA

TOTA

COMPANY	LEASE AND WELL NAME #	DATE OF TEST	RIG # AND NAME
Pennzoil	Bourr 3-11-A2	12/10/87	Loffland #60

TEST #	TIME	
		Arrive on location at 2:30. Rig up & get ready to test
1	3:00-3:15	1st set manifold valves - NCR 2700 psi - 15 min - OK
2	3:17-3:32	2nd set manifold valves - NCR 2700 psi - 15 min - OK
3	3:40-3:55	Swaco Super Choke - 2 manual valves 2700 psi - 15 min - OK
4	4:00-4:15	4th set manifold valves 2700 psi - 15 min - OK Set plug - fill stack - Close Blind rams
5	4:25-4:40	Blind rams & 1st Kill line valve 2700 psi - 15 min - OK Open Blinds - Pick up pipe - Put in Plug
6	5:00-5:15	Lower Pipe rams & TIW 2700 psi - 15 min - OK
7	5:20-5:35	Upper Pipe rams - 2nd Kill line valve - 1st Choke manifold valve & Dart Safety valve 2700 psi - 15 min - OK
8	5:40-5:55	Upper pipe rams - Check valve & side on Kill line valve - NCR 2700 psi - 15 min - OK
9	6:10-6:25	Hydril - upright on manifold. Had to increase closing pressure 2000 psi - 15 min - OK Pick up Kelly
10	6:40-6:55	Lower Kelly 2700 psi - 15 min - OK Go up - Close upper Kelly
11	7:13-7:28	Upper Kelly 2700 psi - 15 min - leaked Work upper Kelly
	7:25-7:40	2700 psi - 15 min - OK
		Close all valves - Fill manifold with methanol. Spool up & leave for Vernal

Thank you!
Rocky Jack Testing & Services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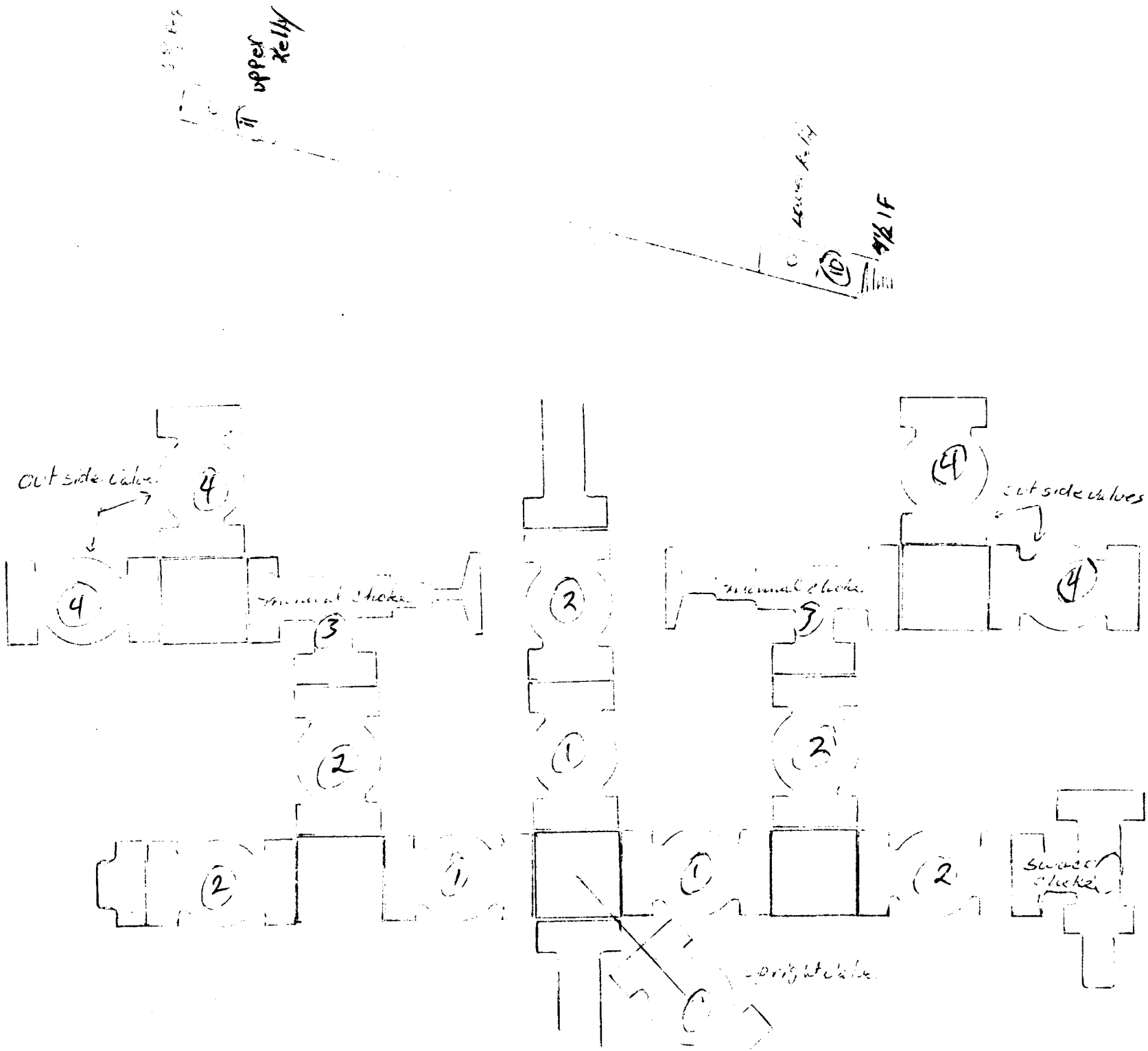
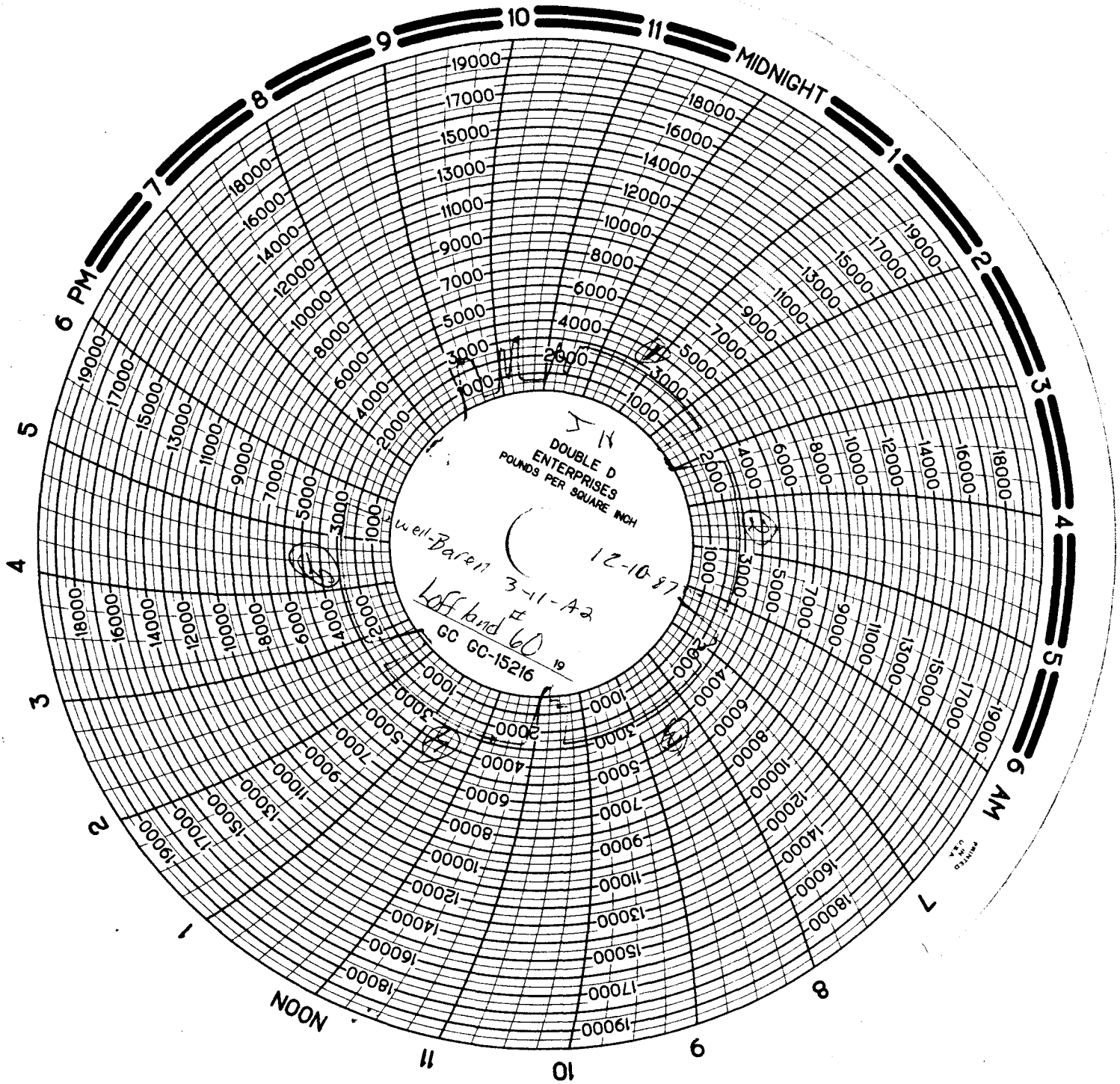
2" 3,000


upper kelly
lower kelly
#12 IF
outside valve
outside valves
minimal choke
minimal choke
swaco choke
choke valve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POUNDS PER SQUARE INCH
Lowell-Barell 3-11-A2
Loff land 60
GC GC-15216
12-10-87
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DOUBLE D
ENTERPRISES
POUNDS PER SQUARE INCH
GC GC-15216
Well Stand Up
Well Start 3-11-83
12-1087
PRINTED IN U.S.A.

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 10, 1988

Pennzoil Company
P.O. Box 290
Neola, Utah 84053

Gentlemen:

Re: Boren 3-11A2 Well, SW 1/4 SW 1/4, Section 11, Township 1 South, Range 2 West, Duchesne County, Utah

The Division has received the following information regarding the referenced well:

1. A Sundry Notice and Report on Wells dated November 11, 1987, which states that drilling commenced with the rotary drilling rig on September 30, 1987.

2. A Sundry Notice and Report on Wells dated February 11, 1988 which states that the rotary drilling rig was released on February 6, 1988.

Recent inspections conducted by Division staff at the well site suggests that the well has been completed and is presently producing.

The approval to drill issued by the Division on August 3, 1987 for the Boren 3-11A2 well indicates the necessity for certain actions in order to comply with the conditions of this approval. Specifically, your attention is directed to stipulations No. 2 and 3. A copy of the approval letter is enclosed for your convenience.

The Division requests your immediate and appropriate response to fully comply with these stipulations. If you have any questions regarding this matter please contact the Division at (801) 538-5340.

Sincerely,

R. J. Firth
Associate Director, Oil & Gas

tc
Enclosure
cc: Dianne R. Nielson, Director
BLM, Branch of Fluid Minerals
G.P. Williams, Board Chairman
0332U

DOGM Form 5
May 5, 1987

RECEIVED
JUN 13 1988
DIVISION OF
OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☐ OTHER

2. NAME OF OPERATOR: Pennzoil Company Utah Acct. # N0705

3. ADDRESS OF OPERATOR: P.O. Box 2967 Houston, TX 77252-2967

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface: See Attached List of Wells

5. LEASE DESIGNATION AND SERIAL NO.:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: See Attached List

9. WELL NO.:

10. FIELD AND POOL, OR WILDCAT: Bluebell/Altamont

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA:

12. COUNTY OR PARISH: Duchesne & Uintah

13. STATE: Utah

14. API NUMBER:

15. ELEVATIONS (Show whether DF, RT, GR, etc.):

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	☐	PULL OR ALTER CASING	☐	WATER SHUT-OFF	☐	REPAIRING WELL	☐
FRACTURE TREAT	☐	MULTIPLE COMPLETE	☐	FRACTURE TREATMENT	☐	ALTERING CASING	☐
SHOOT OR ACIDIZE	☐	ABANDON*	☐	SHOOTING OR ACIDIZING	☐	ABANDONMENT*	☐
REPAIR WELL	☐	CHANGE PLANS	☐	(Other)			☐
(Other) Operator Name Change	X			(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of operator name from Pennzoil Company to Pennzoil Exploration & Production Company, effective June 1, 1988.

See Attached List of wells

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1-TAS	
2 - MICROFILM ✓	
3- ~~2~~ - FILE	

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

SIGNED Jorge P. San Filippo TITLE Western Div. Production Mgr. DATE 6-9-88

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

SUNDRY NOTICE OF NAI HANGE
EXHIBIT A

ENTITY NUMBER	LEASE NAME	LEGAL DESC.	API #	REMARKS
5780	VIC BROWN 1-4A2	1S 2W 4	4301330011	
5785	UTE ALOTTED 1-36Z2	1N 2W 36	4301330307	
5790	HORROCKS 1-6A1	1S 1W 6	4301330390	
5795	J YACK 1-7A1	1S 1W 7	4301330018	
5800	BASTAIN FEE #1	1S 1W 7	4301330026	
5805	CHASEL FLY DIAMOND 1-18A1	1S 1W 18	4301330030	
5810	STATE 3-18A1	1S 1W 18	4301330369	
5815	RG DYE 1-29A1	1S 1W 29	4301330271	WSTC
5820	SUMMERALL 1-30 A1	1S 1W 30	4301330250	
5825	LL PACK 1-33A1	1S 1W 33	4301330261	
5835	UTE 11-6A2	1S 2W 6	4301330381	
5836	UTE 2-7A2	1S 2W 7	4301331009	
5840	DOUG BROWN 1-4A2	1S 2W 4	4301330017	
5845	LAMICQ URRUTY 4-5A2	1S 2W 5	4301330347	
5850	UTE 1-7A2	1S 2W 7	4301330025	
5855	LAMICQ URRUTY 2-9A2	1S 2W 9	4301330046	GRRV
5860	STATE 1-10A2	1S 2W 10	4301330006	
5865	SPRGFIELD M/BK 1-10A2	1S 2W 10	4301330012	
5870	L. BOREN 2-11A2	1S 2W 11	4301330277	
5875	KENDALL 1-12A2	1S 2W 12	4301330013	
5876	CLYDE MURRAY 1-2A2	1S 2W 2	4301330005	GRRV
5877	BLANCHARD 1-3A2	1S 2W 3	4301320316	GRRV
5880	OLSEN 1-12A2	1S 2W 12	4301330031	
5885	L.BOREN 1-14A2	1S 2W 14	4301330035	GRRV
5890	UTE 3-18A2	1S 2W 18	4301330125	
5895	UTE TRIBAL 4-19A2	1S 2W 19	4301330147	
5900	L. BOREN 5-22A2	1S 2W 22	4301330107	
5905	L. BOREN 4-23A2	1S 2W 23	4301330115	
5910	UTE TRIBAL 5-30A2	1S 2W 30	4301330169	WSTC
5920	BECKSTEAD 1-30A3	1S 3W 30	4301330070	WSTC
5925	UTE TRIBAL 10-13A4	1S 4W 13	4301330301	
5930	KARL SHISLER 1-3B1	2S 1W 3	4301330249	
5935	C B HATCH 1-5B1	2S 1W 5	4301330226	
5940	NORLING 1-9B1	2S 1W 9	4301330315	
5945	H.G. COLTHARP 1-15B1	2S 1W 15	4301330359	
5950	GEORGE MURRAY 1-16B1	2S 1W 16	4301330297	
5960	EH BUZZI 1-11B2	2S 2W 11	4301330248	WSTC
5965	DL GALLOWAY 1-14B2	2S 2W 14	4301330564	
5970	STATE PICKUP 1-6B1E	2S 1E 6	4304730169	WSTC
5975	LAMICQ URRUTY 1-8A2	1S 2W 8	4301330036	
9770	SMITH 1-14C5	3S 5W 14	4301330980	
9895	RACHEL JENSEN 2-16C5	3S 5W 16	4301330912	
10452	LAKEFORK 2-13B4	2S 4W 13	4301331134	
10615	HATCH 2-3B1	2S 1W 3	4301331147	
10616	NORLING 2-9B1	2S 1W 9	4301331151	
10679	ROBERTSON 2-29A2	1S 2W 29	4301331150	
10753	SHAW 2-27A2	1S 2W 27	4301331184	
10764	LAMICQ URRUTY 4-17A2	1S 2W 17	4301331190	Dulq · WSTC Conf.
10785	BOREN 3-11A2	1S 2W 11	4301331192	" " "
10794	LAMICQ 2-20A2	1S 2W 20	4301331191	" " "
	FRESTON 2-8B1	2S 1W 8	4301331203	CURRENTLY BEING DRILLED OA 43-013-31203
	~~SALERATUS WASH 1-17C5 SWD~~	~~3S 5W 17~~	~~4301399998~~	~~SALT WATER DISPOSAL WELL~~ 43-013-30388-GRRV
	ANDERSON 2-28A2 SWD	1S 2W 28	~~4304399992~~	SALT WATER DISPOSAL WELL 43-013-30346 UNTA

53

Form OGC-3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

JUN 24 1988

OIL, GAS & MINING

56 64 01 13

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] DRY [ ] Other

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [ ] DEEP-EN [ ] PLUG BACK [ ] DIFF. RESVR. [ ] Other

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

3. ADDRESS OF OPERATOR: P. O. Box 2967, Houston, TX 77252

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 660' FSL & 825' FWL
At top prod. interval reported below
At total depth

5. LEASE DESIGNATION AND SERIAL NO.
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME: Boren
9. WELL NO.: 3-11A2
10. FIELD AND POOL, OR WILDCAT: Bluebell
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec 11, T1S,R2W

14. PERMIT NO.: 43-013-31190 DATE ISSUED: 7/31/77
12. COUNTY OR PARISH: Duchesne 13. STATE: UT

15. DATE SPUDDED	16. DATE T.D. REACHED	17. DATE COMPL. (Ready to prod.)	18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*	19. ELEV. CASINGHEAD
9/12/87	1/28/88	4/9/88	5759 GR	5755.36

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
14,600	13,865		→	X	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: 13,274-13,854

CONFIDENTIAL

25. WAS DIRECTIONAL SURVEY MADE

26. TYPE ELECTRIC AND OTHER LOGS RUN: DIL, GR, FDC, CNL 880627 RFT BTL ACS SWC CBL Cy

27. WAS WELL CORED: yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
30"	conductor	100'	36"	cmt to surface	
20"	133#	1996	26	2380 sks	
10-3/4	45.5	4560	14-3/4	3213 sks	
7-5/8	29.7	13000	9-7/8	4676 sks	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)
5-1/2	12748	14622	250	

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
2-7/8	13,240	13,240

31. PERFORATION RECORD (Interval, size and number): see sttached

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
see attached	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
4/10/88	flowing	producing

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
4/16/88	24	6/64	→	477	343	0	719

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)
3100 psi	0 psi	→	477	343	0	41.0 API

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.): Gary Gas Plant

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: #37 Summary of porous zones, daily drilling and completion reports

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Ralph A. Williams TITLE Supervising Engineer DATE 6-20-88

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "*Sacks Cement*". Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
SEE ATTACHED			

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH

37. SUMMARY OF POROUS ZONES

DST #1 tool unable to reach bottom

DST #2 6545-6620' upper Green River IPH 3032, IFP 133.4-213.4 2 min, ISIP 2925.4 60 min, FFP 120-346.7 87 min, FSIP 2965.4 300 min FHP 3032 Fec 445 GCM GTS 5 min 319 MCFGPD.

DST #3 6653-6761 upper Green River IPH 3235, IFP 79.2-79.2 2 min, ISIP 2629.3 60 min, FFP 132-250.7 60 min, FSIP 2695.3 FHP 3169.3 GTS 12 min 170 MCFGPD REC 514' GCM.

DST #4 6810-6970 upper Green River IPN 3232, IFP 13.4-13.4 2 min, ISIP 1526 75 min, FFP 26.7-40 75 min, FSIP 2525 300 min, FHP 3192, REC 120' HOCM.

DST #5 6970-7135 upper Green River IPH 3392.4, IFH 184.7-184.7 3 min, ISIP 2708.5 75 min, FFP 184.7-263.9 60 min, FSIP 2952 420 min, FHP 3366.2 REC 427' total fluid; rev out, 525 MCO, 375 oil.

DST #6 7367-7405 upper Green River IPH 3635.1, IFP 83.2-83.2 3 min, 561.4 75 min, 83.2-104 60 min, 3305.2 450 min, FHP 3593.9, REC total fluid: reversed out 144.5' ok.

DST #7 8560-8634 Green River (MD) IPH 4294.9, IFP 83.2-83.2 2 min, 151P 3428.9 75 min, FFP 104.0-145.6 60 min FSIP 3779.4 450 min. FHP 4253.7 Rec; rev out GCM & gas, not able to measure.

DST #8 8984-9067 Green River (MG) IPH 4379, IFP 39.6-39.6 5 min, ISIP 4207.9 90 min, FFP 132-171.6 60 min, FSIP 4221.1 450 min, FHP 4365.8 rec 3.4 BO & GCM.

Core #1 6528.3-6588 Upper Green River
Core #2 6713.1-6744 Upper Green River
Core #3 6744-6761 Upper Green River
Core #4 6970-7000.3 Upper Green River
Core #5 7085-7135 Upper Green River

GEOLOGIC MARKERS

Green River	6540'
Mahogeny Bench	8487'
Tgr3	9750'
Base Red Beds	12,970'
Top Red Beds	11,160
Three Fingered Lm	13,956'

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

10-10-87: TD 1,996'. Nipple up 20" BOP stack (WOC & recement from top - Cut off 20" - Weld on casing head - start NU of BOP's). Fresh water. Day 10 ECTD $446,916.00.

10-11-87: TD 2,036'. Drilling sand and shale. Made 40' in 2 hours. Finished BOP NU and test same to 3,000 psi. TIH with 14 3/4" bit to float collar and test casing to 2700 psi. Drill out and made 15' of hole. Took leak off test of casing seat with 8.5# water and 1800 psi for an estimated mud weight of 25.8#. Continued drilling. Fresh water. Day 11 ECTD $449,040.00.

10-12-87: TD 2,170'. Drilling 9 1/2" hole in sand. Made 134' in 5 hours. (Drilled 14 3/4" hole to 2115' and POH. Checking BHA - PU 9 1/2" bit and new BHA & TIH - started drilling.) Fresh water. Day 12. ECTD $457,865.00

10-13-87: TD 2,875'. Drilling 9 1/2" hole in 97% sand and 3% shale. Made 705' in 16.5 hours. (Water flow @ 2439' - is under control with 9.3# mud) MW 9.3#, Vis 42, WL 12.4. 0 degrees @ 2391', & 1/4 degrees @ 2815'. Day 13. ECTD $483,345.00

10-14-87: TD 3,644'. Drilling in sand and trace of shale. Made 769' in 21.5 hours. MW 9.1#, Vis 33, WL 26.0. 3/4 degrees @ 3195', 3/4 degrees @ 3613'. Day 14. ECTD $527,324.00

10-15-87: TD 4,290'. Drilling in sand and shale. Made 646' in 23.5 hours. MW 9.2#, Vis 34. 1 degree @ 4013'. Day 15. ECTD $547,490.00

10-16-87: TD 4,560'. On TIH with 14-3/4" bit & BHA (Drilled to 4560' with 9 1/2" bit. Pull out of hole & pull up 14-3/4" bit and ectc. Start TIH. Will ream 9 1/2" hole to 14-3/4" hole and run 10 3/4" casing @ 4560'). Made 270' in 10.5 hours in shale with traces of sand. MW 9.5#, Vis 35, WL 28. 1 degree @ 4400' & 1-1/2 degrees @ 4525'. Day 16. ECTD $570,638.00

10-17-87: TD 4,560'. Reaming 9 1/2" hole to 14 3/4 @ 2806'. MW 9.1#, Vis 30, WL 20.4 Day 17. ECTD $572,752.00

10-18-87: TD 4,560'. Reaming @ 3580'. MW 9.2#, Vis 32, WL 16.0 3/4 degree @ 2818', 1/4 degree @ 3189'. Day 18. ECTD $575,879.00

10-19-87: TD 4,560'. Reaming @ 4006'. MW 9.2#, Vis 33, WL 15.2 1 degree @ 3613'. Day 19. ECTD $579,883.00

10-20-87: TD 4,560'. Reaming @ 4390'. MW 9.2#, Vis 34, WL 16.2 1/2 degree @ 4000'. Day 20. ECTD $582,901.00

10-21-87: TD 4,560'. On POH to run 10 3/4" casing @ 4560', (Finished reaming 9 1/2" hole to 14 3/4 & on POH to run casing). MW 9.5#, Vis 33, WL 16.0, 1 1/2 degree @ 4400'. Day 21. ECTD $585,505.00

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF APRIL 16 - 22, 1988

04-16-88:Flowed 347 BO and 0 BW on 6/64" choke at 3100 psi. FTP.

04-17-88:Flowed 477 BO and 0 BW on 6/64" choke at 3100 psi. FTP. 343 MCFPD

04-18-88:Flowed 285 BO and 0 BW on 6/64" choke at 3000 psi. FTP. 205 MCFPD GOR = 719CFOB. FINAL REPORT Reports discontinued pending additional well work.

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF APRIL 9 - APRIL 15, 1988

04-09-88:13 hr. SITP - 150 psi. Bled off trapped gas and finished GIH with 201 jts 2-7/8" tbg. hydrotesting to 9000 psi. Circulated hole with 215 bbls packer fluid and stung into Baker Model FB-1 pkr at 13,240'. Landed 2-7/8" tbg. on split hanger with 26,000# compression. Tested csg to 1500 psi. Held ok. WIH with 182 jts 1.9", 10 RD tbg. (5994') as heat string. Landed 1.9" tbg. on split hanger, removed BOP and installed tree. Tested pack-off to 5000 psi. Held ok. Dropped ball down 2-7/8" tbg. and waited 1 hr for ball to fall to bottom. Pressured tbg to 4500 psi to shear expendible check - pressure broke back to 3700 psi. SWIFN.
ECTD $2,593,932

04-10-88:13 hr. SITP - 3450 psi. SICP - zero. Flowed well to frac tank for 2 hrs. on 10/64" choke with FTP 2600 - 3200 psi. Rec 75 bbls load water plus 10 BO. Shut well in for 1-1/2 hrs. to repair treater - tbg. pressure built to 5200 psi. Turned well to tank battery with following results:

Time (4-9-88)	Choke	FTP (psi)	Oil (bbls)	Wtr (bbls)
11:00am - 12:00pm	32/64"	400	89.5	0
12:00pm - 1.00pm	32/64"	400	56	1.5
1:00pm - 2:00pm	32/64"	375	51	0
2:00pm - 3:00pm	32/64"	400	55	0
3:00pm - 4:00pm	8/64"	2700	39.5	0
4:00pm - 5:00pm	6/64"	3400	23	0
5:00pm - 6:00pm	5/64"	3600	12.5	0

Left well flowing to tank battery.

04-11-88:From 6pm 4-9-88 to 7am 4-11-88, (37 hrs.) well flowed 459 O & o BW on 10/64" choke with avg FTP - 3500 psi. ECTD $2,597,897

04-12-88:From 7am 4-11-88 to 7am 4-12-88 well flowed 237 BO & 0 BW on 6/64" choke with FTP-3400 psi. Prep to run production logs. Correction to report dated 4-11-88:choke size was 2/64", not 10/64" as reported. ECTD $2,599,397

04-13-88:RU McCullough and WIH with production logging tools with well flowing on 6/64" choke, FTP - 3400 psi. At 5,000' tools failed and lubricator would not adequately hold pressure. POOH and RD McCullough. Left well flowing on 6/64" choke while McCullough repaired equipment.
ECTD $2,600,087

04-14-88:RU McCullough. Run production logs through perforated interval 13274' - 13854'. Found all production flowing from 13295' - 13310'. Flowed 372 BO/0 BW in 24 hrs. on 6/64" choke at 3000 FTP. ECTD $2,605,512

04-15-88:RD MO pulling unit. Heat and transfer oil in test tanks. Flowed 253 BO and 0 BW in 24 hrs. on 6/64" choke at 3100 psi FTP.
ECTD $2,607,012

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF APRIL 1 - APRIL 8, 1988

04-01-88: RIH with retieving tool for Guiberson Uni Packer X, bumper sub and 442 jnts 2-7/8" N-80 tbg. Stung in and released packer at 13,820'. PU and stuck packer at 13,690'. Worked tubing and bumper sub and push packer to 14,550'. Attempted to POOH dragging packer. POOH with 180 jnts tubing. SIFN. ECTD $2,555,977

04-02-88: SITP 13 hr. 500 psi. POOH with remaining 284 jnts tubing. Found no packer on retrieving tool. RIH with 4-58" bit. 5-1/2" casing scraper and 454 jnts 2-7/8" tubing. Tagged packer at 14,178'. Circ. clean. POOH with 140 jnts tbg. SIFN.

04-03-88: POOH with remaining 314 jnts 2-7/8" tubing. SIFN.

04-04-88: SI for holiday. ECTD $2,558,677

04-05-88: Perforating Stage II. RU McCullough. RIH and set CIBP at 13,895'. Dump bail 30 ft. cement on CIBP. Made 12 perforating runs with 4-1/8" HSC casing guns 1 SPF on 120° phasing. Perforated Stage II perfs 13474' - 13854'. Misfired runs 1,4 and 8. 9 runs remaining including re-runs. No pressure. FL:400'. Continue working 24 hrs. ECTD $2,561,597

04-06-88: Finish perforating Stage II perfs 13274' - 13474' with 9 runs with 4-1/8" HSC casing guns 1 SPF on 120° phasing. Casing pressure to 3700 psi after perforating 13296' - 13316'. Had much trouble with wax. RIH and set Baker Mdl. FB-1 packer with tailpipe and expendible check valve in place at 13240'. RD McCullough. Bled pressure off casing. Plotted perfs on Schlum DIL of 1/26/88. Correlated on to Welex CBL of 2/2/88. ECTD $2,587,812

04-07-88: SI 24 hrs. 7am 4/6/88 - 7am 4/7/88 ECTD $2,587,812

04-08-88: RIH with standard seating nipple on 60 joints, 2 7/8" tubing. E.O.T. at ± 2100 ft. Circ. wax with 150 bbl. with hot oiler. POOH. RU hydrotester. Hydrotest in hole to 9000 psi with Baker Seal Assembly, 2 7/8" X 8' Sub, 2.25" 'F' Nipple, and 240 joints 2 7/8" N-80 tubing. SIFN. ECTD $2,589,702

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF MARCH 26 - MARCH 31, 1988

03-26-88: 13 hr SITP - 400 psi. SICP - zero. Bled off gas in 15 minutes and WIH with swab, hit fluid level at 8600'. Swabbed 11 hrs rec 22 BO & 37 bbls load water. Fluid level steady at 11,900' las 5 hours (waiting 1 hr between runs). Approx. 1000' of fluid entry per hr at end of day. Final oil cut - 25% (no detectable fines in samples). Total load - 320 bbls. Total rec. - 304 bbls. To be rec. - 16 bbls. SWIFN. ECTD $2,533,257

03-27-88: Shut-in for Sunday.

03-28-88: Shut-in.

03-29-88: Blew well down in 25 min. No fluid recovered. Continue swabbing. Initial fluid level 2000'. Swabbed well down to 12,200' in 13 runs. Waited 1 hr. between runs 13 thru 16 for 1000 ft/hr. entry. Recovered 73 BO and 0 BW in 8 hrs. SIFN. ECTD $2,535,937

03-30-88: Continue swabbing. Initial fluid level 10400 ft. Swabbed down to 12800' in 3 runs. Waited 1 hr. between runs 3 thru 8 for 800 ft/hr entry. Recovered 29 BO and 0 BW in 8 hrs. SIFN. ECTD $2,552,317

03-31-88: Initial fluid level 10100'. Swabbed down to 12800' in 3 swab runs. Recovered 13 BO and 0 BW. ND wellhead. NU BOP. POOH w/182 jnts 1.90" tubing sidestring. Released packer. POOH w/442 jnts 2-7/8" tubing and packer. SIFN ECTD $2,553,987

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF MARCH 19 - 25, 1988

03-19-88:14 hr SITP - 950 psi. Bled off gas and pumped 100 bbls 10# brine down tbg to kill well. WIH w/123 jnts 2-7/8" tbg and tagged Guiberson Uni Packer X at 13,830'. PU 10' and circulated hole for 2 hrs to remove trapped oil and gas. Set 5-1/2" Baker Model `R' pkr at 13,820' with 25,000# compression and tested csg to 1000 psi. Held ok. SIFN. ECTD $2,488,577

03-20-88:Shut down. ECTD $2,488,767

03-21-88:Shut down. ECTD $2,488,957

03-22-88:65 hr. SITP - 3600 psi. SICP - 50 psi. Bled off gas in 20 minutes and flushed tbg with 100 bbls brine wtr (9.4 ppg). POOH w/2-7/" tbg and 5-1/2" Baker Model `R' pkr. PU Guiberson seal assembly, 1 jnt 2-7/8" tbg and 5-1/2" Baker Retriev-A-Matic pkr. WIH w/422 jnts 2-7/8" tbg. Set pkr at 13,200' for safety reasons and SWIFN. Prep to release Baker pkr. Sting into Guiberson pkr and re-set Baker pkr. ECTD $2,491,742

03-23-88:13 hr. SITP - 3500 psi. SICA - 50 psi. Bled off gas in 20 minutes and released pkr. Flushed tbg with 20 bbls brine (9.4 ppg). WIH with 20 jnts 2-7/8" tbg and circulated hole with 260 bbls 9.4 ppg brine containing corrosion inhibitor and bacteriacide (NL treating company). Stung into Guiberson Uni Pkr. X at 13,830' with 10' seal assembly and slacked off 10,000#. Guiberson Pkr. did not move. PU string weight plus 3' and set 5-1/2" Baker Retriev-A-Matic Pkr. at 13,792' with 28,000# compression. Landed 2-7/8" tbg on split hanger and tested csg to 2500 psi. Held ok. Ran 182 jnts 1.9", 10 RD tbg as heat string and landed same on split hanger. Removed BOP and installed tree, tested pack-off to 5000 psi. Held ok. Swabbed 2-1/2 hrs., rec 2 BO & 34 bbls load water. Fluid level steadily fell to 5100' by end of day. SWIFN. ECTD $2,495,587

03-24-88:13 hr. SITP - 950 psi. SICP - zero. Bled off gas in 15 minutes and WIH with swab, hit fluid level at 300'. Swabbed 11 hrs., rec 61 BO & 47 BW. Fluid level slowly fell to 12,000' by end of day. SWIFN. Prep to acidize. ECTD $2,497,097

03-25-88:13 hr. SITP - 500 psi. SICP - zero, RU Dowell, installed tree saver and pressured csg to 1500 psi. Treated perfs 13,870 - 14,575' down 2-7/8" tbg with 10,000 gals 7.5% HCL acid containing 10 gal/1000 F-78 Surfactant, 5 gal/1000 A-200 Corrosion Inhibitor, 10#/1000 J-111 Gelling Agent, 10#/1000 L-58 Iron Control Agent, 5 gal/1000 L-47 Scale Inhibitor and 50 gal/1000 Mud Clean Suspending Agent. Dropped 800 Ball S6alers (1.3 SG) and 2000# Benzoic Acid flakes for diversion with fair results. Flushed with 2% KCL water. Avg injection rate 6-1/2 BPM @ 9000 psi. Max pressure - 9500 psi. ISDP - 6760 psi. 15 min - 6550 psi. Flowed back 125 bbls load water before well died. Removed tree saver and RD Dowell. Swabbed 7 hrs., rec 94 bbls load water plus 3 BO. Fluid level steadily fell to 10,100' by end of day. Samples showed no trace of fines. Total load - 320 bbls, total rec - 219 bbls, to

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF MARCH 12 - 18, 1988

03-12-88: ONSIP 2700 psi. RU Western Co. to pump out expendable check valve. Pumped 10 bbl. 10 ppg. brine water at 3.6 BPM and 6800 psi. RD Western. Rig to swab. Swabbed tubing down to 7600' in 16 runs. 800 ft/run entry. SIFN.

03-13-88: ONSIP 600 psi. Initial fluid level 100 ft. Swabbed to 2200' in 2 runs. Could not get down due to wax. SIFN.

03-14-88: SI for Sunday. ECTD $2,477,877

03-15-88: Hauled in 6018' 1.90" 2.7# tubing and unloaded. Blew well down from 3500 psi to 500 psi in 45 min. Stabilized at 500 psi flowing 100% oil. Set back pressure valve in 2-7/8" tubing hanger. RU and RIH open-ended with 1.90" tubing sidestring. ND BOP. NU wellhead. Removed back pressure valve. RU hot oiler. Circ. annulus with hot oiler 5 hrs. SIFN. ECTD $2,480,337

03-16-88: Flowed well 2 hrs. - died. Flowed 48 BO and 0 BW in 2 hrs. on 24/64 choke at 400 psi. FTP. Rigged to swab. Swabbed down to 1800' with 27 runs. Swabbed 125 bbl. 9.3 ppg brine water with trace oil. Lost 155 bbl. trace fluid on annulus. Pressure test annulus to 1000 psi. Broke circ. up tubing. SIFN
ECTD $2,482,087

03-17-88: Bled off pressure. RU wireline. RIH and set 1.87" O.D. plug in 'R' nipple in tailpipe at 13840'. Pressure test tubing, seal assembly and tailpipe to 3000 psi O.K. Confirms packer leak. POOH w/plug and RD wireline. Set BPV in 2-7/8" tbg. hanger. ND wellhead. NU BOP. POOH wth 182 jnts 1.90" tubing side string. Rig for 2-7/8". SIFN. ECTD $2,484,337

03-18-88: Remove BPV from 2-7/8" tbg. hanger. Install spherical BOP above ram - type BOP's. Stung out of packer. Circ. hole with 9.7 ppg. brine water. Attempted to catch and release Guiberson Uni Packer at 13820' for 2 hrs. POOH with 2-7/8" tbg. Left packer in hole. RIH with Baker R-3 packer for 5-1/2" 20# casing, S.N., and 2-7/8" tbg. to ± 10,000'. SIFN. ECTD $2,487,437

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

03-01-88:MIRU. Haul in tubing. Nipple down wellhead and nipple up BOP.

03-02-88:SITP 0 psi - TIH w/219 jts 2-7/8" tbg - pick up 175 jts in singles. Tag PBTD @ 14,588' (btm perf @ 14,575'). POOH w/467 jts 2-7/8" tbg - lay down tools.

03-03-88:Will resume report March 7th.

03-04-88:Shut-in for evaluation.

03-08-88:RU McCullough. Installed full lubricator. Perforated the following with 4-1/8" casing guns, 2 SPF on 120° phasing with select fire 7 runs plus 1 misfire run for 14020'-14026':

Run 1	Run 2	Run 3	Run 4
14572-575	14436-440	14320-324	14238-256
14530-543	14410-414	14312-315	14220-224
14512-514	14394-396	14296-300	14213-215
14502-504	14380-386	14286-294	
14480-482	14358-360	14278-284	
14458-462	14336-339		

Run 5	Run 6	Run 7
14162-166	13986-990	13924-934
14123-126	13958-970	13904-909
14086-090	13944-948	13870-884
14064-68		
14048-050		
14040-042		
14012-026		

Total 33 zones; 185 ft.; 370 holes. Plotted on Schlum DIL of 1/26/88. Correlated with Welex CBL 2/2/88. Fluid in hole: 10 ppg brine water. Fluid level raised 60 ft/hr. after run #4. RIH and set Guiberson Uni Packer X at 13820'. SIFN. ECTD $2,466,122

03-09-88:Blew well down 45 min. RU hydrotester. Hydrotester in hole to 9000 psi with retrieving head, seal assembly, 2-7/8" x 8' N-80 tbg., sub. profile nipple, and 260 jnts 2-7/8" N-80 tubing. SIFN. ECTD $2,467,952

03-10-88:SI for rig repair. Cracked cylinder head. E.O.T. at + 8050'. ECTD $2,467,952

03-11-88:ONSIP: 2700 psi. Blew well down in 45 min. RU hydrotester. Finish hydrotesting remaining 202 jnts 2-7/8" N-80 tubing to 9000 psi. RD hydrotester. Circ well with 9.7 ppg brine recovered 150 bbl. oil. Stung into packer. Pressure test casing and packer to 1500 psi. O.K. Landed tubing in 30000 lbs. compression. ND BOP. NU wellhead. Attempted to pump out expendable check valve to 5000 psi. (limit of rig pum and wellhead) SIFN. Will use tree saver and pump truck in A.M. ECTD $2,474,652

DW - Boren 3-11A2 - Utah - [illegible] hesne - Bluebell - Pennzoil - [illegible] W.I. 43.30%
- PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF FEBRUARY 13 - FEBRUARY 14, 1988

02-13-88:TD 14,625' (14,581' PBTD) Cleaning up location.

02-14-88:TD 14,625' (14,581' PBTD) Finish clean-up location.
FINAL DRILLING REPORT ECTD 2,335,000

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF FEBRUARY 6 - FEBRUARY 12, 1988

02-06-88:TD 14625'. PBTD=14581. Cleaning mud tanks & preparing to release rig (finished nipple down BOP stack - install tbg spool - ran 49 jnts (1,511.06') of 2-7/8", MW 6.5#, N-80 tbg). ECTD $2,302,130

02-07-88:TD 14625'. PBTD=14581'. Finished mud tanks & etc. RELEASED RIG 1:00AM ON 2-6-88 and started RDRT. ECTD $2,334,765

02-08-88:TD 14625'. PBTD=14581'. RDRT. ECTD $2,335,000

02-09-88:TD 14625' (14,581' PBTD) RDRT. ECTD $2,335,000

02-10-88:TD 14625' (14,581' PBTD) RD & MORT. ECTD $2,335,000

02-11-88:TD 14625' (14,581' PBTD) Finished w/MORT. Will start location clean-up this date. ECTD $2,335,000

02-12-88:TD 14625' (14,581' PBTD) Cleaning up location and preparing pad for completion unit in mud & ice. ECTD $2,335,000

DW - Boren 3-11A2 - Utah Duchesne - Bluebell - Pennzoil PZL W.I. 43.30% - PD 14,600' - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

WEEK OF JANUARY 30 - FEBRUARY 5, 1988

01-30-88: TD 14,625', TIH, circ. & cond. mud 5 hrs, POH, RU & start in hole with 5-1/2" liner, MW 14.5#, Vis 39, WL 8.4. Day 122. ECTD $2,157,731

01-31-88: Finished running 5-1/2" liner, TIH with liner & DP. Break circ. @7,000, 9,000, 11,000, 13,000'. Circ. & cond. mud 4 hrs. Hang liner & cement with Halliburton (205 sacks). POB at 12:15am 1-31-88 (top of liner 12748) POH with 3-1/2" DP, (Liner hung 3' off bottom at 14622'), MW 14.5#, Vis 39, WL 8.5. Day 123. ECTD $2,233,174

02-01-88: Laydown excess & DE PU 2718 DP & 3-1/2" DC & stand in derrick. TIH with 6-3/4" bit & 7-5/8" csg scraper to top of cement at 12,281'. Drill cement 12281 - 12570. Still drilling cement at report time. MW 14.4#, Vis 38, WL 8.6. Day 124. ECTD $2,238,467

02-02-88: TD 14,625'. Drill cement to liner top at 12,748'. Circ. & cond. mud. POH change rams. TIH with 4 3/8 mill and 5 1/2" casing scraper on 2 7/8" DP and 3 1/2" DP. Drill through liner hanger. TIH to 14,251'. Washing through thick mud to 14,550'. MW 14.3#, Vis 37, WL 10.5. Day 125. ECTD $2,244,143

02-03-88: TD 14625'. Drill cement inside liner 14550' to 14581'. Circ. & cond. mud at 14581'. POH & RU Welex. Run cement bond log from 14584 to surface with 1000# pressure on casing at surface. RD Welex. Landing collar 14581' (PBTD). MW 14.2#, Vis 38, WL 10.4. Day 126. ECTD $2,244,143

02-04-88: TD 14625'. PBTD=14581 L.C. Test TOL w/2000 psi for 30 min. OK. Back flow test TOL w/3250 psi - diff. test OK for 3-1/2 hrs - GIH w/mill & scrapper. Displace mud w/10# brine water. MW 14.2#, Vis 41, WL 10.8. Day 127. ECTD $2,266,202

02-05-88: TD 14625'. PBTD=14581. Displace 14.2# mud w/10.0# brine water, lay down D.P. Nipple down BOP's. 10.0# brine water. Day 128. ECTD $2,278,785

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - Wasatch - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

01-23-88:TD 14,344', drilling with 1400 gas units, made 96' in 24 hours, MW 14.4#/14.4#, Vis 44, WL 7.8. Day 115. ECTD $2,066,179

01-24-88:TD 14,441', drilling with 850 gas units, made 97' in 24 hours, MW 14.4#/14.4#, Vis 46, WL 7.0. Day 116. ECTD $2,072,995

01-25-88:TD 14,541', drilling with 800 gas units, made 100' in 24 hours, MW 14.4#/14.4#, Vis 43, WL 7.2. Day 117. ECTD $2,082,145

01-26-88:TD 14,600', on POH w/SLM to log, made 59' in 12 hours, at 14,600', gas units ran from 2000 to 4000 (drilled to 14,600' - circ out - made 20 stand short trip - circ out - start POH) MW 14.5#/14.4#, Vis 40, WL 7.6. Day 118. ECTD $2,088,543

01-27-88:TD 14,600', on TIH (finished POH w/SLM - board 14,600' - SLM 14,603' - loggers depth 14,604' - no depth corrections - ran DIL & CNL-FDC logs - ch. BOPs - ch - BHA & TIH), MW 14.5#, Vis 40, WL 7.2. Day 119. ECTD $2,097,052

01-28-88:TD 14,625', circ & cond. mud, made 25' in 18.5 hrs. w/800 gas units, (finished TIH - drilled to 16,425' - circ & condition mud for POH to run sonic logs) MW 14.5#/14.4#, Vis 38, WL 8.4. Day 120. ECTD $2,113,400

01-29-88:TD 14,625', on TIH to circ & condition wellbore for 5-1/2" liner (finished circ - POH - ran teleview or log - BHC sonic logs - start TIH) MW 14.5#, Vis 38, WL 8.2. Day 121. ECTD $2,119,409

DW - Boren 3-11A2 - Utah Duchesne - Bluebell - Pennzoil PZL W.I. 43.30%
- PD 14,600' - 660' FSL [illegible]' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

01-16-88: TD 13,574', drilling with 2200 gas units, lost 210 bbl's mud in last 24 hours. MW 14.3#/gal, Vis 44, WL 9.2. ECTD $2,011,698

01-17-88: TD 13,696', drilling with 3900 gas units - lost 190 bbls mud in last 24 hours - have not lost any mud in last 7 hours. MW 14.3#/gal, Vis 43, WL 9.0. ECTD $2,019,903

01-18-88: TD 13,820', drilling with 2900 gas units - no mud loss in last 24 hours. MW 14.3#/gal, Vis 44, WL 9.0.

01-19-88: TD 13,940', drilling with 900 gas units, made 120' in last 24 hours. MW 14.3#/gal, Vis 46, WL 9.0. ECTD $2,038,596

01-20-88: TD 14,048', drilling with 5000 gas units - up from 1400 units following - drilling break @ 14009' - 14020', made 108' in 24 hours. MW 14.4#/14.2#, Vis 46, WL 8.6. ECTD $2,044,634

01-21-88: TD 14,156', drilling with 1400 gas units, made 108' in 24 hours, MW 14.4#/14.3#, Vis 48, WL 8.6. ECTD $2,050,972

01-22-88: TD 14,248', drilling with 2500 gas units, made 92' in 24 hours, MW 14.4#/14.3#, Vis 41, WL 8.2. Day 14 ECTD $2,050,972

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

01-09-88: TD 13,045', drilling with 100 gas units. Lost total of 80 bbls mud @ 13,010'. Pump L.C.M. pill, wait 30 minutes. Tested casing shoe to 950# with 11.6 mud (equivalent mud wt. - 13#) @ 13,015'. Day 101. ECTD $1,935,486

01-10-88: TD 13,063', drilling with 28 gas units. Tripped for diamond bit. No fill. MW 11.6#/11.6#, Vis 41, WL 10.5 Day 102. ECTD $1,941,418

01-11-88: TD 13,220', drilling with 2700 gas units. Made 157' in 24 hours. MW 11.8#/11.8#, Vis 38, WL 10.2 Day 103. ECTD $1,952,812

01-12-88: TD 13,289', drilling with 2200 gas units. Made 69' in 13 hours. MW 14.1#/gal, Vis 42, WL 10.0. Took 27 bbl kick @ 13,285' with 11.9#/gal mud. Shut-in press. 1200#. Weighted to 13.8#/gal and circulated around thru choke. Well dead. Drilled 1/2 hour from 13,285' to 13,289' and gained 15 bbls. Shut-in well with 450# on csg and 75# on drill pipe. Increased mud to 14.1#/gal and circulated around. Began drilling again at 6:00am. ECTD $1,960,812

01-13-88: TD 13,315', circ and cond. mud to 14.3#/gal, made 26' in 7 hours. MW 14.3#/gal, Vis 46, WL 9.8. ECTD $1,982,032

01-14-88: TD 13,342', drilling with 1200 gas units, made 27' in 7 hours. MW 14.3#/gal, Vis 40, WL 9.8. ECTD $1,988,960

01-15-88: TD 13,436', drilling with 1800 gas units, made 94' in 14.5 hours - lost complete returns @ 13,385'. Mixed L.C.M. pill and regained partial circulation after pumping 250 bbls. Circulated out 150 bbls oil thru choke. Total mud loss in last 24 hrs - 570 bbls. MW 14.3#/gal, Vis 46, WL 9.0. ECTD $1,996,989

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

01-04-88: TD 13,000', running 7 5/8" intermediate casing (finished circ - POH - laying down drill string - R/U & start running 7 5/8" casing), MW 11.6#/11.6#, Vis 38, WL 10.8. Day 96. ECTD $1,533,119

01-05-88: TD 13,000', circ thru D.V. tool for 2nd stage cement, (ran 7 5/8" csg to 13,000' lost 50 bbls mud on TIH & broke circ 4 times, lost 100 bbls mud while pumping 1st stage cement, open D.V. @ 7848' with 1000 psi & circ out - recovered spacer - with no trace of cement) MW 11.6#/11.6#, Vis 42, WL 11.4. Day 97. ECTD $1,801,396

01-06-88: TD 13,000', preparing to test BOP stack, (finished circ - pump 2nd stage cement - circ 30 bbls cement & lost returns - see attached cement & casing reports - remove BOP's - set slips with 290,000# wt. - cut off 7-5/8" etc. & N/U BOP stack - preparing to test BOP's) MW 11.6#, Vis 40, WL 10.8. Day 98. ECTD $1,878,660

01-07-88: TD 13,000', drilling on D.V. tool @ 7848', (finished with BOP testing - P/U 3-1/2" drill string to 7848' - test csg to 5000 psi & start drilling on D.V. tool) MW 11.6#, Vis 42, WL 12.2. Day 99. ECTD $1,901,869

01-08-88: TD 13,000', drilling with 220 gas units, (drilled D.V. tool - tested csg with 5000 psi - ok - TIH to top of cement @ 12,817' - test csg with 5000 psi - ok - drill out & seat today) MW 11.6#/11.6#, Vis 40, WL 12. Day 100. ECTD $1,909,372

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

12-26-87: TD 12,796', drilling with 680 gas units - changed out gas reading element in logging unit & gas units dropped from 3500 to 680, made 30' in 7.5 hours, MW 11.7#/11.6#, Vis 43, WL 8.8. Day 87. ECTD $1,397,032

12-27-87: TD 12,929', drilling with 160 to 170 gas units, made 133' in 23 hours, MW 11.7#/11.6#, Vis 38, WL 9.8. Day 88. ECTD $1,440,504

12-28-87: TD 13,000', circ & condition mud to log, made 71' in 13.5 hours with 400 to 700 gas units, MW 11.7#/11.6#, Vis 39, WL 8.0. Day 89. ECTD $1,420,015

12-29-87: TD 13,006', Schlumberger running FDC-CNL log, made 0' in last 24 hours and ran DLL-GR log, MW 11.7#/11.6#, Vis 36, WL 8.8, 3/4 degrees @ 13,000'. Day 90. ECTD $1,443,559

12-30-87: TD 13,000', on POH to continue logging, made 0' in last 24 hours finished running FDC-CNL log & TIH - circ mud & start POH, MW 11.7#/11.6#, Vis 39, WL 9.6. Day 91. ECTD $1,451,463

12-31-87: TD 13,000', on POH with RFT tool, made 0' in last 24 hours (finished POH with bit - Schlumberger ran BHC-sonic & wave form logs - then the RFT tool & took 42 Pressure Test - now on POH with RFT tool), MW 11.6#, Vis 37, WL 9.6. Day 92. ECTD $1,504,034

01-01-88: TD 13,000', circ & cond. mud after logging with RFT tool, gas units 300 (finish with RFT logging & TIH & condition mud & wellbore for final log runs), MW 11.7#/11.7#, Vis 44, WL 11.2. Day 93. ECTD $1,513,719

01-02-88: TD 13,000', running dipmeter (finished conditioning mud - POH - run BHTV log - now running dip meter log), MW 11.7#/11.7#, Vis 37, WL 9.6. Day 94. ECTD $1,520,334

01-03-88: TD 13,000', circ & conditioning mud in preparation to run 7 5/8" intermediate casing with 300 gas units (finish with logging - TIH - circ for 7 5/8"), MW 11.6#/11.6#, Vis 42, WL 10.4. Day 95. ECTD $1,526,804

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

12-12-87:TD 11,463', drilling with 800 gas units, 139' in 23 hours, MW 9.5#, Vis 37, WL 10.8. Day 73. ECTD $1,260,644

12-13-87:TD 11,548', TIH, 800 gas unit, 85' in 18.5 hrs., MW 9.5#, Vis 36, WL 10.4. Day 74. ECTD $1,265,874

12-14-87:TD 11,706', drilling with 440 gas units, MW 9.5#, Vis 40, WL 11.8. Day 75. ECTD $1,272,944

12-15-87:TD 11,855', drilling with 500 gas units, 149' in 23 hours, MW 9.5#, Vis 36, WL 10.8. Day 76. ECTD $1,283,311

12-16-87:TD 11,925', TIH with bit #360, 70' in 14 hours, 3500 gas units, MW 10#, Vis 36, WL 9.6. Day 77. Dexp. - 2.03 ECTD $1,283,311

12-17-87:TD 12,040', drilling with 3700 gas units, 115' in 21 hours, MW 10.2#, Vis 37, WL 10.4. Day 78. Lost 150 bbls. mud during trip @ 11,925'. ECTD $1,299,332

12-18-87:TD 12,160', drilling with 1200 gas units, 120' in 24 hours, MW 10.5#, Vis 38, WL 11.6. Day 79. ECTD $1,312,902

12-19-87:TD 12,220', drilling with 6400 gas units, made 60' in 10.5 hours, MW 10.6#/10.4#, Vis 36, WL 11.6. Day 80. ECTD $1,323,158

12-20-87:TD 12,333', drilling with 5000 gas units, made 113' in 24 hours, MW 11.2#/11.2#, Vis 40, WL 10.8. Day 81. ECTD $1,325,499

12-21-87:TD 12,433', drilling with 5400 gas units & trace of flare & no connection gas, made 100' in 24 hours, MW 11.4#/11.4#, Vis 40, WL 10.6. Day 82. ECTD $1,342,237

12-22-87:TD 12,476', drilling with 2600 gas units, made 43' in 10 hours, MW 11.4#/11.4#, Vis 39, WL 10.6. 1/2 degree @ 12,455'. Day 83. ECTD $1,355,961

12-23-87:TD 12,602', drilling with 4600 gas units, made 126' in 23.5 hours, MW 11.5#/11.4#, Vis 37, WL 10.2. Day 84. ECTD $1,369,565

12-24-87:TD 12,716', drilling with 3600 gas units, made 114' in 23.5 hours, MW 11.6#/11.6#, Vis 38, WL 10.2. Day 85. ECTD $1,376,864

12-25-87:TD 12,766', test BOP's on RTCB, made 50' in 11.5 hours with 3500 gas units, MW 11.6#, Vis 38, WL 10.4. Day 86. ECTD $1,303,534

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

11-28-87:TD 9271', drilling with 200 gas units, 204' in 19 hours, MW 9.3#, Vis 36, WL 10.0. Day 59. ECTD $1,137,281.

11-29-87:TD 9512', RTCB, 241' in 20.5 hours with 140 to 250 gas units, MW 9.3#, Vis 34, WL 8.8. Day 60. ECTD $1,146,302.

11-30-87:TD 9567', Trip for washout, 55' in 4.5 hours with 115 to 265 gas units, MW 9.3#, Vis 34, WL 10.0. Day 61. ECTD $1,149,720.

12-01-87:TD 9685', drilling with 130-230 gas units, 118' in 9.5 hours, MW 9.3#, Vis 35, WL 10.4. Day 62. ECTD $1,156,809.

12-02-87:TD 9834', drilling with 110-200 gas units, 149' in 12 hours, MW 9.3#, Vis 35, WL 10.8. Day 63. ECTD $1,164,024.

12-03-87:TD 9834', drilling with 200 gas units, 138' in 14 hours, MW 9.3#, Vis 36, WL 10. Day 64. ECTD $1,170,030.

12-04-87:TD 10,250', drilling with 300 gas units, 278' in 22.5 hours, MW 9.3#, Vis 33, WL 10.2, 3/4 degrees @ 9958'. Day 65. ECTD $1,181,027

12-05-87:TD 10,502', RTCB, 252' in 17.5 hours with 500-600 gas units & lost 350 bbls mud in three drilling breaks, MW 9.3# in & out, Vis 34, WL 10.8, 3/4 degrees @ 10,502'. Day 66. ECTD $1,181,027

12-06-87:TD 10,762', drilling with 300-400 gas units, 260' in 20 hours, MW 9.3# in & out, Vis 33, WL 11.8. Day 67. ECTD $1,203,148

12-07-87:TD 10,855', drilling with 240 gas units, 93' in 10.5 hours, MW 9.3# in & out, Vis 36, WL 12.2, 1 1/4 degrees @ 10,829. Day 68. ECTD $1,210,312

12-08-87:TD 11,029', RTCB, 174' in 20 hours with 700 gas units & lost 75 bbls mud, MW 9.3# in & out, Vis 34, WL 11.8. Day 69. ECTD $1,228,520

12-09-87:TD 11,148', drilling with 600 gas units, 119' in 17.5 hours. MW 9.4 in 9.3 out, Vis 34, WL 9.6. Day 70. ECTD $1,231,433

12-10-87:TD 11,222', checking BOP's on Trip for hole in drill string, 74' in 10 hours with 250 gas units, MW 9.3 in & out, Vis 35, WL 8.8. Day 71. ECTD $1,237,204

12-11-87:TD 11,324', drilling with 680 gas units, 102' in 16.5 hours, MW 9.3 in & out, Vis 34, WL 11.2. Day 72. ECTD $1,257,454

DW - Boren 3-11A2 - Utah - Duchesne - Bluebell - Pennzoil - PZL W.I. 43.30% - PD 14,600' - Wasatch - 660' FSL 825' FWL - Sec 11,T1S,R2W - Loffland Rig #60
AFE Cost $2,700,000

11-21-87:TD 8395'. Drilling with 200 units of gas, 331' in 19 1/2 hours, MW 9.4#, Vis 35, WL 8.8, Day 52. ECTD $1,051,794.00

11-22-87:TD 8550'. RTCB, 155' in 11 1/2 hours with 200 gas units, MW 9.4#, Vis 34, WL 9.2, 1 degree @ 8408'. Day 53. ECTD $1,073,131

11-23-87:TD 8634', on TIH for DST#7, 84' in 5 hours with 200 gas units, MW 9.4#, Vis 34, WL 9.2, 3/4 degrees @ 8600'. Day 54. ECTD $1,080,230

11-24-87:TD 8640', Drilling with 150 gas units, Made 6' in 1/2 hour. MW 9.4#, Vis 39, WL 8.8, Day 55. ECTD $1,085,831.

11-25-87:TD 8936', Drilling with 150 gas units, Made 296' in 24 hours. MW 9.3#, Vis 34, WL 7.2, Day 56. ECTD $1,109,139.

11-26-87:TD 9067', On TIH for DST #8, 131' in 11 hours with 250 gas units, MW 9.3#, Vis 35, WL 9.2, 3/4 degrees @ 9043'. Day 57. ECTD $1,116,840.

11-27-87:TD 9067', On TIH to drill, 0.0 in 0.0 hours (finished running DST #8 - now on TIH to drill) MW 9.3#, Vis 33, WL 9.6. Day 58. ECTD $1,127,146.

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

11-14-87:TD 7205'. Drilling with 200 gas units, 70' in last 3 hours, MW 9.1#, Vis 36, WL 8.8, Day 45. ECTD $1,006,557.00

11-15-87:TD 7405'. TIH for DST #6, 200' in 12.5 hours with 340 gas units, (drilled to 7405'- circulate samples - POH - P/U test tools and start TIH) MW 9.2#, Vis 38, WL 8.8, 3/4 degrees @ 7400', Day 46. ECTD $1,014,743.00

11-16-87:TD 7405'. Circulate btms up from DST #6, 0.0' in last 24 hours - tripping and testing, MW 9.2#, Vis 36, WL 8.8, Day 47. ECTD $1,024,637.00

11-17-87:TD 7804'. Drilling with 100 - 300 gas units, 399' in last 20.5 hours, MW 9.2#, Vis 35, WL 10, Day 48. ECTD $1,037,769.00

11-18-87:TD 7863'. Reaming to btm, 59' in last 9.5 hours with 180 gas units, MW 9.2#, Vis 37, WL 8, Day 49. ECTD $1,041,580.00

11-19-87:TD 8037'. Drilling with 250 gas units, 174' in last 11.5 hours, MW 9.1#, Vis 35, WL 10.4, 1 1/4 degrees @ 7860'. Day 50. ECTD $1,048,450.00

11-20-87:TD 8064'. RTCB, 27' in 6 hours with 220 gas units, (started trip with 9.1# had to TIH to btm and raise mud wt. to 9.3# - now on TIH with new bit) MW 9.3#, Vis 34, WL 10.4, Day 51. ECTD $1,051,643.00

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

11-5-87: TD 6761'. @ 6746' reaming to btm, 0' in 1st 24 hours (finished DST #3 and POOH. PU packed hole BHA, started reaming @ 6470'). MW 9.1#, Vis 38, WL 8.8, 1_ @ 6676' Day 36. ECTD $883,451.00

11-6-87: TD 6831'. Drilling with 16 to 27 gas units. Made 70' in 6.5 hours. (Finished reaming out of dogleg and core hole. Tripped for bit to lay down stabilizers. Started drilling ahead. MW 9.2#, Vis 40, WL 8.4. 3/4 degrees @ 6756'. Day 37. ECTD $892,220.00

11-7-87: TD 6970'. On TIH for DST #4. Made 139' in 10.5 hours. (Drilled to 6970'. POH for DST #4. P/U test tools and TIH). MW 9.2#, Vis 38, WL 8.8. Day 38. ECTD $899,673.00

11-8-87: TD 6978'. Cutting core #4 with 15 to 22 units gas. Made 8' in 5 hours of coring. (Ran DST #4 see attached for details. POH. Lay down test tools. P/U core barrel & TIH. Cutting core #4). MW 9.1#, Vis 35, WL 8.0. Day 39. ECTD $909,053.00

11-9-87: TD 7000'. On TIH with bit to drill. Made 22' in 14.5 hours of coring. (Core bbl jammed on connection @ 7000' - POH with core #4. Cut 30' and recovered 29.5' for 98.3% recovery and orientation tool did not work. P/U bit and BHA and start TIH). MW 9.1#, Vis 34, WL 8.0. Day 40. ECTD $915,005.00

11-10-87: TD 7085'. On TIH with core bbl. Made 85' in 4.5 hours with 55-80 gas units. (Finish TIH - drill to 7085' and POH - P/U core bbl and start TIH) MW 9.1#, Vis 34, WL 8.0. Day 41. ECTD $921,366.00

11-11-87:TD 7126'. Cutting core #5 with 15-28 gas units, cored 41 in 22 hours, MW 9.1#, Vis 35, WL 8.8. Day 42. ECTD $934,002.00

11-12-87:TD 7135'. On TIH for DST #5, cut 9' of core in 6.5 hours, (finished cutting core #5 - cut 50' and recovered 50' of core for 100% recovery - orientation did not work - reason unknown. POH. P/U test tools and TIH for DST #5), MW 9.1#, Vis 34, WL 8.4. Day 43. ECTD $984,384.00

11-13-87:TD 7135'. On TIH, cut 0.0' in last 24hours, (finished TIH - ran DST #5 and POH - on TIH), MW 9.1#, Vis 37, WL 8.6, Day 44. ECTD $993,241.00

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

10-29-87: TD 6,588'. P/U bit and start in hole to drill. (Finished cutting 60' of core. Had one unit of gas on most of core. Maximum gas units "8" eight. POH and lay down core. P/U bit and start in hole. Core recovery will be reported on 10-30-87). Fresh water and gel, 8.7#, Vis 37, WL 11.2, Day 29. ECTD $822,960.00.

10-30-87: TD 6,620'. @ 6137' on TIH with DST tools and setting down on bridge, TIH with 9 7/8" bit - Ream out core hole and drill to 6620'. Circulate for DST #1 - POH. P/U test tools and TIH. Worked through bridge @ 6062'. TIH to bridge @ 6137'. Will POH and condition wellbore, MW 8.7#, Vis 38, WL 12.8, 1/2 degree @ 6620'. Day 30. ECTD $829,119.00.

10-31-87: TD 6,620'. On POH for DST #2 (could not get to bottom for DST #1. POH - TIH with bit & etc. - Condition mud - ream out tight spots and made short trips until Wellbore cleaned up. Had 3450 gas units on bottoms up from DST misrun. Had 9 gas units when started POH for DST #2) MW 8.8#, Vis 37, WL 8.8, Day 31. ECTD $836,170.00. (Note: DST #1 6553-6620' misrun tight hole @ 6062' and 6137'. For Core #1 cut 59.8' (from 6528' to 6588') and recovered 57.5' for a 96.1% recovery factor.)

11-1-87: TD 6620'. Washing to bottom with 70 units of gas after bottoms up. (Finish POH for DST #2, POH & lay down test tools - P/U bit, sub & etc. TIH, wash to bottom). MW 8.8#, Vis 38, WL 8.0, day 32. ECTD $850,378.00

11-2-87: TD 6737'. Cutting Core #2, (Circ. out gas - drill 6620/6713' - Circulate samples - POH for Core #2 - P/U core barrel - TIH - Wash to bottom - Circulate 20 min. - start coring). MW 8.9#, Vis 38, WL 8.8, 2 1/2 degrees @ 6687'. Will be rechecked. Day 33. ECTD $856,667.00

11-3-87: TD 6745'. Cutting Core #3 with 1 to 6 units of gas. Made 8' in 13.5 hours. (Finished cutting core #2 from 6713 to 6744. Cut 31' of core recovered 28.5' for 91.9% recovery. Core head grooved. POH. Orientation tool failed again. P/U new core head and TIH. Started cutting core #3. Trip gas - 12 units). MW 9.1#, Vis 38, WL 8.0, Day 34. ECTD $872,144.00

11-4-87: TD 6761'. On final shut-in of DST #3. Made 16' in 8.5 hours on core #3. (Finished cutting core #3. POH and recovered 15' of 17' cut for 88.2% recovery. P/U DST tools and TIH. Running DST #3. 2 minute preflow - 60 minute initial shut-in - 60 minute final flow with 170 MCFD max flow rate. Now on final shut-in). MW 9.1#, Vis 38, WL 8.4, Day 35. ECTD $877,596.00

DRILL STEM TEST REPORT

WELL: Boren 3-11A2 DATE: 11/4/87

DST NO.: 3 TESTING COMPANY: Halliburton

INTERVAL: 6663' to 6761' FORMATION: Upper Green River

FLOW DESCRIPTION:
(PRE) FLOW (2 MIN) OPEN W/ 8", btm of bucket after 30 sec.
INITIAL SHUT-IN (60 MIN)

FINAL FLOW (60 MIN) OPEN W/ 8", 1 min - 22 psi, 2 min - 23 psi, 4 min - - 24 psi, 7 min - 26 psi, 12 min - 28 psi(gas to surface), 15 min - 30 psi 24 min-40 psi, 40 min-61 psi, 60 min-100 psi (final rate 175 mcf/d)

FINAL SHUT-IN (300 MIN)

WATER CUSHION: none FT. RATHOLE MUD (MUD VOLUME BELOW PKRS 6.0 BBLS
380 FT OF D.C. .0073 BBLS PER FT & _____ FT OF D.C. _____ BBLS PER FT.
_____ FT OF D.P. _____ BBLS PER FT & _____ FT OF D.P. _____ BBLS PER FT.

DRILL STRING RECOVERY (IN FT. & BBLS)
360' gas cut mud (2.63 bbls)

SAMPLE CHAMBER RECOVERY: SALT WTR _____CC; AND _____PPM

OIL _____CC; GRAVITY _____@ 60°F OR _____°F

GAS 1.4 FT^3; H_2S none ,000 PPM

MUD 415 CC w/a few specks of oil

EMULSION _____CC; OF _____

PRESSURE: 200 PSI AND BHT: 118 °F

WATER RESISTIVITY: PIT: _____@_____°F _____,000 PPM

DRILL PIPE: _____@_____°F _____,000 PPM

SAMPLE CHAMBER: _____@_____°F _____,000 PPM

MUD RESISTIVITY: PIT: 2.1 @ 68 °F 800 ,000 PPM

DRILL PIPE: 1.4 @ 74 °F 1700 ,000 PPM

SAMPLE CHAMBER: 1.4 @ 67 °F 2727 ,000 PPM

		btm G	top G
BTM. BOMB:	INITIAL HYDROSTATIC:	3235	3152
2	MINUTE PRE-FLOW:	79.2-79.2	26.7-26.7
60	MINUTE INITIAL SHUT-IN	2629.3	2579
60	MINUTE FINAL FLOW	132-250.7	80-213
300	MINUTE FINAL SHUT-IN	2696	2605
FINAL HYDROSTATIC		3169	3139

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

10-22-87: TD 4,560'. ND 20" BOP stack (lay dwn 9" & 11" DC. RU & run 109 jts. (4,571-94') 10-3/4", 45.5#, K-55, Butt. csg. Set and remilled at 4,560'. Set csg in slips with 170,000#. Cut off. Started removing 20" BOP stack. 9.5 MW, 40 Vis 20 WL ECTD $728,458.00

10-23-87: TD 4,560'. Picking up 9 7/8" BHA (Finished removing 20" BOP stack - Made cut off. Installed casing spools & tested same. P/U & test 10, 000 psi x 13 5/8" BOP stack. Start picking up new BHA). Fresh water. Day 23. (Note: GL Elevation 5766.16') ECTD $732,988.00.

10-24-87: TD 4,915'. Drilling 9 7/8" wellbore. Made 355' in 12 hours. MW 8.4, Fresh water. Day 24. (Test BOP stack and casing to 2700 psi. Made 15' and tested casing seat (limited by 10 3/4" casing) to 2700 psi with fresh water in the well-bore for an eq. test to 19.7# but not to leak-off). ECTD $749,778.00.

10-25-87: TD 5,514'. Drilling in sandstone & shale. Made 599' in 20 hours. Fresh water. 1 degree @ 5062'. Day 25. ECTD $770,187.00.

10-26-87: TD 6,258'. Drilling in sandstone & shale. Made 744' in 22 hours. Day 26. ECTD $795,237.00.

10-27-87: TD 6,526'. On TIH with junk basket. Made 268' in 8 hours. (Drilled to core point - displaced fresh water drilling fluid with fresh water - gel drilling fluid - POH - PU junk basket and start TIH) MW 8.6#, Vis 39, WL 12.8, 1 degree @ 6496'. Day 27. ECTD $807,972.00.

10-28-87: TD 6,567'. Cutting core #1 with 8 3/4" corehead. Made 41' in 12.5 hours. Started coring @ 6528' (Finish TIH with junk basket. Wash to bottom & made 2' of hole. POH and recovered one bit insert in junk basket. PU core barrel and TIH and started coring). Fresh water gel @ 8.6#, Vis 38, WL 13.2, Day 28. ECTD $814,328.00.

Surface Casing Report

Ran 109 joints (4571.94 ft.) 10 3/4" O.D. 45.50 #/ft. K-55 Gr. Buttress connection. Set and cemented @ 4560' KB. Ran 12 centralizers @ 4552 ft., 4475 ft., 4349 ft., 4222 ft., 4094 ft. @ 3970, 3845, 3722, & 3593, 3469, 1991, 1905. Job completed @ 2:00 AM. 10-22-87. Surface Casing Cement: Pre-flush: 36 bbls of H2O, Cement: 2717 sks, BJ lite, 1/4 # SK celloflake. Tail-in: 496 sks, Cl "H", 2% CACL2. Did bump plug with 329 bbls of H2O. Calculated displacement 434.88 bbls. Circulated cement and cement did not fall back.

Boren 3-11A2
Section 11 - T1S - R2W
AFE Cost $2,700,000.00

9-28-87: RURT (50% completed with RURT). On 9-12-87 spudded this well @ 9:30 A.M. - when rathole digger started digging conductor hole. Ran, set & cemented 30" conductor pipe in a 36" hole @ 100'. Started MIRT on 9-23-87 & started RURT on 9-26-87).

9-29-87: Made 100'. RURT

9-30-87: Made 100'. RURT

10-1-87: Made 258'. Drilling in sand & sandstone with gel water. (Started drilling @ 9:00 P.M. on 9-30-87 per Utah regulations. The well was spudded @ 9:30 A.M. on 9-12-87). 8.5#, Fresh water with gel. Day 1. ECTD $128,502.00

10-2-87: Made 748'. Drilling with clear water. Water in sand, 490' in 23 hours. Fresh water, 1/4 degrees @ 382'. Day 2. ECTD $144,419.00

10-3-87: TD 1,076'. RTCB. Made 328' in 20.5 hours. Fresh water. 1/2 degree @ 758'. 1/2 degree @ 1053'. Day 3. ECTD $165,195.00

10-4-87: TD 1,181'. RTCB. Made 105' in 7 hours. Fresh water. 1 degree @ 1143'. Day 4. ECTD $180,361.00.

10-5-87: TD 1,482'. Drilling in sand and sandstone. Made 301' in 17.5 hours. Fresh water, 3/4 degree @ 1308'. ECTD $189,988.00.

10-6-87: TD 1,787'. Drilling in sand, sandstone and trace of shale. Made 385' in 23 hours. Fresh water, 1/2 degree @ 1672'. ECTD $209,784.00.

10-7-87: TD 1,935'. Drilling in sand & sandstone. Made 146' in 24 hours. Fresh water. Day 7. ECTD $214,785.00.

10-8-87: TD 1,996'. Running 20" casing, 6 joints. P/U @ 6:00 A.M. (drilled 61' in 8.5 hours, circulate for casing, spot gel/water mud in hole, POH and start running 20"). Fresh water/gel mud. 1/2 degree @ 1917', Day 8. ECTD $217,491.00.

10-9-87: TD 1,996'. W.O.C. (Ran 52 joints (2000.35') 20", 133#, K-55, Butt casing. Set and cemented same @ 1996'. Cement circ. and fell back - Will recement). Fresh water, Day 9. ECTD $438,736.00.

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

October 31, 1988

TO: R. J. Firth, Associate Director, Oil and Gas

FROM: J. R. Baza, Petroleum Engineer

RE: Rooney/Pennzoil Hearings

Although the recent hearings involving Rooney Operating Company and Pennzoil Exploration and Production Company are now concluded, there are some lingering questions concerning gas production and water disposal in the Greater Altamont-Bluebell area which need to be addressed. As a technical staff member for the oil and gas section of the Division, I feel it is important to document certain concerns with this memo to assist in future regulation of oil and gas production and water injection in the area.

The subject hearings were designated as Cause No. UIC-092 which represented a request by Rooney to convert the Victor Brown Fee No. 1 to a Class II injection well, and Cause No. 139-59 which involved the Boren 2-11A2 and 3-11A2 wells operated by Pennzoil. Adequate background information exists in each of these hearing files; therefore, details of the matters will not be reiterated in this memo.

Both hearings focused on the occurrence of a blowout in the Boren 2-11A2 well and the drilling of the replacement well, the Boren 3-11A2. The following points summarize the main concerns regarding the matters:

1. The question remains of what caused the blowout in the 2-11A2 well in May 1987. Pennzoil has presented substantial information from the drilling of the replacement well which indicates that the gas produced from the blowout is correlatable to a gas prone interval tested in the Upper Green River formation (6500'-7200') of the replacement well. However, commercially producible gas in the volumes and pressures exhibited by the blowout well has not been encountered in either the replacement well or other wells in the area. The pressurized gas zone may have always naturally existed in the blowout well or it may have been artificially charged by vertical fluid migration from surrounding injection wells through a complex fracture system which was exhibited in the Boren 3-11A2 well.

2. Substantial water (approx. 100 BWPD) was produced with the gas during the blowout. Pennzoil provided the Division with a water analysis comparison between produced water from the blowout and water being injected into the 1-11A2, a salt water disposal well completed in the same section. The date of the water analysis is October 21, 1988, which is during a time when the blowout well was supposedly shut-in. The two water analyses are not significantly different, suggesting the possibility that injected fluid in the nearby salt water disposal well is finding its way into the blowout well.

3. Pennzoil has spent considerable time and resources to obtain data from the drilling of the Boren 3-11A2 well. Although the data is sophisticated and impressive, it does not conclusively prove that commercial gas potential exists in the area of the wells. Just as differing geologic interpretations were presented during the Rooney hearing, different engineering interpretations of the drilling data are also possible. The core analysis, drill stem tests, and fracture analysis all indicate the presence of gas over a narrow range of depth; however, the specific drive conditions, the productive potential of the gas prone interval, and the possibility of an artificially charged gas zone cannot be determined from the available data.

3. Pennzoil has concluded and maintained that a potential commercially producible gas interval exists within a 21 section area surrounding the blowout well - this appears to be what they are basing their actions upon in the referenced hearings. Whether such a gas prone area exists or not, the Division will only know when or if Pennzoil or another operator chooses to explore for and develop the gas. However, if underground injection was the cause of the blowout, then the danger still exists and the Division must soon determine if such is the case and take steps to alleviate the problem.

It is not known whether Pennzoil could suffer monetary or legal liability if it were determined that salt water disposal operations contributed to the blowout of the Boren 2-11A2 well. It may be an issue which Pennzoil is unwilling to resolve. However, it is important that the Division recognize the possibility of such an occurrence and take appropriate regulatory action to protect the public and other operators from future hazards. Such actions might include: an evaluation of other water disposal situations in the Upper Green River formation for pressurization of other permeable zones; careful consideration of new water injection applications to account for vertical fluid migration through a fracture system; appropriate drilling and casing of new wells to protect against such occurrences; and adequate plugging and abandonment procedures for older wells which may be at risk due to offset water injection.

It is still my opinion that the actions taken in the recent hearings were the most appropriate considering the circumstances surrounding the various wells. I only present these concerns for future policy making involving oil and gas production and water injection operations in the Greater Altamont-Bluebell area.

cc: G. L. Hunt
Well files
OI2/10-12

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
Fee Land

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JAN 05 1990
DIVISION OF
OIL, GAS & MINING

1. OIL WELL [XX] GAS WELL [ ] OTHER

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR
Pennzoil Exploration and Production Company

8. FARM OR LEASE NAME
Boren

3. ADDRESS OF OPERATOR
P.O. Box 2967, Houston, TX 77252

9. WELL NO.
3-11A2

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
6600' FSL & 825' FWL (SWSW)

10. FIELD AND POOL, OR WILDCAT
Bluebell

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 11, T1S, R2W

14. PERMIT NO.
43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5759' GR

12. COUNTY OR PARISH
Duchesne

13. STATE
Utah

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[XX]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[XX]	CHANGE PLANS	[ ]	(Other)			
(Other)							

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

1. Remove CIBP @ 13895'.
2. Perf. 12150-13265'.
3. Stimulate 12150-14575' w/40,000 gallons.
4. Install lift equipment if necessary.

Also plan to squeeze casing damage found during well work w/squeeze cementing.

OIL AND GAS	
DPN	
1-JRB ✓	GLH
DTS	SLS
2-TAS	
3. MICROFILM ✓	
4. FILE	

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

SIGNED Ralph A. Wells TITLE Supervising Engineer DATE 8-31-89

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:
See attached.

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 1-24-90
BY: John R. Baza

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

UTAH DIVISION OF OIL, GAS AND MINING
CONDITIONS OF APPROVAL FOR WELL WORKOVER

Pennzoil Exploration and Production Company
Boren #3-11A2 Well
Section 11, T. 1S, R. 2W
Duchesne County, Utah
January 24, 1990

Reference document: Sundry notice dated August 31, 1989, received by DOGM January 5, 1990.

1. Upon completion of the workover, the operator shall sumbit a complete subsequent notice of the work performed including a description of the intervals open in the wellbore and any casing repair work performed.

OI58/136

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED MAR 26 1990 DIVISION OF OIL, GAS & MINING

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: Pennzoil Exploration and Production Company

3. ADDRESS OF OPERATOR: P.O. Box 2967, Houston, TX 77252

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 6600' FSL & 825' FWL (SWSW)

5. LEASE DESIGNATION AND SERIAL NO.: Fee Land

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Boren

9. WELL NO.: 3-11A2

10. FIELD AND POOL, OR WILDCAT: Bluebell

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 11, T1S, R2W

12. COUNTY OR PARISH: Duchesne

13. STATE: Utah

14. PERMIT NO.: 43-013-31192

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5759' GR

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[X]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			
(Other)							

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The following is a summary of ~~fowk~~ work performed from 1/18/90 to 2/4/90:

1. Drill up pkr at 13,240'.
2. Mill out CIBP at 14,175'.
3. Set CIBP @ 13,450'.
4. Perf's 12,186-13,248' w/3-3/8" TCP guns w/2SPF.
5. Place well on production flowing.

OIL AND GAS	
DRN	RJF
JRB ✓	GLH
DTS	SLS
1-TAS	
2. MICROFILM ✓	
3. FILE	

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

SIGNED Ralph A. Wells TITLE Supervising Engineer DATE 3-21-90

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Form OGC-1b

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

RECEIVED
JUL 30 1990
DIVISION OF OIL, GAS & MINING

1. OIL WELL [X] GAS WELL [ ] OTHER

2. NAME OF OPERATOR: PENNZOIL EXPLORATION AND PRODUCTION COMPANY

3. ADDRESS OF OPERATOR: P.O. BOX 2967, HOUSTON, TX 77252

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 660' FSL & 825' FWL

5. LEASE DESIGNATION AND SERIAL NO.:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: BOREN

9. WELL NO.: 3-11A2

10. FIELD AND POOL, OR WILDCAT: BLUEBELL

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: SEC 11 T1S R2W

12. COUNTY OR PARISH: DUCHESNE

13. STATE: UTAH

14. PERMIT NO.: API NO. 43-013-31192-00

15. ELEVATIONS (Show whether DF, RT, GR, etc.): GL 5766

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF	[ ]	PULL OR ALTER CASING	[ ]	WATER SHUT-OFF	[ ]	REPAIRING WELL	[ ]
FRACTURE TREAT	[ ]	MULTIPLE COMPLETE	[ ]	FRACTURE TREATMENT	[ ]	ALTERING CASING	[ ]
SHOOT OR ACIDIZE	[ ]	ABANDON*	[ ]	SHOOTING OR ACIDIZING	[ ]	ABANDONMENT*	[ ]
REPAIR WELL	[ ]	CHANGE PLANS	[ ]	(Other)			[ ]
(Other) TEMPORARILY SHUT WELL IN			[X]	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

THIS WELL WAS SHUT-IN 7-21-90 FOR AN INDENINITE PERIOD OF TIME DUE TO INTERRUPTION OF OPERATIONS AT THE GARY GAS PLANT LOCATED NEAR NEOLA, UTAH. PENNZOIL WILL RESUME NORMAL PRODUCTION OPERATIONS AS SOON AS REPAIRS ARE COMPLETED AT THE GAS PLANT.

OIL AND GAS	
DFN	RJF
JRB	GLH
DTS	SLS
1-DME	
2- MICROFILM ✓	
3- FILE	

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

SIGNED Jess Dullnig TITLE PETROLEUM ENGINEER DATE 7-26-90

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Form 9

STATE OF UTAH
DEPARTMENT NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

6. Lease Designation and Serial Number

7. Indian Allottee or Tribe Name

8. Unit or Communitization Agreement

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT— for such proposals

NOV 16 1990

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other (specify)

9. Well Name and Number
Boren 3-11A2

2. Name of Operator
Pennzoil Exploration and Production Company

10. API Well Number
43-013-31192 POW

3. Address of Operator
P.O. Box 2967, Houston, Texas 77252-2967

4. Telephone Number
713-546-4000

11. Field and Pool, or Wildcat
Bluebell/Wasatch

5. Location of Well
Footage :
QQ, Sec, T., R., M. : Section 11, T1S-R2W
County : Duchesne
State : UTAH

12. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- ☐ Abandonment
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☐ Multiple Completion
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☐ Recompletion
- ☐ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Approximate Date Work Will Start 10/12/90

SUBSEQUENT REPORT
(Submit Original Form Only)

- ☐ Abandonment *
- ☐ Casing Repair
- ☐ Change of Plans
- ☐ Conversion to Injection
- ☐ Fracture Treat
- ☐ Other
- ☐ New Construction
- ☐ Pull or Alter Casing
- ☒ Shoot or Acidize
- ☐ Vent or Flare
- ☐ Water Shut-Off

Date of Work Completion 11/10/90

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form.

* Must be accompanied by a cement verification report.

13. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

The following is a summary of work performed from 10/12/90 to 11/10/90:

1. MIRU pulling unit.
2. POOH with tubing, packer and TCP guns.
3. Acidize perfs 12,186-13,458' with 40,000 gallons 15% HCl.
4. Place well on rod pump.

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

Name & Signature Ralph A. Williams R. A. Williams Title Supervising Engineer Date 11-14-90

(State Use Only)

(8/90)

See Instructions on Reverse Side

STAT' 'F UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

6. Lease designation and Serial Number

7. Indian Allottee or Tribe Name

8. Unit or Communitization Agreement

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing well, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT - for such proposals

1. Type of Well
[X] Oil Well [ ] Gas well [ ] Other (specify)

9. Well Name and Number
Boren 3-11A2

2. Name of Operator
Pennzoil Company

10. API Well Number
43-013-31192-00

3. Address of Operator
P.O. Box 290 Neola, Utah 84053

4. Telephone
801-353-4397

11. Field and Pool, or Wildcat
Bluebell

5. Location of Well
Footage : 660' FSL & 825' FWL
QQ, Sec, T., R., M. : Section 11, T1S, R2W
County : Duchesne
State : Utah

12 CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT
(Submit in Duplicate)

- [ ] Abandonment
- [ ] Casing Repair
- [ ] Change of Plans
- [ ] Conversion to Injection
- [ ] Fracture Treat
- [ ] Multiple Completion
- [ ] New Construction
- [ ] Pull or Alter Casing
- [ ] Recompletion
- [ ] Shoot or Acidize
- [ ] Vent or Flare
- [ ] Water Shut-Off
- [ ] Other _____

Approximate Date Work Will Start _____

SUBSEQUENT REPORT
(Submit Orginal Form Only)

- [ ] Abandonment *
- [ ] Casing Repair
- [ ] Change of Plans
- [ ] Conversion to Injection
- [ ] Fracture Treat
- [ ] New Construction
- [ ] Pull or Alter Casing
- [ ] Shoot or Acidize
- [ ] Vent or Flare
- [ ] Water Shut-Off
- [X] Other **Repair tubing leaks and lower pump.**

Date of Work Completion **30-Apr-94**

Report results of Multiple Completion and Recompletion to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form
* Must be accompanied by a cement verification report.

13. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface location and measured and true vertical depths for all markers and zones pertinent to this work.)

25-Apr-94 RU pulling unit. Started POOH with rods.

26-Apr-94 Finished POOH with rods and pump. Ran new pump with same rods and attempted to pressure test tbg - would not test. Pulled rods and pump. Ran standing valve and tested tbg - would not test. Pulled standing valve.

27-Apr-94 POOH with all tbg. Tagged bottom at 13,390' with slickline.

28-Apr-94 WIH with tbg, hydrotesting to 8000 psi. Found 1 split joint at 8300'.

29-Apr-94 Finished running all tbg. Lowered pump seating nipple from 8925' to 10,425'. Ran pump and rods and tested tbg to 1000 psi, held OK.

30-Apr-94 RD pulling unit.

14. I hereby certify that the foregoing is true and correct
Name & Signature Jess Dullnig *Jess Dullnig* Title Petroleum Engineer Date 2-Feb-95

(State Use Only)

STAT F UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

RECEIVED
FEB 1 0 1995
DIV. OF OIL, GAS & MINING

6. Lease designation and Serial Number

7. Indian Allottee or Tribe Name

8. Unit or Communitization Agreement

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing well, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT - for such proposals.

1. Type of Well
[X] Oil Well [ ] Gas well [ ] Other (specify)

9. Well Name and Number
Boren 3-11A2

2. Name of Operator
Pennzoil Company

10. API Well Number
43-013-31192-00

3. Address of Operator
P.O. Box 290 Neola, Utah 84053

4. Telephone
801-353-4397

11. Field and Pool, or Wildcat
Bluebell

5. Location of Well
Footage : 660' FSL & 825' FWL
QQ, Sec, T., R., M. : Section 11, T1S, R2W
County : Duchesne
State : Utah

12. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Orginal Form Only)	
[ ] Abandonment	[ ] New Construction	[ ] Abandonmen *	[ ] New Construction
[ ] Casing Repair	[ ] Pull or Alter Casing	[ ] Casing Repair	[ ] Pull or Alter Casing
[ ] Change of Plans	[ ] Recompletion	[ ] Change of Plans	[ ] Shoot or Acidize
[ ] Conversion to Injection	[ ] Shoot or Acidize	[ ] Conversion to Injection	[ ] Vent or Flare
[ ] Fracture Treat	[ ] Vent or Flare	[ ] Fracture Treat	[ ] Water Shut-Off
[ ] Multiple Completion	[ ] Water Shut-Off	[X] Other Repair tubing leaks and lower pump.	
[ ] Other		Date of Work Completion 30-Apr-94	
Approximate Date Work Will Start		Report results of Multiple Completion and Recompletion to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form	
		* Must be accompanied by a cement verification report.	

13. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface location and measured and true vertical depths for all markers and zones pertinent to this work.)

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30-Apr-94 RD pulling unit.

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

Name & Signature Jess Dullnig Title Petroleum Engineer Date 2-Feb-95

(State Use Only)

✓ 15/7/94
tax credit

Division of Oil, Gas and Mining

OPERATOR CHANGE WORKSHEET

ROUTING

1. GLH		4-KAS ✓
2. CDW ✓		5-~~SJ~~ JP ✓
3. JLT		6-FILE

Enter date after each listed item is completed

Change of Operator (Well Sold) — Designation of Agent

Operator Name Change (Only) — **X Merger**

The operator of the well(s) listed below has changed, effective: **04-1-2000**

FROM: (Old Operator):	**TO:** (New Operator):
PENNZOIL COMPANY	DEVON ENERGY EXPL & PROD CO LP
Address: P. O. BOX 290	Address: 20 NORTH BROADWAY STE 1500
NEOLA, UT 84053	OKLAHOMA CITY, OK 73102-8260
Phone: 1-(435)-353-4121	Phone: 1-(405)-235-3611
Account No. N0705	Account N1275

CA No. **Unit:**

WELL(S)

NAME		API NO.	ENTITY NO.	SEC. TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
CHASEL 1-18A1	**CA (9628)**	43-013-30030	5805	18-01S-01W	FEE	OW	P
STATE 3-18A1	**CA (9C142)**	43-013-30369	5810	18-01S-01W	FEE	OW	P
MCELPRANG 2-30A1	**CA (NW625)**	43-013-31326	11252	30-01S-01W	FEE	OW	P
VIRGIL MECHAM 1-11A2	**CA (96107)**	43-013-30009	5760	11-01S-02W	FEE	GW	P
BOREN 3-11A2	**CA (96107)**	43-013-31192	5472	11-01S-02W	FEE	OW	P
OLSEN 1-12A2	**CA (UTU77363)**	43-013-30031	5880	12-01S-02W	FEE	OW	S
BOREN 1-14A2	**CA (NW498)**	43-013-30035	5885	14-01S-02W	FEE	OW	P
CORNBY 2-14A2	**CA (NW498)**	43-013-31299	11228	14-01S-02W	FEE	OW	P
MITCHELL 2-4B1	**CA (9662)**	43-013-31317	11231	04-02S-01W	FEE	OW	P
ROBERTSON UTE 2-2B2	**CA (9682)**	43-013-30921	5472	02-02S-02W	FEE	OW	P
MARGUERITE 2-8B2	**CA (96102)**	43-013-30807	2303	08-02S-02W	FEE	OW	S
SHERMAN 2-12B2	**CA (9690)**	43-013-31238	11009	12-02S-02W	FEE	OW	P
MILES 7-7B3	**CA (9675)**	43-013-31245	11025	07-02S-03W	FEE	OW	S
CHRISTIANSEN 2-12B1	**CA (96101)**	43-047-32178	11350	12-02S-01W	FEE	OW	P
ROBERTSON UTE ST 1-12B1	**CA (96101)**	43-047-30164	5475	12-02S-01W	FEE	OW	S
MAY UTE FEDERAL 1-3B1	**CA (9675)**	43-047-30176	5435	13-02S-01W	FEE	OW	P
RICH 2-13B1	**CA (9675)**	43-047-32744	12046	13-02S-01W	FEE	OW	P

OPERATOR CHANGES DOCUMENTATION

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 04/20/2000
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 04/20/2000
3. The new company has been checked through the **Department of Commerce, Division of Corporations Database on:** 10/12/2000

4. Is the new operator registered in the State of Utah: YES Business Number: 4549132-0143

5. If **NO**, the operator was contacted contacted on: _____

6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change for all wells listed on Federal or Indian leases on: 02/16/2000

7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: N/A

8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A

9. **Underground Injection Control ("UIC") Pro** The Division has approved UIC Form 5, **Transfer of Authority to Inject,** for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database on:** 11/22/2000

2. Changes have been entered on the **Monthly Operator Change Spread Sheet on:** 11/22/2000

3. Bond information entered in RBDMS on: 11/22/2000

4. Fee wells attached to bond in RBDMS on: 11/22/2000

STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: N/A

FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: 71S100753026-70

2. The **FORMER** operator has requested a release of liability from their bond on: N/A
   The Division sent response by letter on: N/A

3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 11/26/2000

FILMING:

1. All attachments to this form have been **MICROFILMED** on: 2-26-01

FILING:

1. **ORIGINALS/COPIES** of all attachments pertaining to each individual well have been filled in each well file on: _____

COMMENTS:

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

RECEIVED
FEB 17 2000
DIVISION OF
OIL, GAS AND MINING

FEB 1 6 2000

In Reply Refer To:
3106
U-0575A et al
(UT-932)

NOTICE

Devon Energy Production Company L.P.	:	Oil and Gas
20 North Broadway, Suite 1500	:	U-0575A et al
Oklahoma City, Oklahoma 73102-8260	:	

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of Devon Energy Corporation (Nevada) and PennzEnergy Exploration and Production Company, L.L.C. into Devon Energy Production Company, L.P. with that company being the surviving entity.

The oil and gas lease files listed on the enclosed exhibit have been noted as to the merger. The exhibit was compiled from your list of leases, and a list of leases obtained from our computer system. We have not attempted to identify leases where the entities are the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the merger by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

PennzEnergy Company assigned 100 percent of the record title interest, in the following leases on the list submitted by Devon Energy Production Company L.P., to Barrett Resources Corporation (Barrett) effective January 1, 2000.

U-0143511	U-4377	UTU-67943
U-0143512	U-4378	

Subsequently, Barrett assigned 100 percent of the record title interest to Coastal Oil & Gas Corporation effective February 1, 2000. A copy of this notice is being placed in these files to cover any overriding royalty interest that would be held by the surviving entity.

Lease U-0115614A is held 100 percent by Flying J Oil & Gas. PennzEnergy Company holds 100 percent of the record title interest in lease U-3575. No record title assignment assigning the interest to PennzEnergy Exploration and Production Company, L.L.C. has been filed in this office. A copy of this notice will be placed in the lease files to cover any overriding royalty interest that would be held by the surviving entity.

FORM 5

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

DESIGNATION OF AGENT OR OPERATOR

The undersigned is, on record, the holder of oil and gas lease

LEASE NAME: As per the attached spreadsheet.

LEASE NUMBER:

and hereby designates

NAME: Devon Energy Production Company, L.P.

ADDRESS: 20 North Broadway, Suite 1500, Oklahoma City, OK 73102-8260

as his agent ☐/operator ☒ with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the Division Director or Authorized Agent may serve written or oral instructions in securing compliance with the Oil and Gas Conservation General Rules and Procedural Rules of the Board of Oil, Gas and Mining of the State of Utah with respect to:

(Describe acreage to which this designation is applicable, and identify each applicable oil and gas well by name and API number. Attach additional pages as needed.)

See attached spreadsheet.

Note: Please use April 1, 2000 as the starting date for production reporting purposes.

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APR 20 2000

DIVISION OF
OIL, GAS AND MINING

It is understood that this designation of agent/operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Oil and Gas Conservation General Rules and Procedural Rules of the Board of Oil, Gas and Mining of the State of Utah. It is also understood that this designation of agent or operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated agent/operator, the lessee will make full and prompt compliance with all rules, lease terms or orders of the Board of Oil, Gas and Mining of the State of Utah or its authorized representative.

The lessee agrees to promptly notify the Division Director or Authorized Agent of any change in this designation.

Effective Date of Designation: January 1, 2000

BY: (Name) R. D. Clark

(Signature)

(Title) Vice President

(Phone) 405-235-3611

OF: (Company) PennzEnergy Exploration and Production Company, L.L.C.

(Address) 20 North Broadway, Suite 1500

Oklahoma City, OK 73102-8260

(7/83)

Leases U-61343, UTU-64532, UTU-66485 and UTU-75200 have expired and are closed on the records of this office.

An assumption rider for BLM Bond No. CO1104 has been filed in the Colorado State Office.

/s/ Robert Lopez

Robert Lopez
Chief, Branch of
Minerals Adjudication

Enclosure
Exhibit

cc: Vernal Field Office (w/encl.)
Moab Field Office (w/encl.)
MMS, Reference Data Branch, MS3130, P.O. Box 5860, Denver, CO 80217 (w/encl.)
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT (w/encl.)
Teresa Thompson (UT-931) (w/encl.)
Irene Anderson (UT-932) (w/encl.)
LaVerne Steah (UT-942) (w/encl.)

Exhibit of Leases

U-0575A
U-01188B
U-016654
U-0115614A
U-0115615
U-0126825
U-0141454
U-0141459
U-0143511
U-0143512
U-0144868A
U-3099
U-3575
UTU-74888
U-4377
U-4378
U-16131
U-31262
U-44426
UTU-67943

Communitization Agreements

U-58774
U-58799
U-58830
U-58834
U-58835
U-58839
U-58844
U-58854
U-60827
U-60831
U-68998

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3100
U-4377
UTU-66485
(UT-932)

MAR 2 6 1999

NOTICE

PennzEnergy Exploration and Production L.L.C.
P.O. Box 2967
Houston, TX 77252-2967

: Oil and Gas

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of Pennzoil Exploration and Production Company into PennzEnergy Exploration and Production L.L.C. with PennzEnergy Exploration and Production L.L.C. being the surviving entity.

For our purposes, the merger is recognized effective December 28, 1998, (Secretary of State's approval date).

Oil and gas lease files U-4377 and UTU-66485 have been noted as to the merger. The lease file numbers were obtained from a list of leases drawn from our Automated Land and Mineral Record System (ALMRS). We have not abstracted the lease files to determine if the entity affected by the merger holds an interest in the leases identified nor have we attempted to identify leases where the entity is the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the change by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

By recognition of the merger, the principal/obligor is automatically changed by operation of law from Pennzoil Exploration and Production Company to PennzEnergy Exploration and Production L.L.C. on Bond No. 8023 29 91 (BLM Bond No. NM0043). The principal/obligor is also automatically changed from Pennzoil Exploration and Production Company to PennzEnergy Exploration and Production L.L.C. on Bond No. 8134-90-99 (BLM Bond No. NM2142).

IRENE J. ANDERSON

Irene J. Anderson
Acting Group Leader,
Minerals Adjudication Group

cc: Moab Field Office
Vernal Field Office
MMS, Reference Data Branch, MS 3130, Box 5860, Denver, CO 80217
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT 84114-5801
Teresa Thompson (UT-931)

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, UT 84145-0155

In Reply Refer To:
3100
U-0115615 et al
(UT-932)

MAR 2 6 1999

NOTICE

PennzEnergy Company
P.O. Box 2967
Houston, TX 77252-2967

: Oil and Gas

Merger Recognized

Acceptable evidence has been filed in this office concerning the merger of PennzEnergy Company into Pennzoil Company with PennzEnergy Company being the surviving entity.

For our purposes, the merger is recognized effective December 30, 1998, (Secretary of State's approval date).

The oil and gas lease files and communitization agreement computer files identified on the enclosed exhibit have been noted as to the merger. The exhibit was compiled from a list of leases obtained from our Automated Land and Mineral Record System (ALMRS). We have not abstracted the lease files to determine if the entity affected by the merger holds an interest in the leases identified nor have we attempted to identify leases where the entity is the operator on the ground maintaining no vested record title or operating rights interests. We are notifying the Minerals Management Service and all applicable Bureau of Land Management offices of the change by a copy of this notice. If additional documentation for changes of operator are required by our Field Offices, you will be contacted by them.

By recognition of the merger, the principal/obligor is automatically changed by operation of law from Pennzoil Company to PennzEnergy Company on Bond No. 8134-90-99 (BLM Bond No. NM2142).

IRENE J. ANDERSON

Irene J. Anderson
Acting Group Leader,
Minerals Adjudication Group

Enclosure
Exhibit

cc: Moab Field Office
Vernal Field Office
MMS, Reference Data Branch, MS 3130, Box 5860, Denver, CO 80217
State of Utah, DOGM, Attn: Kristen Risbeck (Ste. 1210), Box 145801, SLC, UT 84114-5801
Teresa Thompson (UT-931)

FILED

DEC 3 0 1999

OKLAHOMA SECRETARY OF STATE

Devon Energy Production Company, L.P.

Certificate of Merger

TO: The Oklahoma Secretary of State
101 State Capitol
Oklahoma City, Oklahoma 73105

Devon Energy Production Company, L.P., a limited partnership organized under the laws of the State of Oklahoma, for the purpose of filing a Certificate of Merger pursuant to the provisions of 54 O.S. § 310.1, does hereby execute the following Certificate of Merger:

1. The name and jurisdiction of formation or organization of each of a domestic limited partnership, a foreign corporation and a foreign limited liability company which are to merge are:

Name of Organization	Type of Organization	Jurisdiction of Formation
Devon Energy Production Company, L.P.	Limited Partnership	Oklahoma
Devon Energy Corporation (Nevada)	Corporation	Nevada
PennzEnergy Exploration and Production Company, L.L.C.	Limited Liability Company	Delaware

2. An Agreement of Merger has been approved and executed by the limited partnership, the corporation and the limited liability company which are to merge.

3. The name of the surviving or resulting limited partnership is:

Devon Energy Production Company, L.P.

4. The merger shall be effective upon the filing of this Certificate of Merger with the Secretary of State of Oklahoma.

5. The Agreement of Merger is on file at the place of business of the surviving limited partnership at 1500 Mid-America Tower, 20 North Broadway, Oklahoma City, Oklahoma 73102.

6. A copy of the Agreement of Merger shall be furnished by the surviving or resulting limited partnership, upon request and without cost, to any partner of any limited partnership or any person holding an interest in any other business entity which is to merge.

RECEIVED

MAR 1 3 2000

DIVISION OF OIL, GAS AND MINING

DATED as of the 30th day of December, 1999.

Devon Energy Management Company, L.L.C.
General Partner

By: _____
J. Larry Nichols, Manager

RECEIVED

MAR 13 2000

DIVISION OF
OIL, GAS AND MINING

LD63538 1-001

OFFICE OF THE SECRETARY OF STATE

STATE OF OKLAHOMA

CERTIFICATE OF MERGER

WHEREAS,

DEVON ENERGY PRODUCTION COMPANY, L.P.

a limited partnership organized under the laws of the State of ***OKLAHOMA,*** *has filed in the office of the Secretary of State duly authenticated evidence of a merger whereby said limited partnership is the survivor, as provided by the laws of the State of Oklahoma.*

NOW THEREFORE, I, *the undersigned Secretary of State of Oklahoma, by virtue of the powers vested in me by law, do hereby issue this Certificate evidencing such merger.*

IN TESTIMONY WHEREOF, *I hereunto set my hand and cause to be affixed the Great Seal of the State of Oklahoma.*

Filed in the City of Oklahoma City this 30TH *day of* DECEMBER, *1999.*

Mike Hunter

Secretary of State

By: Brad Keene

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APR 20 2000
DIVISION OF
OIL, GAS AND MINING

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
1	4301330005	CLYDE MURRAY 1-2A2	SESW-2-1S-2W	DUCHESNE	BLUEBELL	
2	4301330006	STATE 1-10A2	SWNE-10-1S-2W	DUCHESNE	BLUEBELL	
3	4301330009	VIRGIL MECHAM 1-11A2	W/2NE-11-1S-2W	DUCHESNE	BLUEBELL	96107
4	4301330011	VICTOR C BROWN 1-4A2	NESE-4-1S-2W	DUCHESNE	BLUEBELL	
5	4301330017	DOUG BROWN 1-4A2	SENW-4-1S-2W	DUCHESNE	BLUEBELL	
6	4301330030	CHASEL 1-18A1	NWNE-18-1S-1W	DUCHESNE	BLUEBELL	9628
7	4301330031	OLSEN 1-12A2	SWNE-12-1S-2W	DUCHESNE	BLUEBELL	UTU77363
8	4301330035	BOREN 1-14A2	NWSW-14-1S-2W	DUCHESNE	BLUEBELL	NW498
9	4301330042	UTE 2-12A3	NESW-12-1S-3W	DUCHESNE	BLUEBELL	1420H621576 Terminated 8-3-93
10	4301330086	L BOREN U 3-15A2	NESW-15-1S-2W	DUCHESNE	BLUEBELL	
11	4301330099	LAMICQ URRUTY U 3-17A2	NWSE-17-1S-2W	DUCHESNE	BLUEBELL	
12	4301330107	L BOREN U 5-22A2	SWNE-22-1S-2W	DUCHESNE	BLUEBELL	
13	4301330115	L BOREN U 4-23A2	SENW-23-1S-2W	DUCHESNE	BLUEBELL	
14	4301330119	VERL JOHNSON 1-27A2	SWNE-27-1S-2W	DUCHESNE	BLUEBELL	
15	4301330120	TOMLINSON FED 1-25A2	SENW-25-1S-2W	DUCHESNE	BLUEBELL	NW537
16	4301330123	L BOREN U 6-16A2	NWSE-16-1S-2W	DUCHESNE	BLUEBELL	
17	4301330125	UTE 3-18A2	NESW-18-1S-2W	DUCHESNE	BLUEBELL	1420H621750
18	4301330130	WOODWARD 1-21A2	SWNE-21-1S-2W	DUCHESNE	BLUEBELL	NW590
19	4301330133	LAMICQ 1-20A2	SWNE-20-1S-2W	DUCHESNE	BLUEBELL	
.0	4301330136	UTE 1-6B3	NWNE-6-2S-3W	DUCHESNE	ALTAMONT	14204621778 / 9651
21	4301330142	SMITH UTE 1-18C5	NWNE-18-3S-5W	DUCHESNE	ALTAMONT	1420H622392
22	4301330143	MAUREL TAYLOR FEE 1-36A2	NESW-36-1S-2W	DUCHESNE	BLUEBELL	
23	4301330200	L ROBERTSON ST 1-1B2	NESW-1-2S-2W	DUCHESNE	BLUEBELL	
24	4301330212	LAMICQ UTE 1-5B2	NWSE-5-2S-2W	DUCHESNE	BLUEBELL	1420H621806 / 9683
25	4301330236	CAMPBELL UTE ST 1-7B1	SENW-7-2S-1W	DUCHESNE	BLUEBELL	1420H621970 / 9686
26	4301330245	SMITH ALBERT 1-8C5	SENE-8-3S-5W	DUCHESNE	ALTAMONT	
27	4301330294	FRESTON ST 1-8B1	NESW-8-2S-1W	DUCHESNE	BLUEBELL	

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DIVISION OF
OIL, GAS AND MINING

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
28	4301330297	GEORGE MURRAY 1-16B1	SENW-16-2S-1W	DUCHESNE	BLUEBELL	
29	4301330307	UTE ALLOTTED 1-36Z2	NWSE-36-1N-2W	DUCHESNE	BLUEBELL	1420H621676 / 9C124
30	4301330347	LAMICQ URRUTY U 4-5A2	SENW-5-1S-2W	DUCHESNE	BLUEBELL	
31	4301330359	H G COLTHARP 1-15B1	SENW-15-2S-1W	DUCHESNE	BLUEBELL	
32	4301330369	STATE 3-18A1	NESW-18-1S-1W	DUCHESNE	BLUEBELL	9C142
33	4301330564	D L GALLOWAY 1-14B2	SWNE-14-2S-2W	DUCHESNE	BLUEBELL	
34	4301330807	MARGUERITE 2-8B2	SENW-8-2S-2W	DUCHESNE	BLUEBELL	96102
35	4301330809	LAMICQ 2-6B1	NWSE-6-2S-1W	DUCHESNE	BLUEBELL	
36	4301330821	DILLMAN 2-28A2	SWNE-28-1S-2W	DUCHESNE	BLUEBELL	
37	4301330903	HAMBLIN 2-26A2	SWNE-26-1S-2W	DUCHESNE	BLUEBELL	
38	4301330912	RACHEL JENSEN 2-16C5	NENW-16-3S-5W	DUCHESNE	ALTAMONT	
39	4301330921	ROBERTSON UTE 2-2B2	NENE-2-2S-2W	DUCHESNE	BLUEBELL	9682
40	4301330975	JOHN 2-3B2	NWNE-3-2S-2W	DUCHESNE	BLUEBELL	
41	4301330995	LAMICQ ROBERTSON STATE 2-1B2	SWNE-1-2S-2W	DUCHESNE	BLUEBELL	
42	4301331009	UTE 2-7A2	CNE-7-1S-2W	DUCHESNE	BLUEBELL	1420462811
43	4301331147	HATCH 2-3B1	SENW-3-2S-1W	DUCHESNE	BLUEBELL	
44	4301331151	NORLING 2-9B1	SWSW-9-2S-1W	DUCHESNE	BLUEBELL	
45	4301331184	SHAW 2-27A2	SESW-27-1S-2W	DUCHESNE	BLUEBELL	
46	4301331190	LAMICQ URRUTY 4-17A2	SENW-17-1S-2W	DUCHESNE	BLUEBELL	
47	4301331191	LAMICQ 2-20A2	SESE-20-1S-2W	DUCHESNE	BLUEBELL	
48	4301331192	BOREN 3-11A2	SWSW-11-1S-2W	DUCHESNE	BLUEBELL	96107
49	4301331203	FRESTON 2-8B1	SWNE-8-2S-1W	DUCHESNE	BLUEBELL	
50	4301331215	WISSE 3-35A2	SWSW-35-1S-2W	DUCHESNE	BLUEBELL	
51	4301331231	MECCA 2-8A2	SESE-8-1S-2W	DUCHESNE	BLUEBELL	
52	4301331232	MARK 2-25A2	NWNE-25-1S-2W	DUCHESNE	BLUEBELL	NW537
53	4301331233	DUNCAN 4-12A2	SWNW-12-1S-2W	DUCHESNE	BLUEBELL	UTU77363
54	4301331235	SWYKES 2-21A2	NWNW-21-1S-2W	DUCHESNE	BLUEBELL	NW590

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DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
55	4301331238	SHERMAN 2-12B2	SWSE-12-2S-2W	DUCHESNE	BLUEBELL	9690
56	4301331245	MILES 7-7B3	SWNW-7-2S-3W	DUCHESNE	ALTAMONT	9675
57	4301331276	DUNCAN 4-2A2	NESE-2-1S-2W	DUCHESNE	BLUEBELL	
58	4301331278	HAMBLIN 3-9A2	SENE-9-1S-2W	DUCHESNE	BLUEBELL	
59	4301331285	DUNCAN 3-7A1	NWNW-7-1S-1W	DUCHESNE	BLUEBELL	
60	4301331286	BAR F 2-5B1	SWSE-5-2S-1W	DUCHESNE	BLUEBELL	
61	4301331299	CORNABY 2-14A2	NENE-14-1S-2W	DUCHESNE	BLUEBELL	NW498
62	4301331317	MITCHELL 2-4B1	SESW-4-2S-1W	DUCHESNE	BLUEBELL	9662
63	4301331321	SMITH 2-9C5	SWSW-9-3S-5W	DUCHESNE	ALTAMONT	
64	4301331322	LORANGER 2-24A2	N/2NE-24-1S-2W	DUCHESNE	BLUEBELL	
65	4301331325	UTE 2-6B3	SWSW-6-2S-3W	DUCHESNE	ALTAMONT	1420H621858 / 9651
66	4301331326	MCELPRANG 2-30A1	SWSW-30-1S-1W	DUCHESNE	BLUEBELL	NW625
67	4301331327	SMITH 2-7C5	NESW-7-3S-5W	DUCHESNE	ALTAMONT	1420H622389
68	4301331328	SMITH 2-18C5	SWSE-18-3S-5W	DUCHESNE	ALTAMONT	1420H622392
69	4301331329	UTE 2-24A3	SWNW-24-1S-3W	DUCHESNE	BLUEBELL	1420H621761
70	4301331330	UTE 5-19A2	NWNW-19-1S-2W	DUCHESNE	BLUEBELL	1420H621751
71	4301331332	EDWARDS 3-10B1	SWSW-10-2S-1W	DUCHESNE	BLUEBELL	
72	4301331333	SUNDANCE 4-15A2	SWNE-15-1S-2W	DUCHESNE	BLUEBELL	
73	4301331334	LORANGER 6-22A2	SWSW-22-1S-2W	DUCHESNE	BLUEBELL	
74	4301331335	COX 2-36A2	NWNW-36-1S-2W	DUCHESNE	BLUEBELL	
75	4301331338	SMITH 2-6C5	SESW-6-3S-5W	DUCHESNE	ALTAMONT	1420H622388 / UTU70553
76	4301331341	FRESTON 2-7B1	SENE-7-2S-1W	DUCHESNE	BLUEBELL	1420H621970 / 9686
77	4301331356	PEARSON 2-11B2	SENE-11-2S-2W	DUCHESNE	BLUEBELL	
78	4301331378	CHAPMAN 2-4B2	SWNW-4-2S-2W	DUCHESNE	BLUEBELL	
79	4301331390	LAMB 2-16A2	NENE-16-1S-2W	DUCHESNE	BLUEBELL	
80	4301331393	LABRUM 2-23A2	SWSW-23-1S-2W	DUCHESNE	BLUEBELL	
81	4301331820	POWELL 2-16B1	NENE-16-2S-1W	DUCHESNE	BLUEBELL	

DEVON ENERGY PRODUCTION COMPANY, L.P.
UTAH PROPERTIES

	API NO.	WELL NAME & NO.	LOCATION	COUNTY	FIELD NAME	LEASE NO. / AGREEMENT NO.
82	4304730164	ROBERTSON UTE ST 1-12B1	SWNE-12-2S-1W	UNITAH	BLUEBELL	96101
83	4304730176	MAY UTE FEDERAL 1-13B1	NWSE-13-2S-1W	UNITAH	BLUEBELL	NW673
84	4304731981	COOK 1-26B1	SWSW-26-2S-1W	UNITAH	BLUEBELL	UTU68998
85	4304732178	CHRISTIANSEN 2-12B1	SWSE-12-2S-1W	UNITAH	BLUEBELL	96101
86	4304732351	BALLARD 2-15B1	SENE-15-2S-1W	UNITAH	BLUEBELL	
87	4304732744	RICH 2-13B1	NWNW-13-2S-1W	UNITAH	BLUEBELL	NW673
88	4301320255	SWD 4-11A2	NWNW-11-1S-2W	DUCHESNE	BLUEBELL	96107
89	4301330021	SWD 1-3A2	SESE-3-1S-2W	DUCHESNE	BLUEBELL	
90	4301330346	SWD 2-28A2	NWSE-28-1S-2W	DUCHESNE	BLUEBELL	
91	4301330367	SWD 2-10B1	NWNW-10-2S-1W	DUCHESNE	BLUEBELL	
92	4301330389	SWD 2-26A2	NESW-26-1S-2W	DUCHESNE	BLUEBELL	
93	4301330388	SWD 2-17C5	SENE-17-3S-5W	DUCHESNE	BLUEBELL	

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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT -" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well: [X] Oil Well [ ] Gas well [ ] Other

2. Name of Operator: DEVON ENERGY PRODUCTION COMPANY, L.C.

3. Address and Telephone No.: P.O. Box 290 Neola, Utah 84053 435-353-4121 or 435-353-5785

4. Location of Well (Footage, Sec., T., R., M., or Survey Description): 660' FSL,825' FWL (SWSW) Sec ~~13~~ 11, T1S, R2W

5. Lease Designation and Serial No.: Fee Surface

6. If Indian, Allottee or Tribe Name:

7. If unit or CA, Agreement Designation: 96-107

8. Well Name and No.: Boren 3-11A2

9. API Well No.: 43-013-31192-00

10. Field and Pool, or Exploratory Area: Bluebell/Wasatch & Lower Green River

11. County or Parish, State: Duchesne, Utah

12 CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION	
[X] Notice of Intent	[ ] Abandonment	[ ] Change of Plans
	[ ] Recompletion	[ ] New Construction
[ ] Subsequent Report	[ ] Plugging Back	[ ] Non-Routine Fracturing
	[ ] Casing repair	[ ] Water Shut-off
[ ] Final Abandonment Notice	[ ] Altering Casing	[ ] Conversion to Injection
	[X] Other Add additional perforations	[ ] Dispose Water (Note: Report results of multiple completion on Well

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directioally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work)

Devon Energy Production Company proposes the following work to commence on approximately 8/23/00
Top of the TGR-3 is at 9760'.
Pull production equipment.
Run and set a one-way CIBP to isolate the existing perforations 12,186 - 13,248'.
Fill and pressure test 7 5/8" casing to 1000 psi.
Perforate the Red Bed interval 11,130-12,028', 26 intervals, 215", 231 holes with 4" HSC guns.
Set a packer at 11,000'
Acidize the peforations 11,130-12,028' with 13,000 gals 15% HCL acid with additives and 350 balls for diversion.
Swab test to determine rate and fluid cut.
Isolate the perforations 11,130-12,028' with an RBP
Perforate Stage II Lower Green River, Upper Wasatch 10,742-11,004' , 14 intervals, 100', 128 holes with 4" HSC guns.
Run and set a packer at 10,650'.
Acidize the perforations 10,742 - 11,004' with 6000 gals 15% HCL with additives and 200 balls for diversion.
Swab test for entry and water cut.
Pull the packer and RBP
Return to production from all perforation 10,742-13,248.

COPY SENT TO OPERATOR
Date: 8-31-00
Initials: CHD

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

Signed John Pulley Title Sr. Petroleum Engineer Date 17-Aug-00

(This space of Federal or State office use.)

Approved by the Utah Division of Oil, Gas and Mining
Date: 8/21/00
By: [signature]

Approved by _____ Title _____ Date _____

Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly to make to any department of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

STATE OF UTAH
DEPARTMENT OF N/ IRAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

6. Lease des ..on and Serial Number: Fee Surface

7. Indian Allottee or Tribe Name:

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing well, or to reenter plugged and abai

Use APPLICATION FOR PERMIT - for such proposals

8. Unit or Communitization Agreement: 96-107

1. Type of Well: [X] Oil Well [ ] Gas well [ ] Other (specify)

9. Well Name and Number: Boren #3-11A2

2. Name of Operator: Devon Energy Production Company, L.P.

10. API Well Number: 43-013-31192-00

3. Address of Operator: P.O. Box 290 Neola, UT 84053

4. Telephone: 435-353-5782

11. Field and Pool, or Wildcat: Bluebell/Wasatch & Lower Green River

5. Location of Well

Footage : 660' FSL, 825' FWL

QQ, Sec, T., R., M : (SWSW) Sec 11, T1S, R2W

County : Duchesne

State : Utah

12. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)		SUBSEQUENT REPORT (Submit Original Form Only)	
[ ] Abandonment	[ ] New Construction	[ ] Abandonme *	[ ] New Construction
[ ] Casing Repair	[ ] Pull or Alter Casing	[ ] Casing Repair	[ ] Pull or Alter Casing
[ ] Change of Plans	[ ] Recompletion	[ ] Change of Plans	[ ] Shoot or Acidize
[ ] Conversion to Injection	[ ] Shoot or Acidize	[ ] Conversion to Injection	[ ] Vent or Flare
[ ] Fracture Treat	[ ] Vent or Flare	[ ] Fracture Treat	[ ] Water Shut-Off
[ ] Multiple Completion	[ ] Water Shut-Off	[X] Other Add additional perforations	
[ ] Other			

Approximate Date Work Will Start

Date of Work Completion 16-Sep-00

Report results of Multiple Completion and Recompletion to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG form

* Must be accompanied by a cement verification report.

13. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface location and measured and true vertical depths for all markers and zones pertinent to this work.)

Move in and rig up pulling unit.
Pull production equipment.
Run and set a one-way CIBP @ 12,120' to isolate the existing perforations 12,186 - 13,248'.
Fill and pressure test 7 5/8" casing to 1500 psi.
Perforate the Red Bed interval 11,130 - 12,028', 26 intervals, 215', 231 holes w/ 4" HSC guns.
RIH and set treating paker @ 11,001', fill and pressure test casing and paker to 1,000 psi.
Acidize the perforations 11,130 - 12,028' with 13,000 gals. 15% HCL acid with additives and 350 balls for diversion.
Swab test well.
Found one-way CIBP set @ 12,120' to be letting fluid move downhole.
RIH and set a one-way CIBP @ 12,090'
Run production equipment and pump test perforations 11,130 - 12,028'

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

Name & Signature Craig Goodrich Craig Goodrich Title Production Foreman Date 17-Oct-00

(State Use Only)

devon

Devon Energy Production Company, LP
8345 North 5125 West
Neola, UT 84053
(435) 353-4121 (Voice)
(435) 353-4139 (Fax)

FAX

To: Carol Daniels

From: John Pulley / db

Fax: (801) 359-3940

Date: 9/18/02

Phone:

Pages: 5 (including cover page)

Re: Boren 3-11A2

CC:

☐ Urgent ☒ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments: Notice of Intent

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DIVISION OF
OIL, GAS AND MINING

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NUMBER: FEE

SUNDRY NOTICES AND REPORTS ON WELLS

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

7. UNIT or CA AGREEMENT NAME: CA 96-107

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER

8. WELL NAME and NUMBER: BOREN 3-11A2

2. NAME OF OPERATOR: DEVON ENERGY PRODUCTION COMPANY, L. P.

9. API NUMBER: 4301331192

3. ADDRESS OF OPERATOR: P.O. BOX 290 CITY NEOLA STATE UT ZIP 84053 PHONE NUMBER: (435) 353-4121

10. FIELD AND POOL, OR WILDCAT: BLUEBELL/WASATCH

4. LOCATION OF WELL

FOOTAGES AT SURFACE: 660 FSL 825 FWL COUNTY: DUCHESNE

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSW 11 1S 2W 6 STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
9/18/2002	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Pull straddle assembly, squeeze
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU, PULL PRODUCTION EQUIPMENT
TIH WITH ON-OFF TOOL LATCH ONTO ARROWPAK PACKER, FILL AND TEST ANNULUS TO DETERMINE IF THE TOP PACKER IS LEAKING. RELEASE AND PULL TOP SECTION OF THE STRADDLE ASSEMBLY.
IF THE PACKER LEAKS REDRESS THE SEAL ASSEMBLY AND PACKER, RUN BACK AND SET THE PACKER, PUMP TEST.
IF THE PACKER DOES TESTS, PULL THE ARROWPAK PACKER.
MAKE A CLEANOUT RUN TO 12090' WITH MILL AND CASING SCRAPER.
RUN A PACKER AND SWAB TEST THE ONE-WAY TO MAKE SURE IT IS CONTRIBUTING.
ISOLATE AND SWAB TEST THE PERFORATIONS 10837-11004' (FOR OIL CUT AND ENTRY)
SET A CIBP AT 10830' WITH ONE SACK CEMENT ON TOP. SET A CEMENT RETAINER AT 10640'.
CEMENT SQUEEZE THE PERFORATIONS 10742-10796. CEMENT VOLUME TO BE DETERMINED BY INJECTION RATE AND PRESSURE.
DRILL OUT CEMENT, PRESSURE TEST.
RETURN TO PRODUCTION FROM PERFORATIONS 10837 TO 13228'

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DIVISION OF OIL, GAS AND MINING

NAME (PLEASE PRINT) JOHN PULLEY TITLE SR. OPERATIONS ENGINEER

SIGNATURE John Pulley DATE 9/17/2002

(This space for State use only)

APPROVED BY THE STATE OF UTAH DIVISION OF OIL, GAS, AND MINING
DATE: 9/18/2002
BY: [signature]

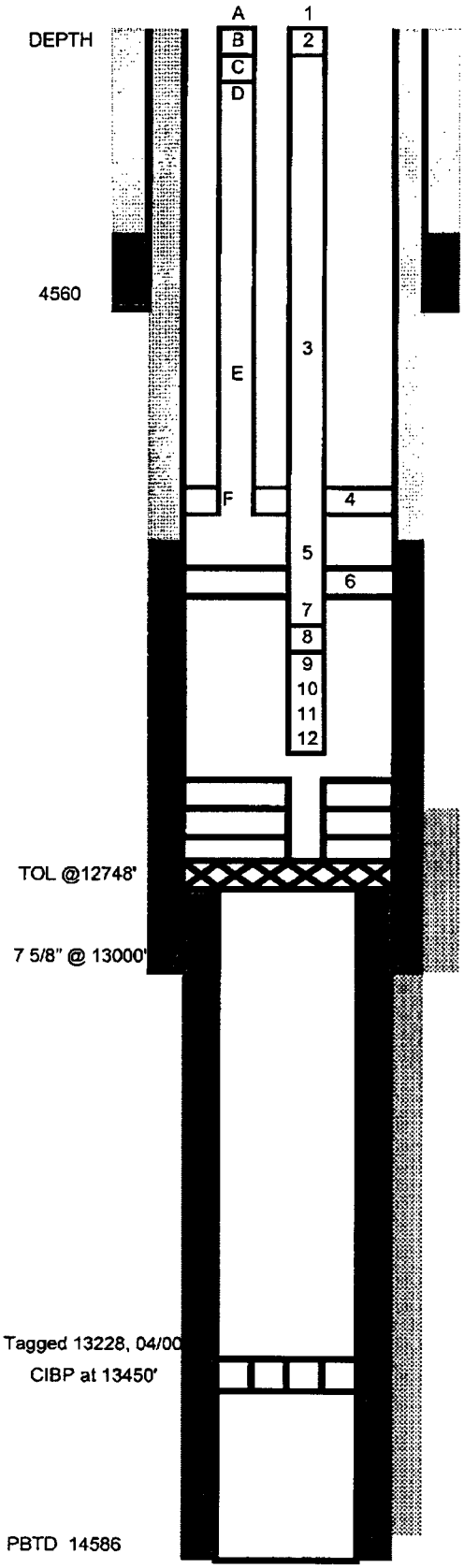
9-18-02 CHD

(5/2000) (See Instructions on Reverse Side)

WELLBORE SCHEMATIC

LOCATION: BOREN 3-11A2

DATE: 8/30/2002



CASING

SURFACE:	10 3/4" K-55 40.5# SET AT 4560'
INTERMEDIATE:	7 5/8" 29.7# set at 13000'
LINER:	5 1/2" 20# S95/ P-110 from 12748-14622

Production Tubing Detail

		Length	KB to Top
1	KB to GL	28.00	
2	Cameron hanger 2 7/8" Hydril X 2 7/8" 8rd	0.67	28.00
3	224 jts 2 7/8" 6.5# N-80 8rd EUE	6538.35	28.67
4	Trico circulating shoe with 6.25" OD	4.05	6567.02
5	121 jt 2 7/8" N-80 6.5# EUE 8rd tbg	3384.36	6571.07
6	Weatherford tubing anchor	2.35	9955.43
7	2 jts 2 7/8" N-80 6.5# EUE 8rd tbg	62.68	9957.78
8	SN	1.10	10020.46
9	XO 2 7/8" X 3 1/2" Lockit	0.88	10021.56
10	1 jt 3 1/2" Lockit, top 10' slotted	29.48	10022.44
11	1 jt 3 1/2" Lockit,with 6 3/4" no-go	30.10	10051.92
12	Bullplug	0.69	10082.02
13	Stretch for TA	3.58	10082.71
	Btm tubing at		10086.29

Side String Detail

A	KB to top of hanger	28.00	
B	Hanger, 2 3/8"Hydril top by 2 3/8" 8rd Btm	0.67	28.00
C	XO 2 3/8" 8rd by 1.9" 10rd pin	0.67	28.67
D	Tubing subs	22.16	29.34
E	199 jts 1.9" 2.76# IJ 10rd	6516.07	51.50
F	Landing spear	3.65	6567.57
	Landed at		6571.22

One-way CIBPs at 12120' and 12090'.
Isolation assembly from 10706 to 10815' isolating perforations 10742-10796
Perforations from 10742 to 14575
Logged casing from 11650-11100, oval casing 11466-11480, 11305-11310, 11367-11373

Rod Detail:

1 1 1/2" X 36' polidh rod
3 rod subs, 2', 4', & 6'
77 1' Norris 97 rods
160 7/8" Norris 97 rods
160 3/4" Norris 97 rods.
Pump: 2 1/2 x 1 3/4 x 36' with 1 1/4" diptube

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Not to Scale
JP 08/30/02

FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME: CA 96-107
8. WELL NAME and NUMBER: BOREN 3-11A2
9. API NUMBER: 4301331192
10. FIELD AND POOL, OR WILDCAT: BLUEBELL/WASATCH

1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER _____

2. NAME OF OPERATOR: DEVON ENERGY PRODUCTION COMPANY, L. P.

3. ADDRESS OF OPERATOR: P.O. BOX 290 CITY NEOLA STATE UT ZIP 84053 PHONE NUMBER: (435) 353-4121

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 660 FSL 825 FWL COUNTY: DUCHESNE
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSW 11 1S 2W 6 STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
9/18/2002	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion:	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Pull straddle assembly, squeeze
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU, PULL PRODUCTION EQUIPMENT
TIH WITH ON-OFF TOOL LATCH ONTO ARROWPAK PACKER, FILL AND TEST ANNULUS TO DETERMINE IF THE TOP PACKER IS LEAKING. RELEASE AND PULL TOP SECTION OF THE STRADDLE ASSEMBLY.
IF THE PACKER LEAKS REDRESS THE SEAL ASSEMBLY AND PACKER, RUN BACK AND SET THE PACKER, PUMP TEST.
IF THE PACKER DOES TESTS, PULL THE ARROWPAK PACKER.
MAKE A CLEANOUT RUN TO 12090' WITH MILL AND CASING SCRAPER.
RUN A PACKER AND SWAB TEST THE ONE-WAY TO MAKE SURE IT IS CONTRIBUTING.
ISOLATE AND SWAB TEST THE PERFORATIONS 10837-11004' (FOR OIL CUT AND ENTRY)
SET A CIBP AT 10830' WITH ONE SACK CEMENT ON TOP. SET A CEMENT RETAINER AT 10640'.
CEMENT SQUEEZE THE PERFORATIONS 10742-10796. CEMENT VOLUME TO BE DETERMINED BY INJECTION RATE AND PRESSURE.
DRILL OUT CEMENT, PRESSURE TEST.
RETURN TO PRODUCTION FROM PERFORATIONS 10837 TO 13228'

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NAME (PLEASE PRINT) JOHN PULLEY TITLE SR. OPERATIONS ENGINEER
SIGNATURE John Pulley DATE 9/17/2002

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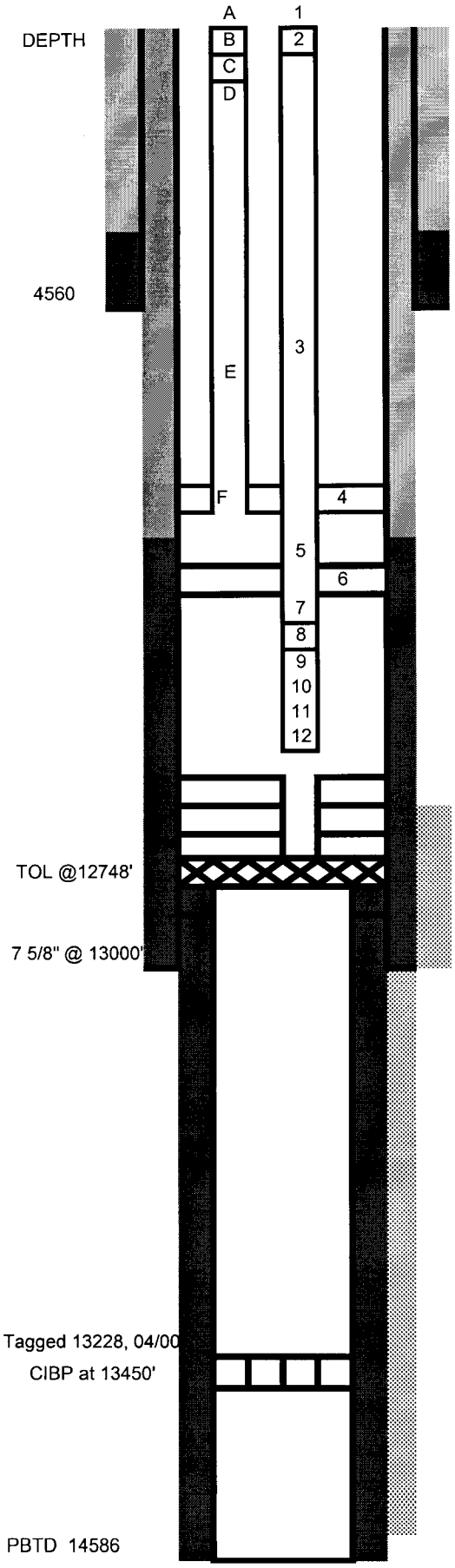
WELLBORE SCHEMATIC

LOCATION: **BOREN 3-11A2**

DATE: **8/30/2002**



CASING

SURFACE:	10 3/4" K-55 40.5# SET AT 4560'
INTERMEDIATE:	7 5/8" 29.7# set at 13000'
LINER:	5 1/2" 20# S95/ P-110 from 12748-14622

Production Tubing Detail

		Length	KB to Top
1	KB to GL	28.00	
2	Cameron hanger 2 7/8" Hydril X 2 7/8" 8rd	0.67	28.00
3	224 jts 2 7/8" 6.5# N-80 8rd EUE	6538.35	28.67
4	Trico circulating shoe with 6.25" OD	4.05	6567.02
5	121 jt 2 7/8" N-80 6.5# EUE 8rd tbg	3384.36	6571.07
6	Weatherford tubing anchor	2.35	9955.43
7	2 jts 2 7/8" N-80 6.5# EUE 8rd tbg	62.68	9957.78
8	SN	1.10	10020.46
9	XO 2 7/8" X 3 1/2" Lockit	0.88	10021.56
10	1 jt 3 1/2" Lockit, top 10' slotted	29.48	10022.44
11	1 jt 3 1/2" Lockit,with 6 3/4" no-go	30.10	10051.92
12	Bullplug	0.69	10082.02
13	Stretch for TA	3.58	10082.71
	Btm tubing at		10086.29

Side String Detail

A	KB to top of hanger	28.00	
B	Hanger, 2 3/8"Hydril top by 2 3/8" 8rd Btm	0.67	28.00
C	XO 2 3/8" 8rd by 1.9" 10rd pin	0.67	28.67
D	Tubing subs	22.16	29.34
E	199 jts 1.9" 2.76# IJ 10rd	6516.07	51.50
F	Landing spear	3.65	6567.57
	Landed at		6571.22

One-way CIBPs at 12120' and 12090'.
Isolation assembly from 10706 to 10815' isolating perforations 10742-10796
Perforations from 10742 to 14575
Logged casing from 11650-11100, oval casing 11466-11480, 11305-11310, 11367-11373

Rod Detail:

1 1 1/2" X 36' polidh rod
3 rod subs, 2', 4', & 6'
77 1' Norris 97 rods
160 7/8" Norris 97 rods
160 3/4" Norris 97 rods.
Pump: 2 1/2 x 1 3/4 x 36' with 1 1/4" diptube

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FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
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9. API NUMBER: 4301331192
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1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER _____

2. NAME OF OPERATOR: DEVON ENERGY PRODUCTION COMPANY, L. P.

3. ADDRESS OF OPERATOR: P.O. BOX 290 CITY NEOLA STATE UT ZIP 84053 PHONE NUMBER: (435) 353-4121

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 660 FSL 825 FWL COUNTY: DUCHESNE
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSW 11 1S 2W 6 STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

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	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
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☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: Pull straddle assembly, squeeze
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU, PULL PRODUCTION EQUIPMENT
TIH WITH ON-OFF TOOL LATCH ONTO ARROWPAK PACKER, FILL AND TEST ANNULUS TO DETERMINE IF THE TOP PACKER IS LEAKING. RELEASE AND PULL TOP SECTION OF THE STRADDLE ASSEMBLY.
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DRILL OUT CEMENT, PRESSURE TEST.
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SEP 23 2002
DIVISION OF OIL, GAS AND MINING

NAME (PLEASE PRINT) JOHN PULLEY TITLE SR. OPERATIONS ENGINEER
SIGNATURE John Pulley DATE 9/17/2002

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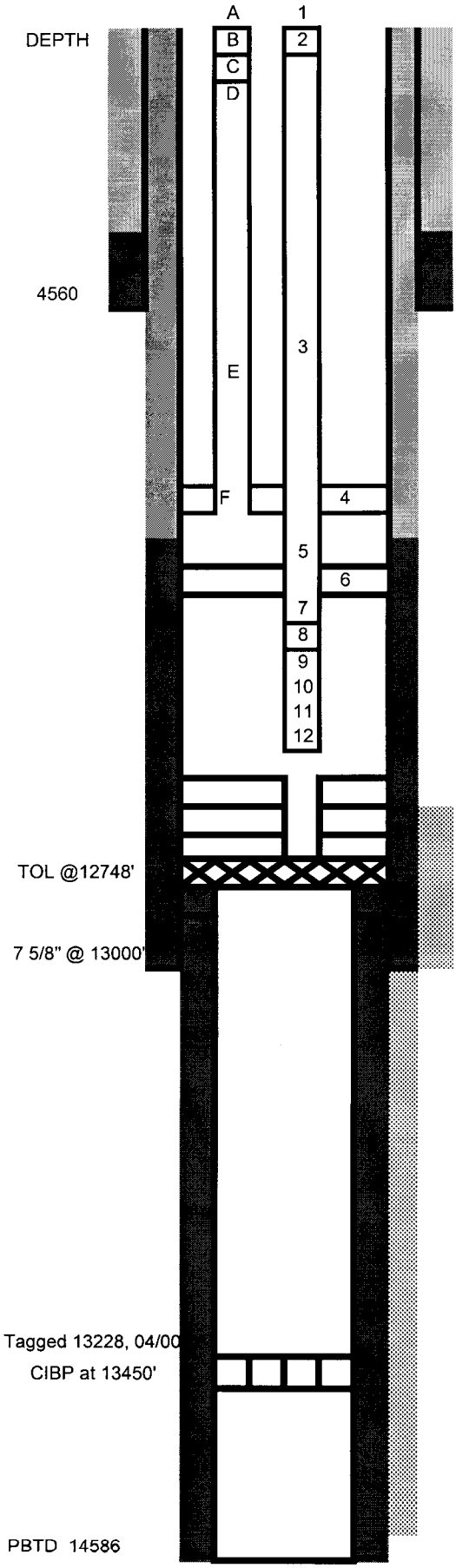
WELLBORE SCHEMATIC

LOCATION: **BOREN 3-11A2** **DATE:** **8/30/2002**



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FORM 9

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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1. TYPE OF WELL: OIL WELL ☑ GAS WELL ☐ OTHER _____

2. NAME OF OPERATOR: DEVON ENERGY PRODUCTION COMPANY, LP

3. ADDRESS OF OPERATOR: P.O. BOX 290 CITY NEOLA STATE UT ZIP 84053 PHONE NUMBER: (435) 353-4121

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 660' FSL 825' FWL COUNTY: DUCHESNE
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSW 11 1S 2W 6 STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
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	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
Date of work completion: 10/15/2002	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: PULLED STRADDLE ASSEMBLY
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU, PULLED PRODUCTION EQUIPMENT.
PULLED STRADDLE ASSEMBLY FROM 10706-10815'.
TIH, SET PACKER @ 12050', SWAB TEST ONE-WAY @ 12090' FOR ENTRY.
ISOLATE AND SWAB TEST PERFORATIONS FROM 10837-11004'.
RUN AND SET A PACKER ISOLATION ASSEMBLY FROM 10700-11050', ISOLATING PERFORATIONS 10742-11004'.
RETURNED TO PRODUCTION FROM PERFORATIONS 11130' TO 13228'.

RECEIVED
OCT 23 2002
DIVISION OF
OIL, GAS AND MINING

NAME (PLEASE PRINT) JOHN PULLEY TITLE SENIOR OPERATIONS ENGINEER
SIGNATURE John Pulley DATE 10/21/2002

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Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

FRACTURE ANALYSIS REPORT

FOR

PENNZOIL COMPANY

BOREN NO. 3-11 A2
BLUEBELL FIELD
SW SEC 11 T1S R2W

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom; and for whose exclusive and confidential use; this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories (all errors and omissions excepted); but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitableness of any oil gas or other mineral well or sand in connection with which such report is used or relied upon.

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

April 13, 1988

Pennzoil Company
P.O. Box 2967 28th Floor
Houston, Texas 77252-2967

Attention: Mr. Gary Kornegay

Subject: Core Fracture Study
Well: Boren No. 3-11 A2
Location: Duchesne County, Utah
Formation: Upper Green River
File No.: 57121-8094

Dear Gary;

Presented in this report are the final results of a fracture study conducted on 5 cores of the Upper Green River formation recovered from the above subject well. If you have any questions please feel free to call me. We appreciate the opportunity to perform this study, and trust that the results will help in the evaluation of this well.

Sincerely,

CORE LABORATORIES

James E. Shriver
Core Fracture Analyst

10703 East Bethany Drive, Aurora, Colorado 80014-2696, (303) 751-9334

TABLE OF CONTENTS

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CORE ORIENTATION	1
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DISCUSSION

A fracture study was conducted by Core Laboratories on five cores of the Upper Green River formation from the Boren No. 3-11 A2 well at the request of Pennzoil Company. The cores were recovered from an essentially vertical wellbore from the depth intervals listed in the core inventory table (Table 1). The purpose of this fracture study was to document the presence of fracture patterns and the physical characteristics of the macrofracture system observed through the cored interval with Core Laboratories' proprietary electromagnetic goniometer.

A total of 300 fractures were noted in the cores, 107 of which are nonmeasurable, 46 are natural fractures, 94 are induced fractures, and 53 are possibly induced fractures. A glossary of the terms used in this report follows this discussion. A stereonet overlay is included to aid in the interpretation of the plots presented in this report.

CORE ORIENTATION

Cores 1 through 5 were oriented by correlation with the downhole Formation Micro Scanner (FMS) log provided by the client. Each core was divided into core sets separated by rubble zones or breaks in the core that could not be adequately pieced together. After core to log depth correction for each core, the core sets were compared to the FMS log image in an attempt to correlate prominent structural features including fractures and depositional structures with a discernable dip azimuth. Those core sets containing depositional structures or fractures with a discernable dip azimuth that were correlatable to the FMS log were considered orientable. The remaining core sets were deemed nonorientable. Several intervals of FMS pad traces contain a spiralling image distortion that coincide in depth with "corkscrewed" intervals of the core. This concurrence suggests that the borehole wall may be irregularly shaped in those depth intervals where the corkscrewing of core occurred. FMS pad image traces containing this spiralling image distortion were not used for core orientation.

FRACTURE DATA

The measurable fracture data are tabulated in Table 2 and consist of the depth to the top of each fracture, the fracture dip azimuth, and the measured fracture dip angle. Also tabulated in Table 2 is the vertical length of the fracture in inches, the measured and effective fracture widths, and the fracture condition (open, closed, mineralized, or broken). The width of broken fractures cannot be accurately measured. Published information indicates that fracture widths generally range from 0.01 mm to 0.04 mm, and thus, all broken fractures were assigned an effective width of 0.01 mm. An effective width of 0.001 mm was assumed for all fully mineralized fractures, as these are generally believed to have limited fracture permeability and porosity. The widths of open and partially mineralized fractures were measured directly. Measured and effective width values for each fracture are

tabulated in Table 2. Also noted in Table 2 is the type of mineral filling the fractures, the approximate percentage of filling in the fractures, the rock type in which the fracture is located, the presence of any notable structural features or hydrocarbons, and the fracture origin (whether the fracture is natural, induced, or possibly induced). Induced fractures are those created by the coring process and are identified by using the criteria advocated by Nelson (1985) and Kulander (1977).

RESULTS

The Core Fracture Log (Figure 1) illustrates the depth distribution of the natural, mineralized, hydrocarbon stained, induced, and possibly induced fractures, including both orientable and nonorientable fractures. Core no. 1 exhibits the highest mineralized fracture density (6555-6559, 6566-6570, and 6580-6585 feet). Most of the fractures in core no. 1 are fully mineralized while many of the fractures in core no. 2 (6713-6744 feet) are only partially mineralized as seen in Table 2. The zone of highest coring induced fracture density (7110-7130 feet) is located within the core no. 5 interval.

Figures 2 and 3, the contoured stereonet plot of the poles to all measurable fractures, and the rose diagram of percent distribution of fracture strike to all fractures, illustrate the overall north-northwest to south-southeast (N/NW-S/SE) fracture strike trend evident in the cores. The fracture dip angle histogram for all measurable fractures displays the fracture dip angle distribution and is presented in Figure 4. Fracture strike and dip angle distributions are tabulated in Tables 3 and 4, respectively. Cores 1, 2 & 3, and 5 contain one dominant set of fractures displaying the same general fracture strike trend of N/NW-S/SE as seen in their respective fracture strike rose diagrams, Figures 5, 6, and 8. Core no. 4 contains fracture orientations differing from the other cored intervals. The fracture strike rose diagram for core no. 4 (Figure 7) indicates two fracture strike trends of E-W and N/NW-S/SE. Tables 5 throough 8 tabulate fracture strikes for cores 1 through 5.

The natural fractures in the Upper Green River formation display a strong preferential orientation at this location. Figure 9 presents a contoured stereonet plot of the poles to the natural fractures. Those fractures represented strike N/NW-S/SE as illustrated in the natural fracture strike rose diagram (Figure 10), and are high angle as seen in the natural fracture dip angle histogram (Figure 11). The majority of the natural fractures are likely extensional in origin, noting the common occurrence of mineralization, the lack of shear evidence for most of the fractures, and the existence of a single predominant fracture orientation. The distribution of natural fracture strike and dip angles are tabulated in Tables 9 and 10, respectively. Two measurable shear normal fractures were noted in core no. 3 and are represented in Figure 12, a stereonet plot of the poles to the shear fractures. These shear normal fractures possess small displacement values (< 1 inch), parallel the dominant extensional fracture strike trend, and may be associated with normal faulting.

The mineralized fractures may be imparting a degree of permeability

anisotropy in the reservoir at the intervals of mineralized fracture occurrence. Of the 46 natural fractures noted, 44 are mineralized. Fully mineralized fractures are generally viewed as permeability barriers, impeding fluid flow perpendicular to their fracture strike. The poles to the fully mineralized fractures are represented in a stereonet plot (Figure 13). The poles to the mineralized fractures that are only partially mineralized are represented in stereonet plot Figure 14. Those fractures represented are potential conduits for fluid flow and may enhance directional permeability in the orientation of the fracture strikes, although a tortuous flow path probably occurs in these partially mineralized fractures. Figure 15 presents a stereonet plot of the poles to the natural and possibly induced fractures that are oil stained, illustrating the orientation of the possible reservoir fluid conduits, noting that oil staining occurred on fracture surfaces in tight rock where the bleeding of oil may have occurred after coring.

Rock type may be one of the controls on natural fracture development in the cored intervals of the Upper Green River formation. The natural and possibly induced fractures occur primarily in the sandstone and siltstone sections while the shale intervals contain mostly coring induced fractures. Figure 16 presents a stereonet plot of the poles to the planes of the natural and induced fractures occurring in the sandstone and siltstone intervals, illustrating that most of the natural fractures in the cores occur in these rock types. The fractures located in the shale sections are primarily coring induced and have no preferential orientation as seen in Figure 17, a stereonet plot of the poles to all fractures within the shale intervals. It appears that the well indurated, brittle sandstones and siltstones are a preferred lithology for natural fracture development over the weaker argillaceous rocks in the cored intervals of the Upper Green River formation.

A significant portion of the measurable fractures are coring induced petal fractures which usually occur as short, variably spaced fractures on opposite sides of the core. Figure 19 presents a diagram of a section of core containing typical coring induced petal fractures. These petal fractures are designated SH under structure on Table 2. Figure 18 presents the petal fracture strike rose diagram which displays a dominant N/NW-S/SE trend. Petal fractures are believed to form ahead of the core bit in response to the loading of the drill string (Finley and Lorenz, 1987). The orientation of these fractures is controlled by the maximum <u>in situ</u> horizontal compression. They propagate downward from the core, but approximately parallel to the loading stress and the maximum ambient horizontal compression. A schematic diagram of the stress array ahead of the coring bit is seen in Figure 20. Published information on oriented core data from the MWX-2 well in the Piceance Creek Basin in Northwestern Colorado describes ambient stress compression orientation from strain relaxation measurements (Teufel, 1983). Finley and Lorenz (1987) measured petal fracture orientations in the MWX-2 core and found a range of petal fracture strike orientations seen in Figure 21. The strike of the petal fractures possess a slight clockwise rotation from the ambient horizontal compression tests. This rotation is thought to be due to the amount of shear stress from the core bit. The petal fractures in the cored interval of the Green River formation own a N/NW-S/SE strike orientation at the Boren no. 3-11 A2 well location, suggesting an ambient stress orientation range of N/NW-S/SE to E-W.

GLOSSARY

Broken Fracture. A surface recognized as a fracture plane, i.e., the rock on one side is missing, and the fracture width cannot be determined.

Closed Fracture. A fracture not having a measurable separation. Separation between fracture planes in closed fractures is assigned a value of 0.01 mm.

Core Segment. The length of core that can be measured on the EMG-200.

Core Set. A discrete length of core for which all of the individual core pieces can be reconstructed into their true relative orientations. Core sets are generally bound by spin surfaces or rubble zones where the core cannot be accurately reconstructed.

Effective Width. The width of the porous zone of the fracture.

Fracture Density. The number of fractures existing in a one-foot interval of core.

Induced Fracture. A fracture that was produced during the coring process.

Measurable Fracture. One having sufficient length within the core to enable dip angle and azimuth to be determined.

Measured Width. The total width of the a fracture including porous as well as mineralized zones.

Natural Fracture. A fracture formed in situ by natural process.

Nonmeasurable Fracture. A fracture that is too badly broken or has insufficient length to allow orientation measurement.

Open Fracture. A fracture in which separation can be measured. Open fractures may be partially or completely mineralized.

Possibly Induced Fracture. Fractures which cannot be defined as either natural or induced fractures.

Pole. A line perpendicular to a plane.

Stereographic Projection, Wulff Net. An equal-angle projection of a lower hemisphere onto a plane.

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Narr, W., and Currie, J.B., 1982, Origin of Fracture Porosity-Example from Altamont Field, Utah, AAPG, vol 66, no. 9, pp 1231-1247.

Nelson, R.A., 1985, Geologic Analysis of Naturally Fractures Reservoirs, Gulf Publishing Co., Texas, 320 pp.

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LIST OF TABLES AND FIGURES

TABLE 1 Core Inventory

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TABLE 1

Core Inventory

	Depth Interval (ft)
Core No. 1	6528.3-6587.0
Core No. 2	6713.0-6744.0
Core No. 3	6744.0-6759.0
Core No. 4	6970.0-6999.0
Core No. 5	7085.0-7135.3

Core Interval	Orientable	Nonorientable
6528.3-6529.0		X
6529.0-6529.4	----Rubble Zone----	
6529.4-6533.1		X
6533.1-6537.6	----Rubble Zone----	
6537.6-6538.0		X
6538.0-6586.6	X	
6586.6-6587.0	-----Lost Core-----	
6713.0-6724.3	X	
6724.3-6726.7		X
6726.7-6729.7	X	
6729.7-6736.9		X
6736.9-6740.4	X	
6740.4-6742.0	-----Lost Core-----	
6742.0-6744.0		X
6744.0-6746.1	X	
6746.1-6759.0		X
6970.0-6976.2		X
6976.2-6998.2	X	
6998.2-6999.0	----Rubble Zone----	
7085.0-7115.1		X
7115.1-7128.6	X	
7128.6-7135.3		X

CORE LABORATORIES

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6539.5	335	46	1.016	0.010	0.010	SH		B		0	Sh	I
6542.9	70	51	1.339	0.010	0.010	SH		B		0	Sl	I
6546.3	66	69	1.697	0.010	0.010	SH		C		0	Ss	I
6555.3	246	84	3.402	0.200	0.001	EE		M	CAL	100	Ss	N
6555.6	75	85	8.772	0.900	0.001	EE		M	CAL	100	Ss	N
6555.8	75	89	7.292	0.500	0.001	EE		M	CAL	100	Ss	N
6556.1	70	88	3.776	0.500	0.001	EE		M	CAL	100	Ss	N
6556.3	249	86	12.747	1.200	0.001	EE		M	CAL	100	Ss	N
6556.3	247	88	13.172	1.200	0.001	EE		M	CAL	100	Ss	N
6557.3	69	86	6.638	1.500	0.001	EE		M	CAL	100	Ss	N
6557.8	242	87	11.203	0.700	0.001	EE		M	CAL	100	Ss	N
6557.8	242	88	4.963	0.900	0.001	EE		M	CAL	100	Ss	N
6557.9	51	90	1.335	0.400	0.001	EE		M	CAL	100	Ss	N
6560.7	64	58	2.094	0.010	0.010	SH		C		0	Ss	I
6561.6	144	86	4.528	0.010	0.010	DI		B		0	Sl	I
6561.6	56	77	1.264	0.010	0.010	SH		C		0	Sl	I
6562.1	233	47	1.535	0.300	0.300	SH		O		0	Sl	I
6565.3	262	77	3.106	0.010	0.010			B		0	Ss	I
6565.4	2	77	1.843	0.010	0.010			B		0	Ss	I
6567.1	243	86	7.306	0.200	0.001	EE		M	CAL	100	Ss	N
6567.2	250	82	2.712	0.200	0.001	EE		M	CAL	100	Ss	N
6567.3	248	81	1.892	0.200	0.001	EE		M	CAL	100	Ss	N
6567.5	64	88	7.335	0.300	0.001	EE		M	CAL	100	Ss	N
6567.5	75	87	6.579	0.300	0.001	EE		M	CAL	100	Ss	N
6567.8	253	88	7.374	0.500	0.001	EE		M	CAL	100	Ss	N

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
Date : 12-APR-1988

FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6568.0	257	72	2.432	0.600	0.001	EE		M	CAL	100	Ss	N
6568.2	73	88	9.633	0.600	0.001	EE		M	CAL	100	Ss	N
6569.1	237	89	2.659	0.100	0.001	EE		M	CAL	100	Sl	N
6569.1	64	88	1.925	0.200	0.001	EE		M	CAL	100	Sl	N
6569.9	73	59	0.724	0.010	0.010	SH		C		0	Sl	I
6570.1	338	78	1.213	0.010	0.010	DI		C		0	Sl	P
6570.5	59	60	1.047	0.010	0.010	SH		C		0	Sl	I
6570.9	64	58	1.567	0.010	0.010	SH		C		0	Sl	I
6572.0	48	78	3.016	0.010	0.010	DI		B		0	Ss	I
6572.3	228	80	1.917	0.010	0.010	SH		C		0	Sl	I
6572.6	333	78	1.717	0.010	0.010			B		0	Sl	I
6573.1	59	60	1.461	0.010	0.010	SH		C		0	Ss	I
6573.4	235	64	2.945	0.010	0.010	SH		B		0	Ss	I
6574.2	235	53	1.075	0.010	0.010	SH		C		0	Ls	I
6574.4	238	50	2.087	0.010	0.010	SH		B		0	Ls	I
6574.6	247	70	6.015	0.010	0.010	DI		B		0	Ls	P
6575.1	171	72	1.161	0.200	0.010	DI		C,V		0	Ls	P
6575.2	322	19	0.752	0.010	0.010	DI		C,V		0	Ls	P
6575.4	45	37	0.087	0.010	0.010	SH		B		0	Ls	I
6575.4	53	76	10.664	0.010	0.010			B		0	Sl	P
6576.8	175	83	2.520	0.010	0.010	DI		B		0	Sh	I
6577.0	160	61	1.339	0.010	0.010			B		0	Sh	I
6578.3	5	76	1.677	0.010	0.010	S		C		0	Sh	P
6579.5	225	40	2.035	0.010	0.010	S		C		0	Sh	I
6580.4	198	76	1.516	0.010	0.010	DI		B		0	Sh	I
6580.6	218	5	0.504	0.010	0.010	S		C,V		0	Sh	I
6581.2	336	74	2.220	0.010	0.010			B		0	Sh	I

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
Date : 12-APR-1988

FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6581.7	190	77	2.409	0.010	0.010	SH		B		0	Sh	I
6581.9	72	74	9.680	0.400	0.010	EE,S		B,M	CAL	100	Sh	N
6582.1	263	89	1.839	0.200	0.001	EE		M	CAL	100	Sh	N
6582.5	96	85	31.254	2.000	0.010	EE,S		B,M	CAL	100	Sl	N
6582.5	69	88	2.690	0.200	0.001	EE		M	CAL	100	Sh	N
6582.5	254	87	2.957	0.400	0.001	EE		M	CAL	100	Sh	N
6584.4	98	85	0.768	0.600	0.001	EE		M	CAL	100	Ss	N
6584.6	102	82	15.511	1.500	0.010	EE,S		B,M	CAL	100	Ss	N
6585.2	104	76	2.906	1.000	0.300	DI,EE		M,V	CAL	50	Ss	N
6585.8	95	88	9.618	2.000	0.010	EE,S		B,M	CAL	100	Ss	N
6585.8	25	78	4.181	0.010	0.010			B		0	Ss	I
6586.1	99	86	4.756	0.800	0.001	EE		M	CAL	100	Ss	N
6586.3	99	86	2.815	0.500	0.001	EE		M	CAL	100	Ss	N
6713.0	329	77	1.528	0.010	0.010			B		0	Sh	I
6713.0	79	66	0.823	0.010	0.010			B		0	Sh	I
6715.6	58	81	2.579	0.010	0.010			C		0	Sl	I
6715.7	242	82	2.244	0.010	0.010	SH		B		0	Sl	I
6716.0	52	56	1.134	0.010	0.010	DI,S		C,V		0	Sl	P
6716.0	60	41	0.382	0.010	0.010	DI,S		C,V		0	Sl	P
6718.0	266	87	1.921	0.010	0.010	DI		B		0	Ss	P
6718.2	86	84	0.957	0.010	0.010	DI		C		0	Ss	I
6718.2	271	80	2.780	0.010	0.010			C		0	Ss	P
6718.2	85	73	0.697	0.010	0.010	DI		C		0	Ss	I
6718.5	89	89	12.312	0.250	0.010	DI,EE		M	CAL	90	Ss	N
6718.6	85	88	0.783	0.010	0.010			B		0	Ss	P
6718.6	272	88	2.291	0.010	0.010	DI		C		0	Ss	P
6718.7	264	89	2.173	0.200	0.001	DI,EE		M	CAL	100	Ss	N

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
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FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6719.5	80	83	2.957	0.010	0.010			B		0	Ss	P
6722.3	71	85	9.843	0.010	0.010	SH		B		0	Ss	I
6723.1	77	85	2.656	0.010	0.010	DI		C		0	Ss	P
6723.1	244	86	2.104	0.010	0.010	DI		C		0	Ss	P
6724.0	64	82	2.992	0.010	0.010			B		0	Sl	I
6726.7	40	86	31.168	0.010	0.010	S		B,M	CAL	90	Ss	N
6728.0	43	86	9.705	0.010	0.010	S		B,M	CAL	90	Ss	N
6737.0	261	83	17.689	0.010	0.010	S		B		0	Ss	P
6738.2	82	86	4.311	0.010	0.010	DI		B,M	CAL	50	Ss	N
6738.6	78	85	6.501	0.010	0.010	EE		B		0	Ss	P
6739.0	252	88	1.622	0.200	0.001	DI,EE		M	CAL	100	Ss	N
6739.0	73	87	5.654	0.200	0.001	EE		M	CAL	100	Ss	N
6739.1	83	89	3.858	0.010	0.010	EE		B,M	CAL	90	Ss	N
6739.4	81	90	1.150	0.010	0.010	EE		C		0	Ss	P
6739.4	86	89	0.945	0.010	0.010	EE		C		0	Ss	P
6739.5	272	87	5.807	0.200	0.001			M	CAL	100	Ss	N
6739.5	82	81	7.087	0.010	0.010	S		B		0	Ss	P
6743.9	54	80	1.902	0.010	0.010	SH		B		0	Ss	I
6744.0	229	88	1.579	0.010	0.010	SN		C		0	Ss	N
6744.0	42	80	2.102	0.010	0.010	SN		C		0	Ss	N
6744.7	244	64	0.650	0.010	0.010	SH		C		0	Sl	I
6744.7	69	57	2.193	0.010	0.010	SH		B		0	Sl	I
6744.8	169	80	2.537	0.010	0.010			C		0	Sh	P
6744.8	165	53	2.453	0.010	0.010			C		0	Sh	P
6745.1	260	60	3.254	0.010	0.010	S		B		0	Sh	I
6976.3	256	87	27.840	0.010	0.010	S	OIL	B		0	Ss	P
6976.6	324	26	0.197	0.010	0.010	DI,S	OIL	C		0	Ss	I

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
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FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6976.6	260	87	0.413	0.100	0.100	DI	OIL	O		0	Ss	P
6976.6	81	73	0.102	0.010	0.010	DI	OIL	C		0	Ss	P
6976.6	277	75	1.909	0.010	0.010	DI,S		B		0	Ss	I
6976.6	263	88	3.567	0.100	0.100	DI	OIL	O		0	Ss	P
6977.6	269	90	2.854	0.200	0.200	DI	OIL	O,V		0	Ss	P
6977.7	267	89	0.827	0.010	0.010	EE	OIL	C		0	Ss	P
6977.8	269	78	2.425	0.010	0.010	S		B		0	Ss	I
6978.3	304	70	0.587	0.010	0.010	DI,S		C		0	Ss	I
6978.6	165	50	0.807	0.010	0.010	S	OIL	C		0	Ss	P
6978.8	242	75	1.028	0.010	0.010	S		B		0	Sh	I
6978.9	33	75	1.591	0.010	0.010	S		B		0	Sh	I
6979.0	197	84	5.476	0.010	0.010			B		0	Sl	P
6979.5	231	85	1.102	0.010	0.010	DI	OIL	C		0	Ss	P
6980.0	229	57	2.034	0.010	0.010	SH		C		0	Sl	I
6980.0	231	59	1.280	0.010	0.010	SH		B		0	Sl	I
6980.3	236	74	6.409	0.010	0.010	SH	OIL	B		0	Sl	I
6981.0	227	71	2.815	0.010	0.010	SH	OIL	C,V		0	Ss	P
6981.7	28	80	2.929	0.010	0.010	S		B		0	Sl	I
6981.7	187	68	1.882	0.010	0.010	S		B		0	Sl	I
6981.7	180	74	2.445	0.010	0.010	S		B		0	Sl	I
6981.7	189	85	1.291	0.100	0.100	DI	OIL	V		0	Sl	P
6981.7	140	56	2.327	0.010	0.010	S		B		0	Sl	I
6981.8	47	86	3.449	0.050	0.010	S	OIL	M	CAL	90	Sl	N
6981.9	114	77	0.807	0.010	0.010	DI		B		0	Sl	I
6982.2	72	85	21.120	0.010	0.010	SH,S	OIL	B		0	Ss	I
6982.2	125	83	2.677	0.010	0.010	DI		B		0	Ss	I
6982.3	236	84	2.382	0.010	0.010		OIL	C		0	Ss	P

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
Date : 12-APR-1988

FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
6982.6	282	84	2.114	0.010	0.010	DI	OIL	B		0	Ss	I
6982.7	255	86	10.882	0.010	0.010	SH,S	OIL	B		0	Co	P
6985.1	242	78	5.184	0.010	0.010	SH		B		0	Sh	I
6985.5	273	89	40.734	0.010	0.010	S		B		0	Ss	P
6987.5	339	75	3.201	0.010	0.010	EE		B		0	Ss	P
6988.9	175	81	39.663	0.010	0.010	S	OIL	B		0	Ss	P
6989.6	46	75	3.661	0.150	0.150	DI,EE	OIL	O		0	Ss	P
6989.8	44	76	3.902	0.100	0.100	DI,EE	OIL	O		0	Ss	P
6991.3	344	86	2.819	0.200	0.200	DI,EE	OIL	O		0	Ss	P
6991.7	176	84	5.815	0.010	0.010	DI,EE		B		0	Sl	P
6992.6	357	63	22.338	0.010	0.010	SH,S		B		0	Sl	I
6992.7	352	63	1.614	0.010	0.010	SH		C		0	Sl	I
6993.1	13	86	5.961	0.150	0.100	DI	OIL	M,O	CAL	90	Ss	N
6993.6	349	88	4.063	0.300	0.100	DI,EE		V		0	Ss	P
6994.5	3	69	0.512	0.100	0.100	DI		O		0	Ss	P
6994.7	359	79	5.030	0.010	0.010	SH		B		0	Sl	I
6996.6	360	88	6.323	0.010	0.010	SH		B		0	Sl	I
6996.7	183	78	12.255	0.010	0.010	SH		B		0	Sl	I
6997.7	7	47	0.189	0.010	0.010			B		0	Sh	I
7115.3	282	75	3.417	0.100	0.100			O		0	Sl	I
7115.8	338	82	5.992	0.010	0.010	S		C		0	Sh	I
7115.9	8	81	2.323	0.010	0.010	SH		B		0	Sh	I
7115.9	18	80	4.114	0.200	0.200	SH		O		0	Sh	I
7116.1	197	68	2.260	0.010	0.010	DI		B		0	Sh	I
7118.1	159	65	1.240	0.010	0.010	DI		B		0	Sh	I
7118.7	65	71	3.602	0.010	0.010	SH		B		0	Sl	I
7119.0	60	55	1.055	0.010	0.010	SH		B		0	Sl	I

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
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FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
7119.4	246	73	2.205	0.010	0.010	SH		C		0	Sl	I
7119.5	245	74	1.634	0.010	0.010	SH		C		0	Sl	I
7119.6	57	83	42.032	0.010	0.010	SH,S		B		0	Sl	I
7119.9	234	76	0.917	0.010	0.010	SH		C		0	Sl	I
7120.8	239	83	1.213	0.010	0.010	SH		C		0	Sl	I
7120.8	240	72	0.787	0.010	0.010	SH		C		0	Sl	I
7121.5	239	55	1.869	0.010	0.010	SH		B		0	Sl	I
7121.7	113	79	1.354	0.300	0.300	DI,S		O		0	Ss	I
7122.7	237	85	2.254	0.120	0.120	DI,EE		O		0	Ss	P
7122.7	246	84	2.252	0.010	0.010			C,V		0	Ss	P
7122.8	61	84	10.323	0.400	0.400	EE		O		0	Ss	P
7123.0	70	79	4.320	0.010	0.010	DI		C,M	CAL	100	Ss	N
7123.2	247	86	2.364	0.010	0.010	EE		C,M	CAL	100	Ss	N
7123.2	245	84	1.286	0.010	0.010	EE		C		0	Sl	P
7123.6	246	88	5.427	0.010	0.010			B		0	Sl	P
7123.6	65	89	5.452	0.010	0.010			B		0	Sl	P
7124.1	247	56	1.538	0.010	0.010	SH		B		0	Sh	I
7124.1	59	68	5.050	0.010	0.010	SH,S		B		0	Sh	I
7124.3	288	63	3.157	0.010	0.010	DI,S		C		0	Sh	I
7124.9	240	36	0.555	1.000	1.000	SH		O		0	Sl	I
7125.1	244	85	6.411	0.010	0.010			B		0	Sl	P
7125.1	248	87	5.047	0.010	0.010			B		0	Sl	P
7125.4	66	88	3.768	0.010	0.010	DI				0		P
7125.6	243	51	13.236	0.010	0.010	SH		B		0	Sh	I
7125.6	65	50	13.192	0.010	0.010	SH		B		0	Sh	I
7126.3	58	71	7.498	0.010	0.010	SH		B		0	Sl	I
7126.7	50	81	2.614	0.010	0.010	S		C		0	Sh	I

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER

File : 57121-8094
Date : 12-APR-1988

FRACTURE DATA
ALL MEASURABLE FRACTURES
TABLE 2

DEPTH FEET	DIP AZIMUTH DEGREE	DIP ANGLE DEGREE	VERT LENGTH IN	MEASURED WIDTH MM	EFFECTIVE WIDTH MM	STRUC	FLUID	FRAC COND	MIN TYPE	FILL PCT	LITHO	FRAC ORIG
7127.1	153	70	1.165	0.010	0.010			C		0	Sh	I
7127.1	148	42	1.057	0.010	0.010			B		0	Sh	I
7127.1	330	54	0.579	0.010	0.010			B		0	Sh	I
7127.7	130	72	2.855	0.010	0.010			B		0	Sh	I
7127.7	16	53	0.724	0.010	0.010	DI		C		0	Sh	I
7127.7	307	79	1.264	0.010	0.010			C		0	Sh	I

CORE LABORATORIES

Company	: PENNZOIL COMPANY	Field	: BLUEBELL FIELD	File	: 57121-8094
Well	: BOREN NO. 3-11 A2	Formation	: UPPER GREEN RIVER	Date	: 22-MAR-1988
Location	: SW SEC 11 T1S R2W	Coring Fluid	: AQUAGEL-X-TEND	API No.	:
Co,State	: DUCHESNE, UTAH	Elevation	: 5798 KB	Analysts	: JS

LIST OF FRACTURE ABBREVIATIONS

STRUCTURE	FLUID	CONDITION	MINERAL TYPE	LITHOLOGY	ORIGIN
BP - Bedding Plane	D-O - Dead Oil	B - Broken	ANH - Anhydrite	B - Boundstone	I - Induced
DI - Diffuse	OIL - Oil	C - Closed	CAL - Calcite	Ch - Chert	N - Natural
EE - En-Echelon	TAR - Tar	M - Mineralized	CLY - Clay	Co - Conglomerate	P - Possibly Induced
FL - Fault		O - Open	DOL - Dolomite	Dl - Dolomite-Limestone	
S - Sinuous		V - Vugular	PYR - Pyrite	Do - Dolomite	
SH - Petal			QTZ - Quartz	G - Grainstone	
SL - Slickenside				Ig - Igneous	
SN - Shear Normal				Ls - Limestone	
SR - Shear Reverse				M - Mudstone	
				Mt - Metamorphic	
				P - Packstone	
				Sh - Shale	
				Sl - Siltstone	
				Ss - Sandstone	
				W - Wackestone	
				Xl - Crystalline-Limestone	

PENNZOIL COMPANY
BOREN NO. 3-11 A2
BLUEBELL FIELD
DUCHESNE, UTAH

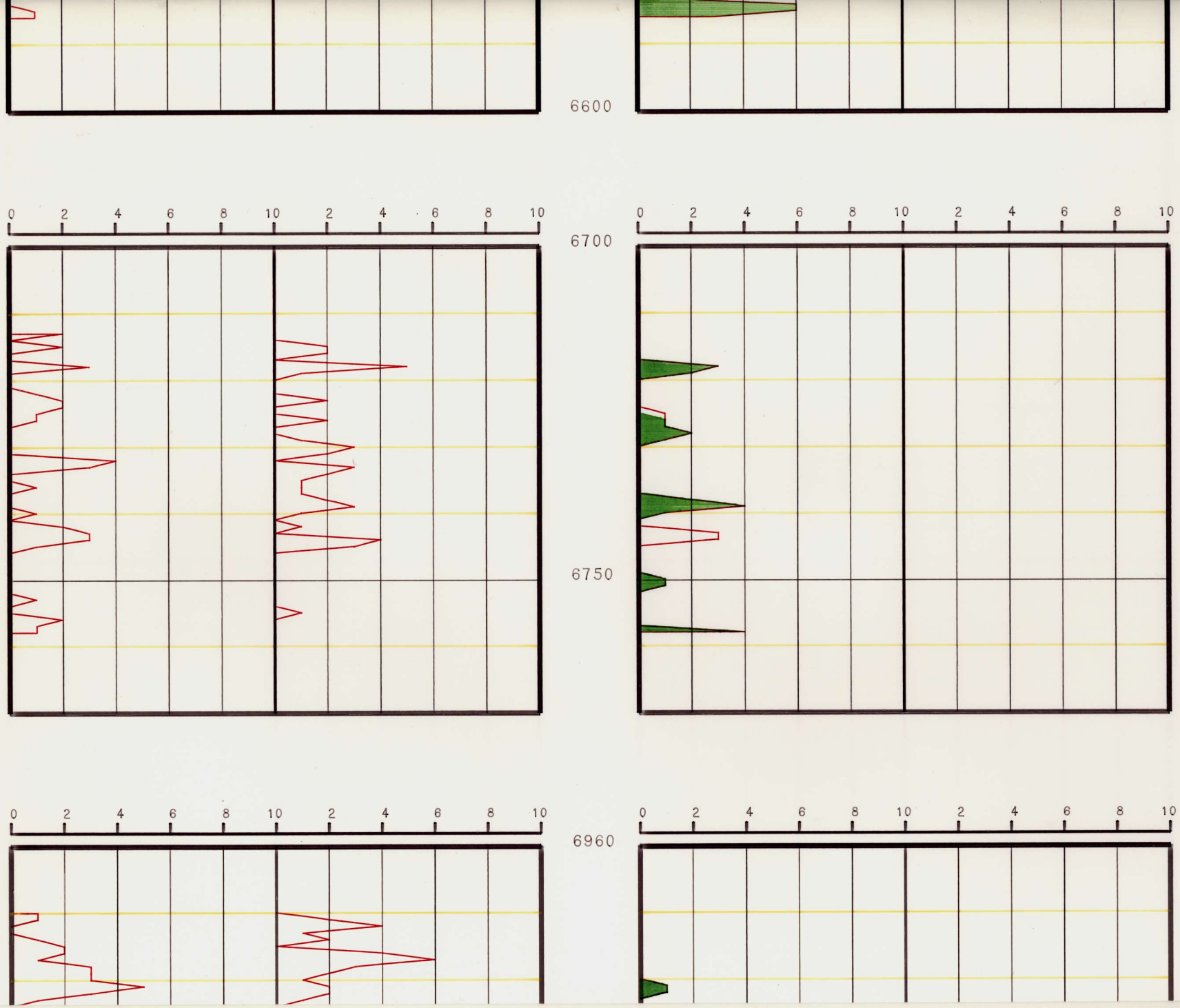
(6539-7135 FEET)

CORE LABORATORIES APR 12, 88

COREFRACTURE LOG

VERTICAL SCALE: 1.0 INCH = 20.0 FEET

NUMBER OF FRACTURES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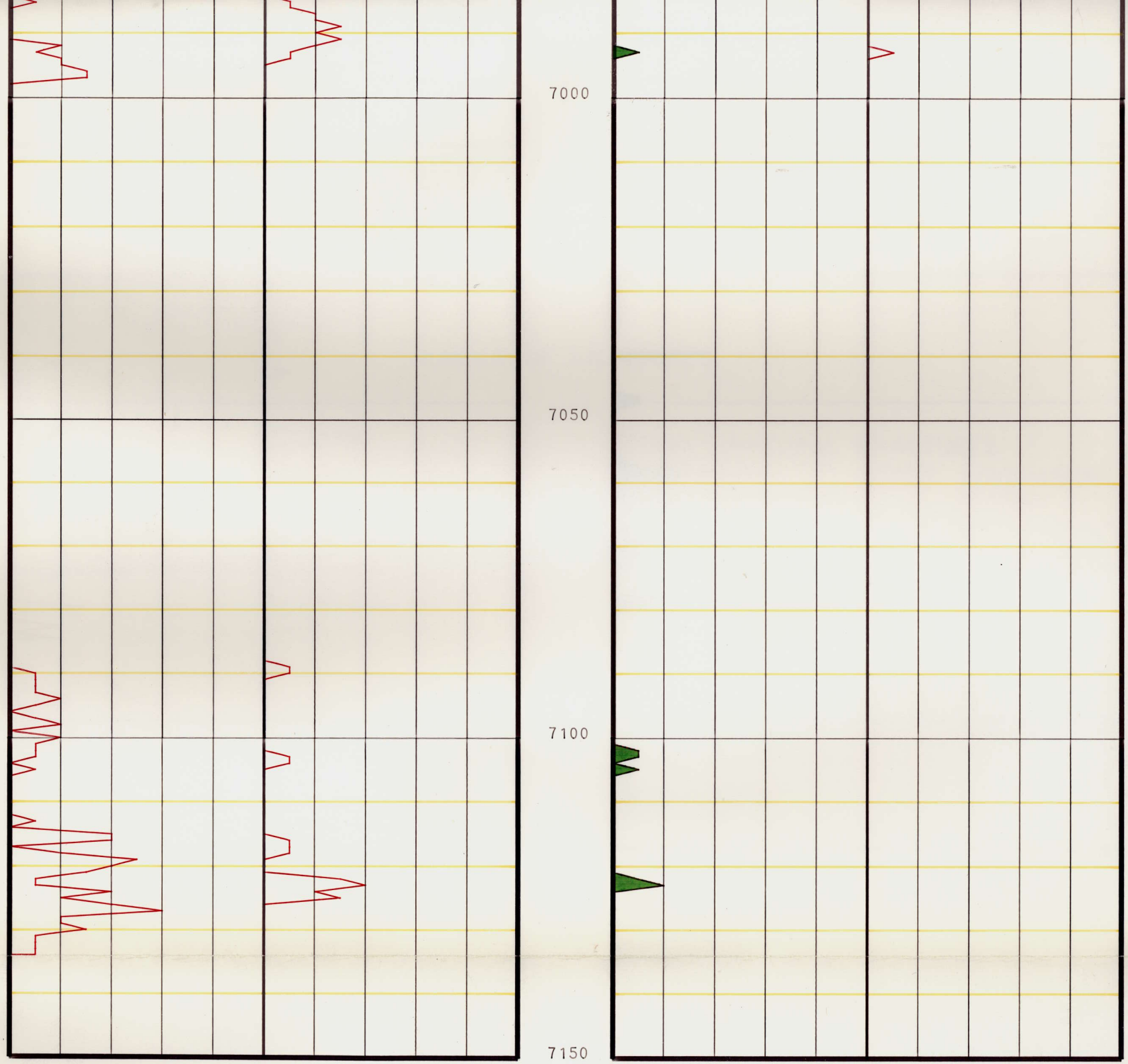
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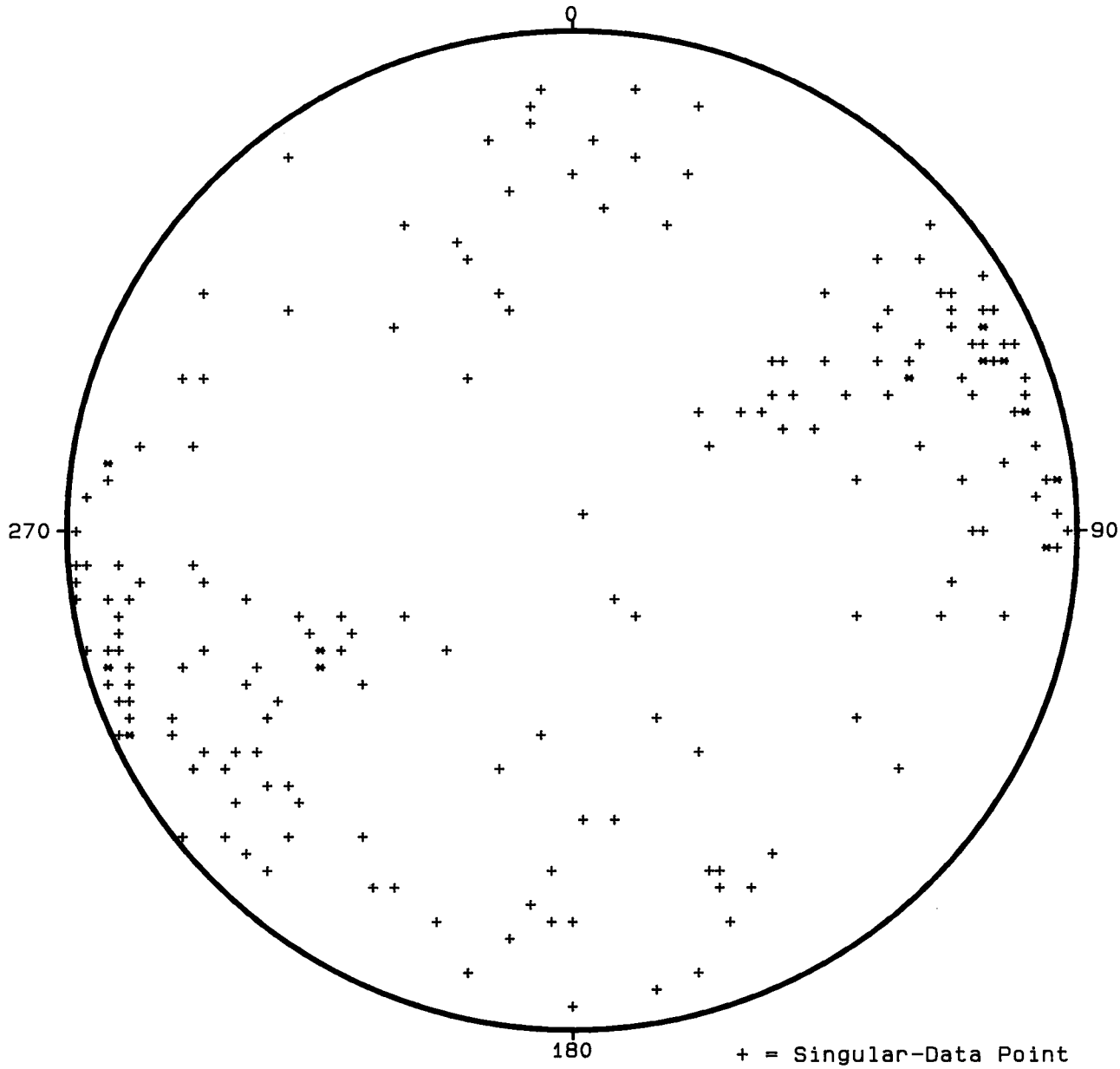
7100
7150



193 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

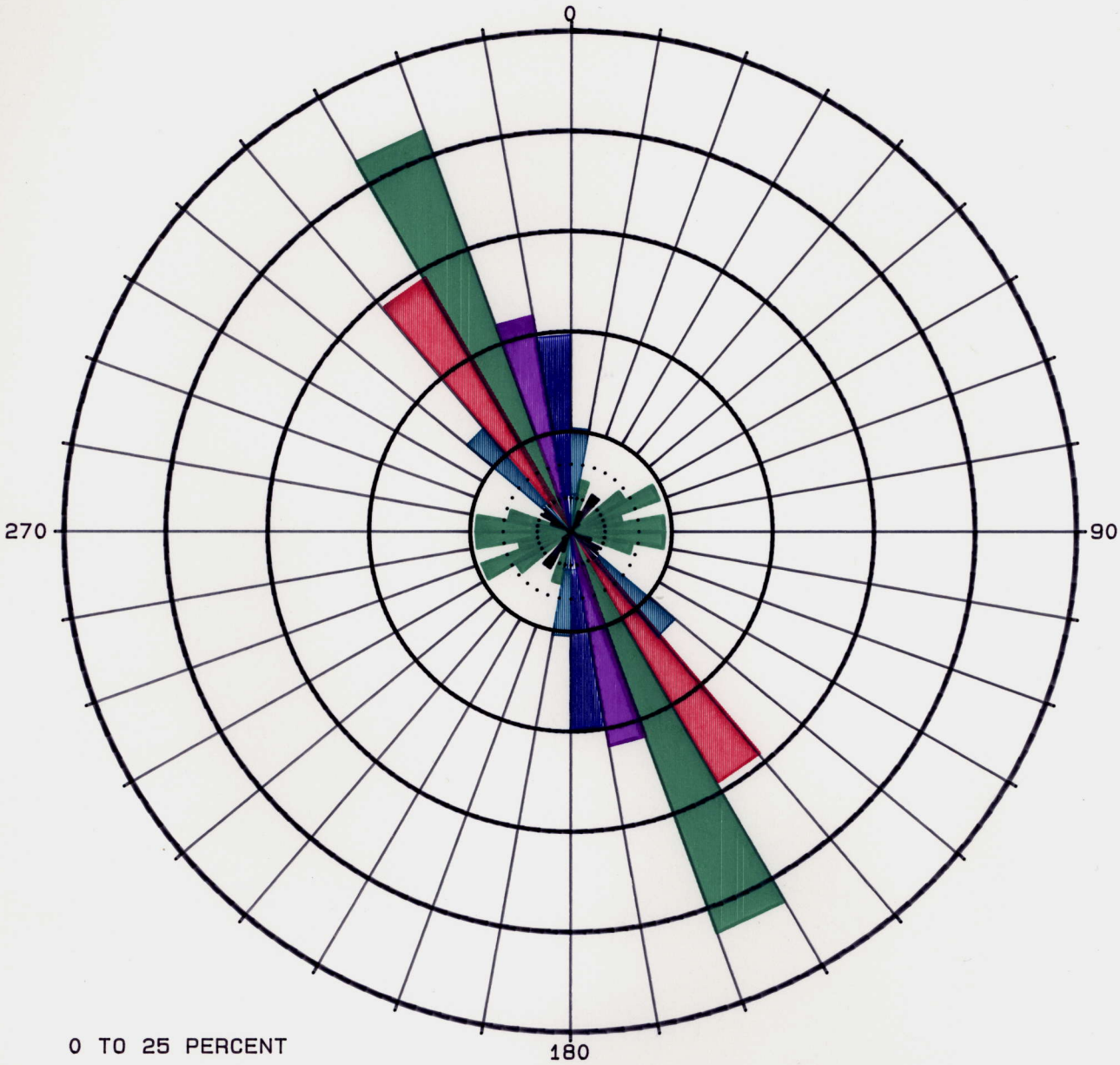
ALL MEASURABLE FRACTURES

FIGURE 2

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



0 TO 25 PERCENT

193 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

ALL MEASURABLE FRACTURES

FIGURE 3

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

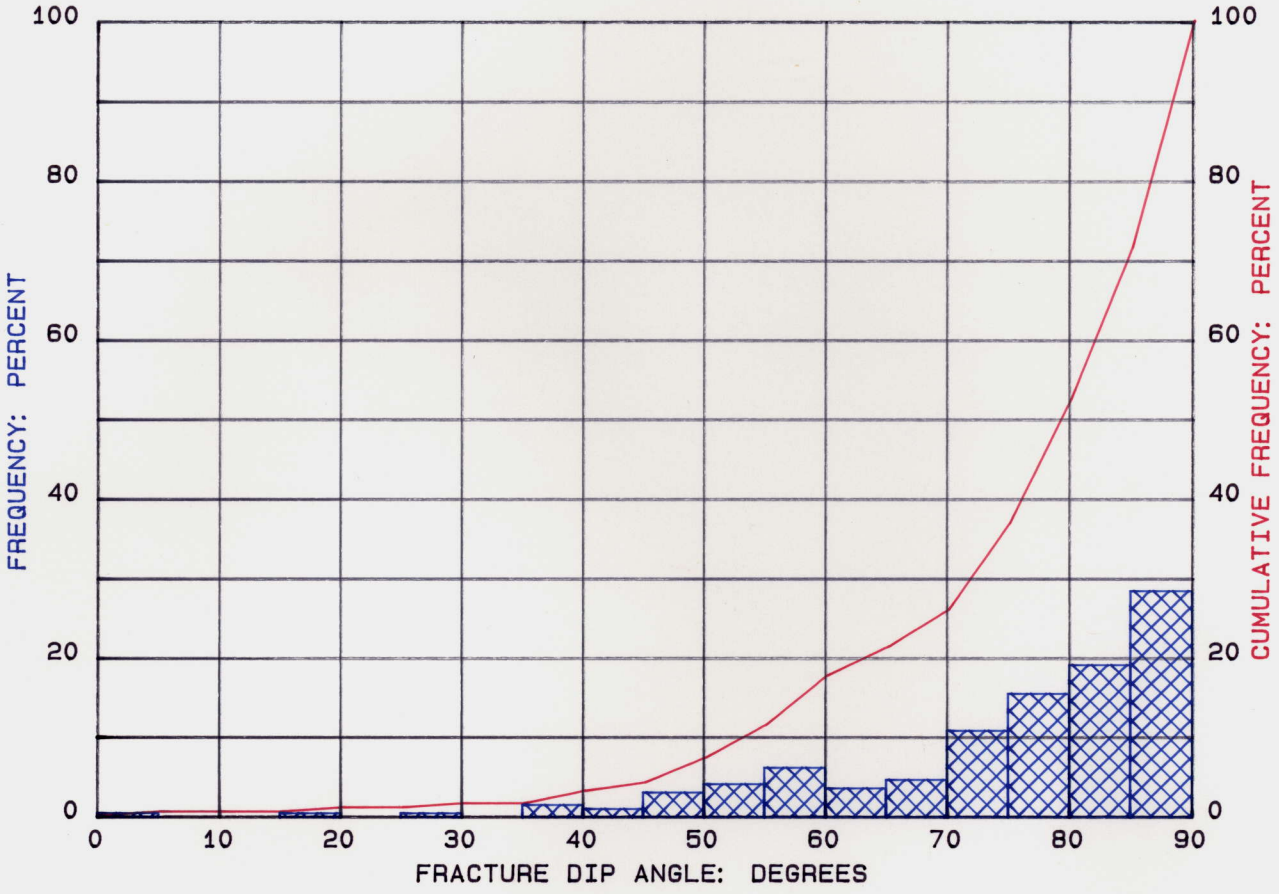
Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE STRIKE
ALL MEASURABLE FRACTURES
TABLE 3

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	10	5.18	5.18
10 - 20	5	2.59	7.77
20 - 30	2	1.04	8.81
30 - 40	4	2.07	10.88
40 - 50	1	0.52	11.40
50 - 60	6	3.11	14.51
60 - 70	9	4.66	19.17
70 - 80	5	2.59	21.76
80 - 90	9	4.66	26.42
90 - 100	9	4.66	31.09
100 - 110	6	3.11	34.20
110 - 120	2	1.04	35.23
120 - 130	3	1.55	36.79
130 - 140	13	6.74	43.52
140 - 150	28	14.51	58.03
150 - 160	41	21.24	79.27
160 - 170	21	10.88	90.15
170 - 180	19	9.84	100.00
TOTAL	193	100.00	100.00



193 FRACTURES

FRACTURE DIP ANGLE HISTOGRAM

ALL MEASURABLE FRACTURES

FIGURE 4

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

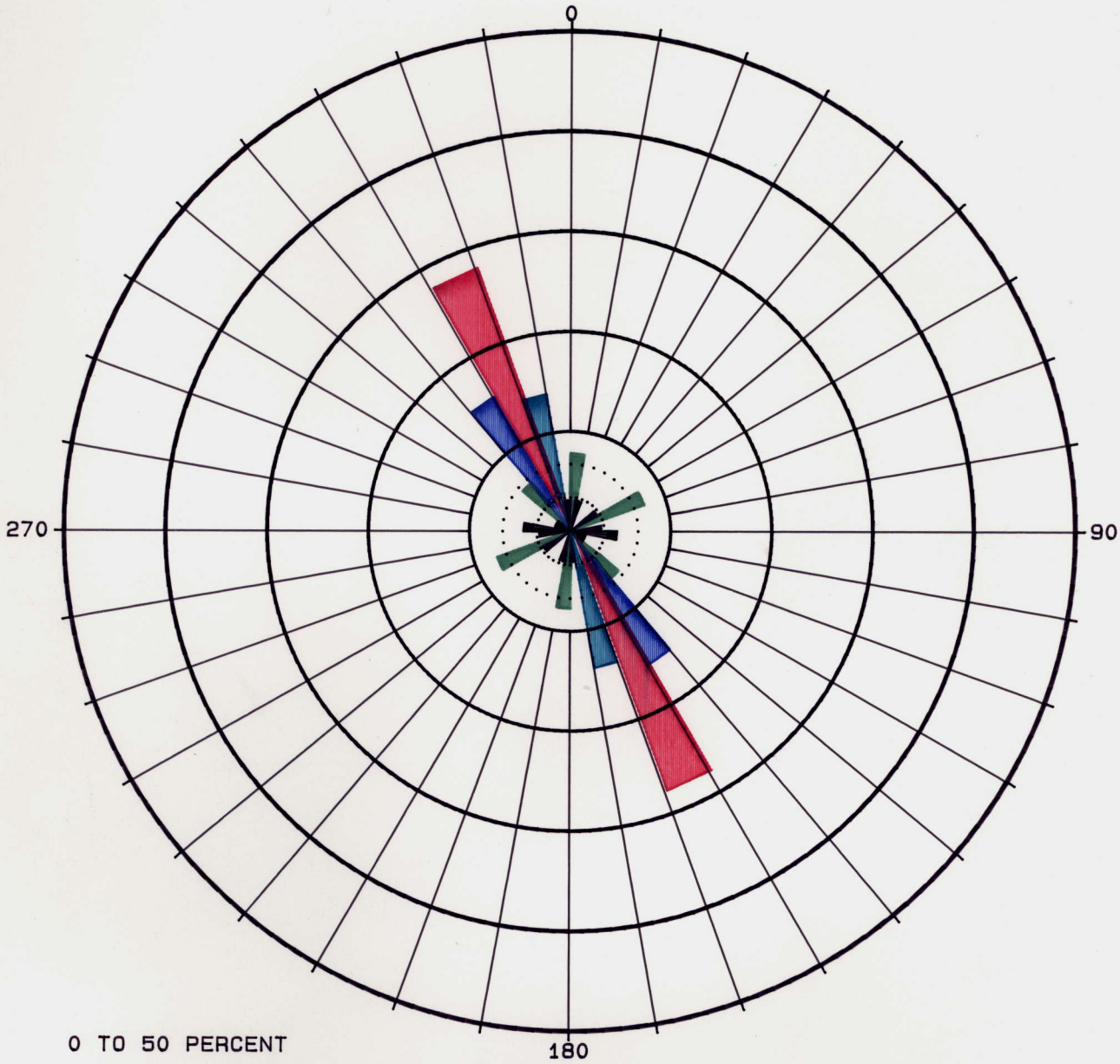
Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE DIP ANGLE
ALL MEASURABLE FRACTURES
TABLE 4

ANGLE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 5	1	0.52	0.52
5 - 10	0	0.00	0.52
10 - 15	0	0.00	0.52
15 - 20	1	0.52	1.04
20 - 25	0	0.00	1.04
25 - 30	1	0.52	1.55
30 - 35	0	0.00	1.55
35 - 40	3	1.55	3.11
40 - 45	2	1.04	4.14
45 - 50	6	3.11	7.25
50 - 55	8	4.15	11.40
55 - 60	12	6.22	17.62
60 - 65	7	3.63	21.24
65 - 70	9	4.66	25.91
70 - 75	21	10.88	36.79
75 - 80	30	15.54	52.33
80 - 85	37	19.17	71.50
85 - 90	55	28.50	100.00
TOTAL	193	100.00	100.00



0 TO 50 PERCENT

65 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

CORE NO.1

FIGURE 5

PENNZOIL COMPANY

BOREN NO. 3-11 A2

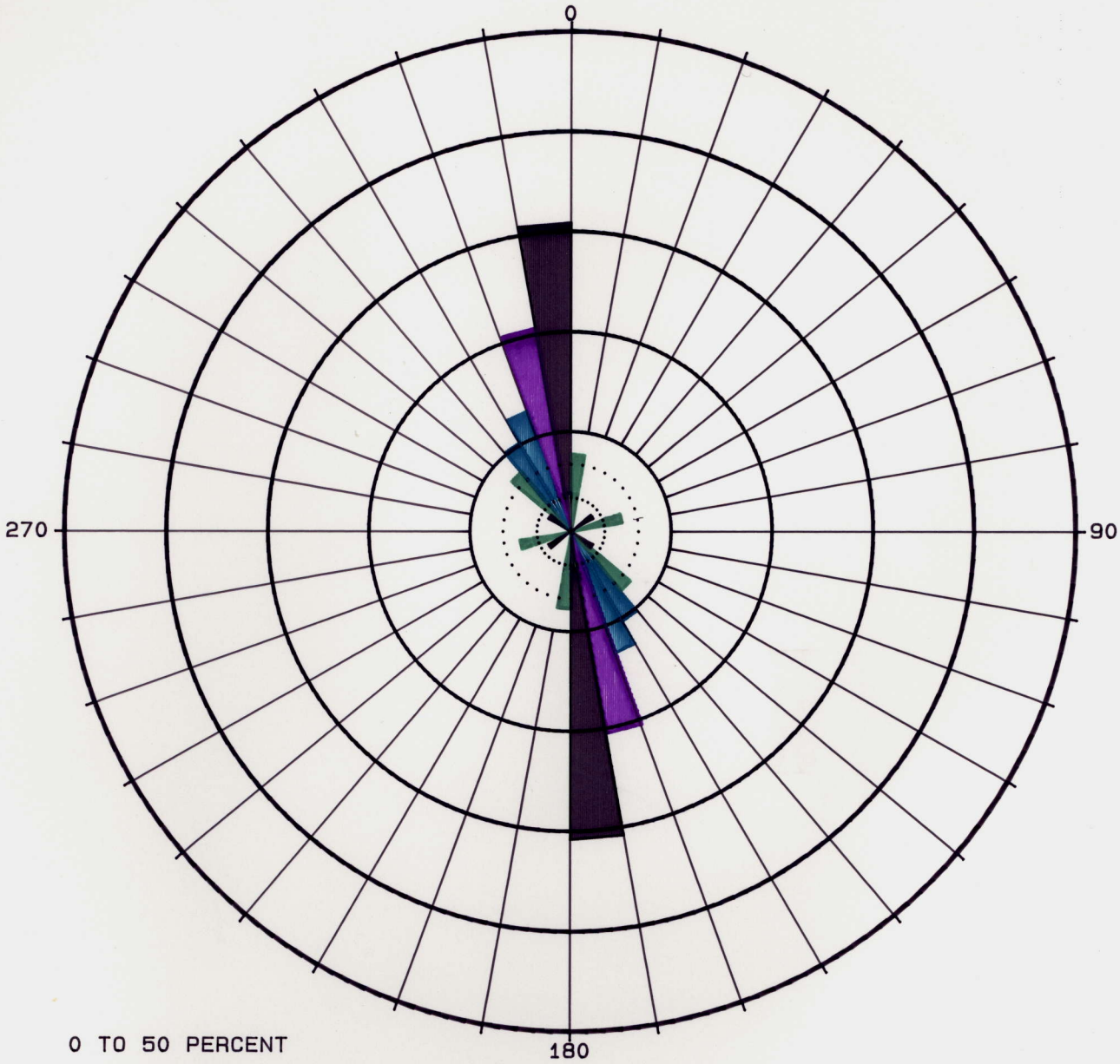
CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

Company	: PENNZOIL COMPANY	Field	: BLUEBELL FIELD	File	: 57121-8094
Well	: BOREN NO. 3-11 A2	Formation	: UPPER GREEN RIVER	Date	: 12-APR-1988
Location	: SW SEC 11 T1S R2W	Coring Fluid	: AQUAGEL-X-TEND	API No.	:
Co,State	: DUCHESNE, UTAH	Elevation	: 5798 KB	Analysts	: JS

DISTRIBUTION OF FRACTURE STRIKE
CORE NO.1
TABLE 5

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	5	7.69	7.69
10 - 20	2	3.08	10.77
20 - 30	0	0.00	10.77
30 - 40	0	0.00	10.77
40 - 50	0	0.00	10.77
50 - 60	2	3.08	13.85
60 - 70	5	7.69	21.54
70 - 80	0	0.00	21.54
80 - 90	2	3.08	24.62
90 - 100	3	4.62	29.23
100 - 110	1	1.54	30.77
110 - 120	1	1.54	32.31
120 - 130	1	1.54	33.85
130 - 140	4	6.15	40.00
140 - 150	10	15.38	55.38
150 - 160	18	27.69	83.08
160 - 170	9	13.85	96.92
170 - 180	2	3.08	100.00
TOTAL	65	100.00	100.00



0 TO 50 PERCENT

39 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

CORES 2 AND 3

FIGURE 6

PENNZOIL COMPANY

BOREN NO. 3-11 A2

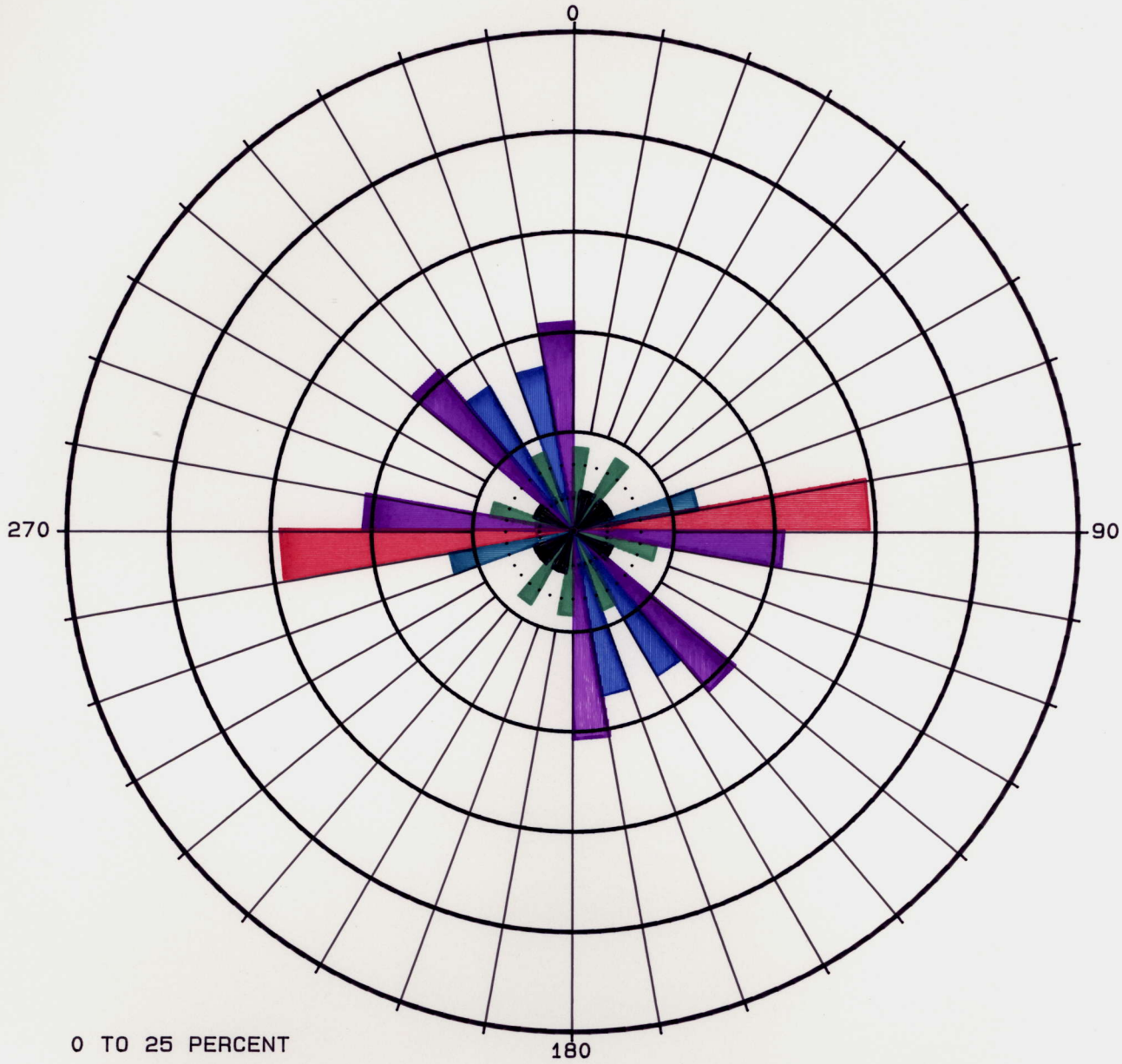
CORE LABORATORIES 12-APR-1988

C O R E L A B O R A T O R I E S

Company	: PENNZOIL COMPANY	Field	: BLUEBELL FIELD	File	: 57121-8094
Well	: BOREN NO. 3-11 A2	Formation	: UPPER GREEN RIVER	Date	: 12-APR-1988
Location	: SW SEC 11 T1S R2W	Coring Fluid	: AQUAGEL-X-TEND	API No.	:
Co,State	: DUCHESNE, UTAH	Elevation	: 5798 KB	Analysts	: JS

DISTRIBUTION OF FRACTURE STRIKE
CORES 2 AND 3
TABLE 6

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	3	7.69	7.69
10 - 20	0	0.00	7.69
20 - 30	0	0.00	7.69
30 - 40	0	0.00	7.69
40 - 50	0	0.00	7.69
50 - 60	1	2.56	10.26
60 - 70	0	0.00	10.26
70 - 80	2	5.13	15.38
80 - 90	0	0.00	15.38
90 - 100	0	0.00	15.38
100 - 110	0	0.00	15.38
110 - 120	0	0.00	15.38
120 - 130	1	2.56	17.95
130 - 140	3	7.69	25.64
140 - 150	4	10.26	35.90
150 - 160	5	12.82	48.72
160 - 170	8	20.51	69.23
170 - 180	12	30.77	100.00
TOTAL	39	100.00	100.00



0 TO 25 PERCENT

48 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

CORE NO.4

FIGURE 7

PENNZOIL COMPANY

BOREN NO. 3-11 A2

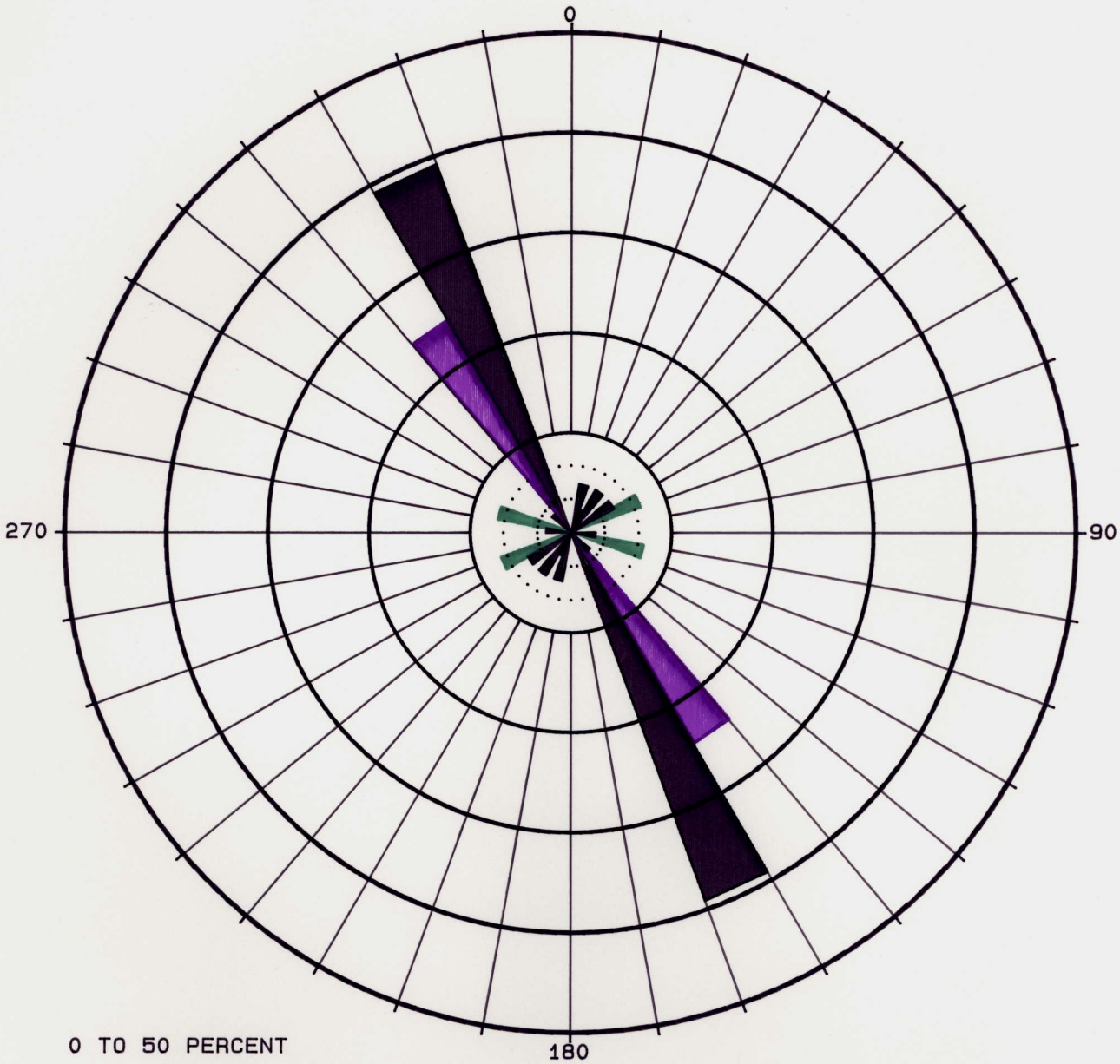
CORE LABORATORIES 12-APR-1988

C O R E L A B O R A T O R I E S

Company	: PENNZOIL COMPANY	Field	: BLUEBELL FIELD	File	: 57121-8094
Well	: BOREN NO. 3-11 A2	Formation	: UPPER GREEN RIVER	Date	: 12-APR-1988
Location	: SW SEC 11 T1S R2W	Coring Fluid	: AQUAGEL-X-TEND	API No.	:
Co,State	: DUCHESNE, UTAH	Elevation	: 5798 KB	Analysts	: JS

DISTRIBUTION OF FRACTURE STRIKE
CORE NO. 4
TABLE 7

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	2	4.17	4.17
10 - 20	1	2.08	6.25
20 - 30	1	2.08	8.33
30 - 40	2	4.17	12.50
40 - 50	1	2.08	14.58
50 - 60	1	2.08	16.67
60 - 70	1	2.08	18.75
70 - 80	3	6.25	25.00
80 - 90	7	14.58	39.58
90 - 100	5	10.42	50.00
100 - 110	2	4.17	54.17
110 - 120	1	2.08	56.25
120 - 130	1	2.08	58.33
130 - 140	5	10.42	68.75
140 - 150	4	8.33	77.08
150 - 160	2	4.17	81.25
160 - 170	4	8.33	89.58
170 - 180	5	10.42	100.00
TOTAL	48	100.00	100.00



0 TO 50 PERCENT

41 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

CORE NO.5

FIGURE 8

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

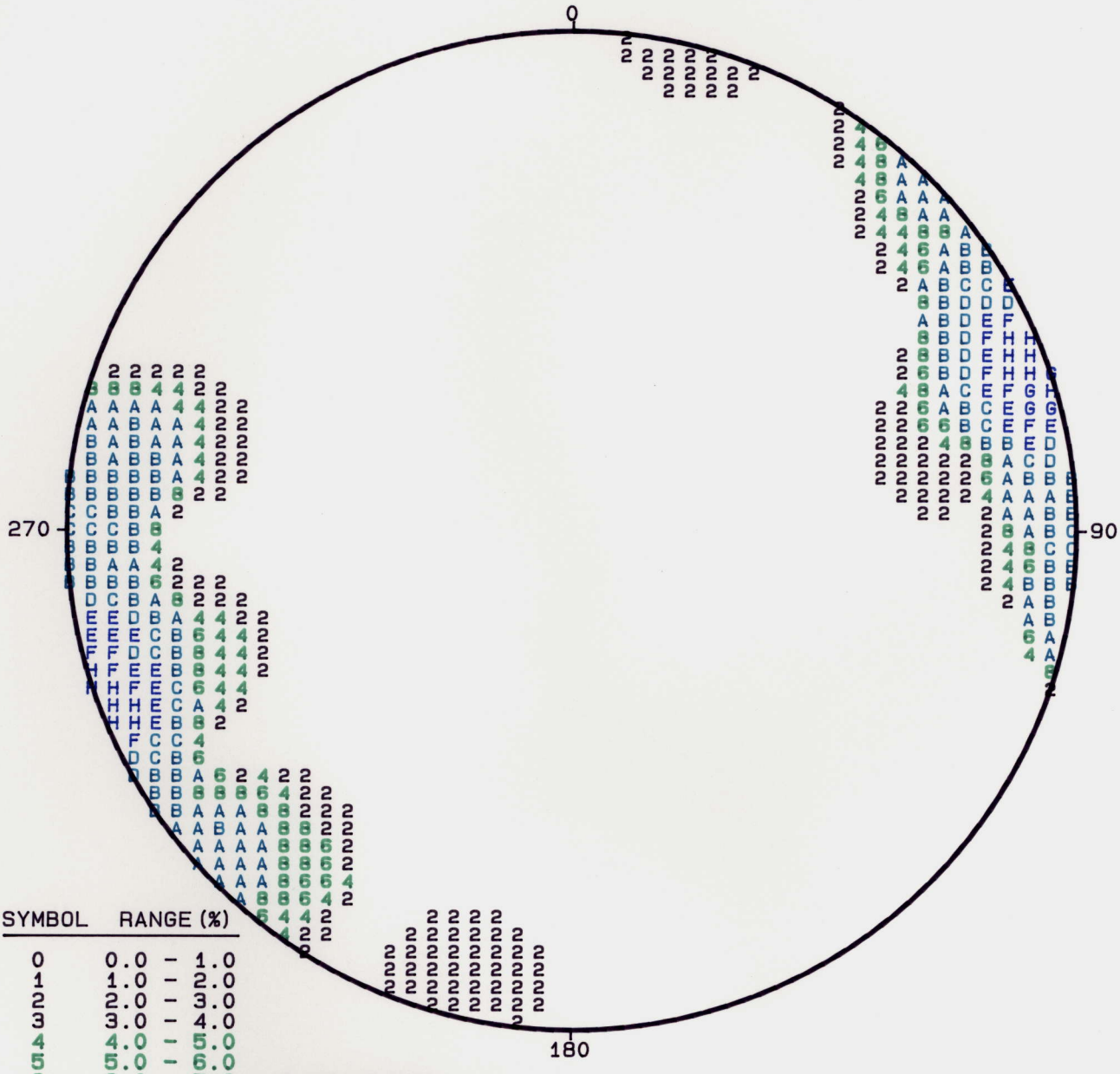
Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE STRIKE
CORE NO.5
TABLE 8

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	0	0.00	0.00
10 - 20	2	4.88	4.88
20 - 30	1	2.44	7.32
30 - 40	2	4.88	12.19
40 - 50	0	0.00	12.19
50 - 60	2	4.88	17.07
60 - 70	3	7.32	24.39
70 - 80	0	0.00	24.39
80 - 90	0	0.00	24.39
90 - 100	1	2.44	26.83
100 - 110	3	7.32	34.15
110 - 120	0	0.00	34.15
120 - 130	0	0.00	34.15
130 - 140	1	2.44	36.58
140 - 150	10	24.39	60.98
150 - 160	16	39.02	100.00
160 - 170	0	0.00	100.00
170 - 180	0	0.00	100.00
TOTAL	41	100.00	100.00



SYMBOL	RANGE (%)
0	0.0 - 1.0
1	1.0 - 2.0
2	2.0 - 3.0
3	3.0 - 4.0
4	4.0 - 5.0
5	5.0 - 6.0
6	6.0 - 7.0
7	7.0 - 8.0
8	8.0 - 9.0
9	9.0 - 10.
A	10. - 15.
B	15. - 20.
C	20. - 25.
D	25. - 30.
E	30. - 35.
F	35. - 40.
G	40. - 45.
H	45. - 50.
I	50. - 55.
J	55. - 60.
K	60. - 70.
L	70. - 80.
M	80. - 90.
N	90. - 100

46 FRACTURES

STEREONET PLOT OF POLES TO FRACTURES

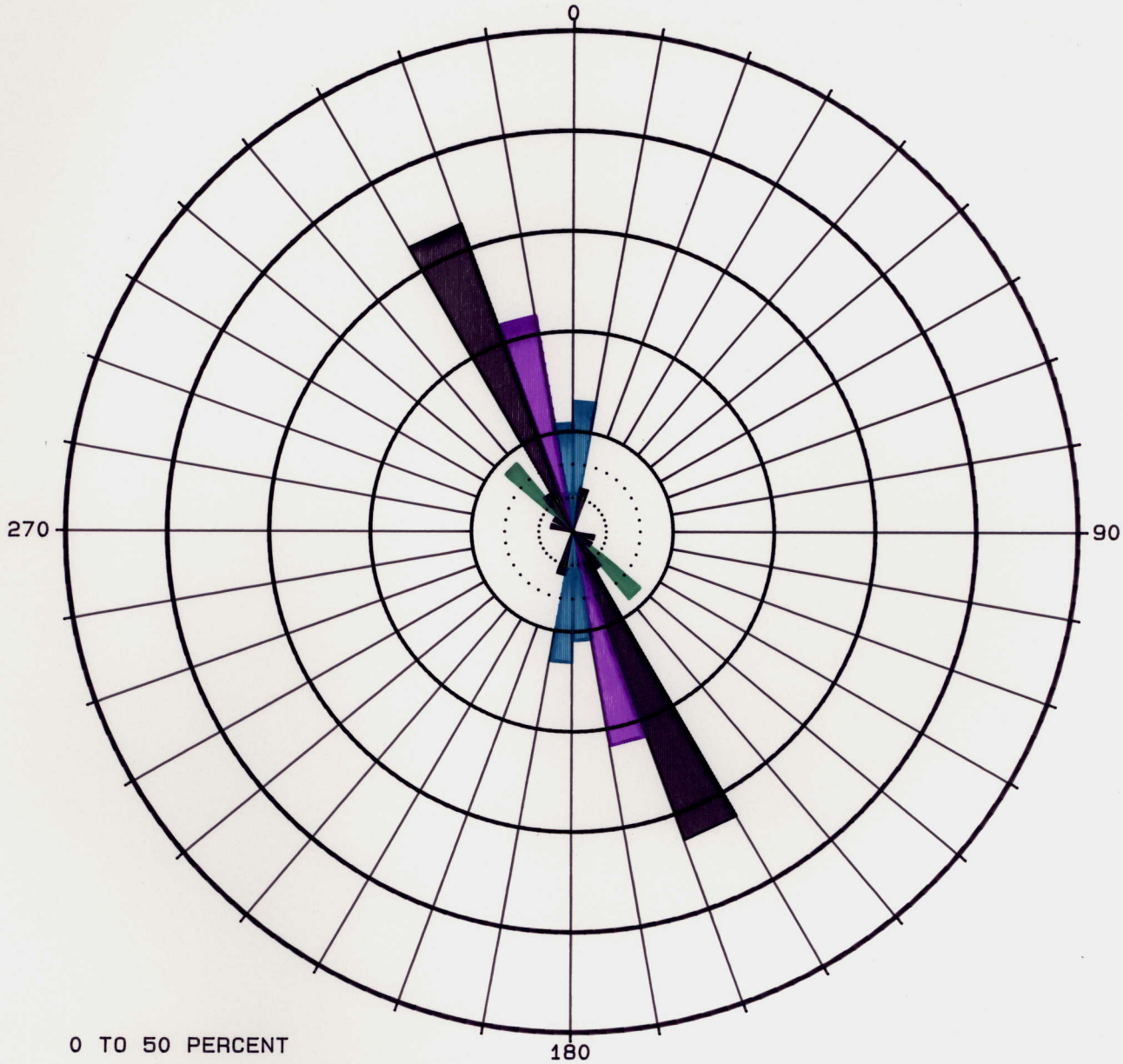
NATURAL FRACTURES

FIGURE 9

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



0 TO 50 PERCENT

46 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

NATURAL FRACTURES

FIGURE 10

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

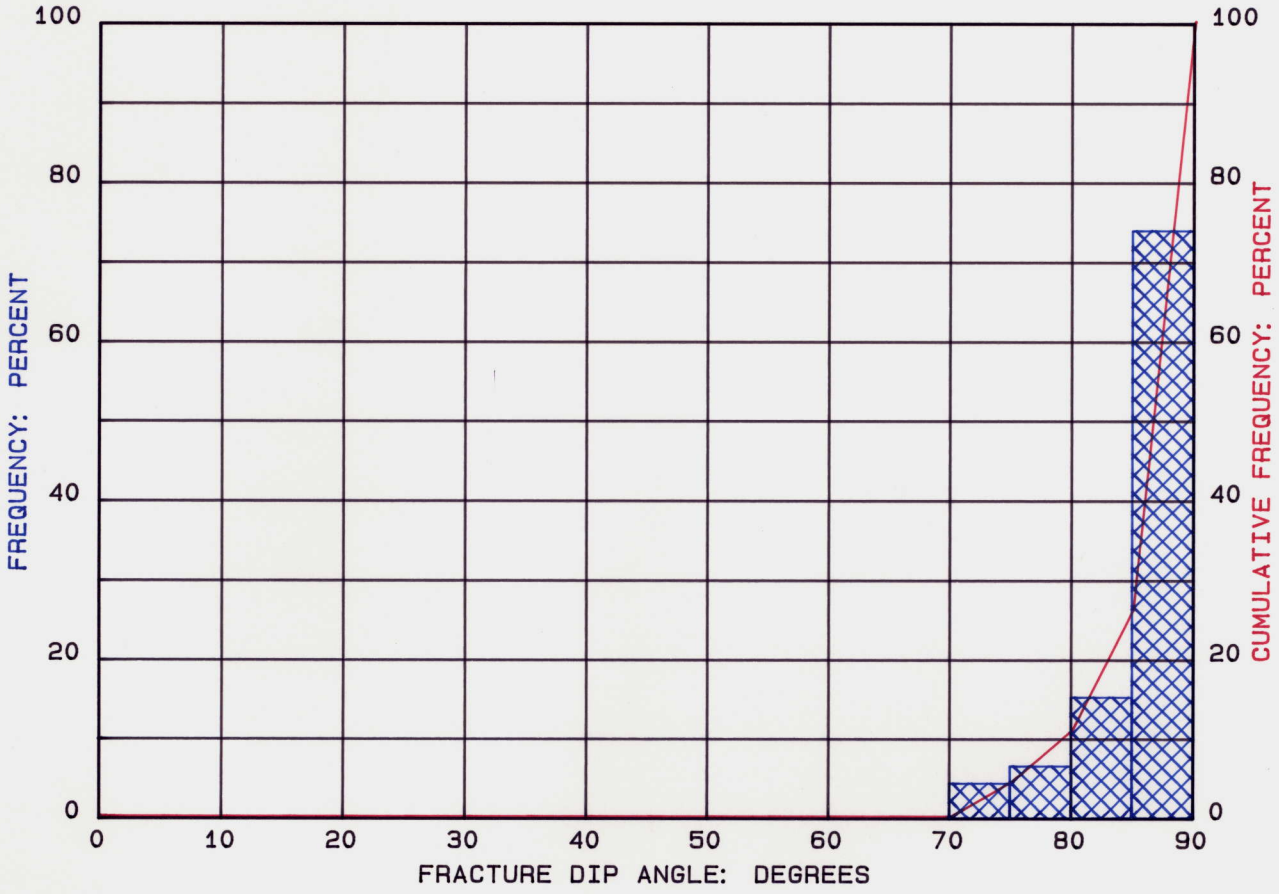
Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE STRIKE
NATURAL FRACTURES
TABLE 9

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	6	13.04	13.04
10 - 20	2	4.35	17.39
20 - 30	0	0.00	17.39
30 - 40	0	0.00	17.39
40 - 50	0	0.00	17.39
50 - 60	0	0.00	17.39
60 - 70	0	0.00	17.39
70 - 80	0	0.00	17.39
80 - 90	0	0.00	17.39
90 - 100	0	0.00	17.39
100 - 110	1	2.17	19.57
110 - 120	0	0.00	19.57
120 - 130	1	2.17	21.74
130 - 140	4	8.70	30.43
140 - 150	2	4.35	34.78
150 - 160	15	32.61	67.39
160 - 170	10	21.74	89.13
170 - 180	5	10.87	100.00
TOTAL	46	100.00	100.00



46 FRACTURES

FRACTURE DIP ANGLE HISTOGRAM

NATURAL FRACTURES

FIGURE 11

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

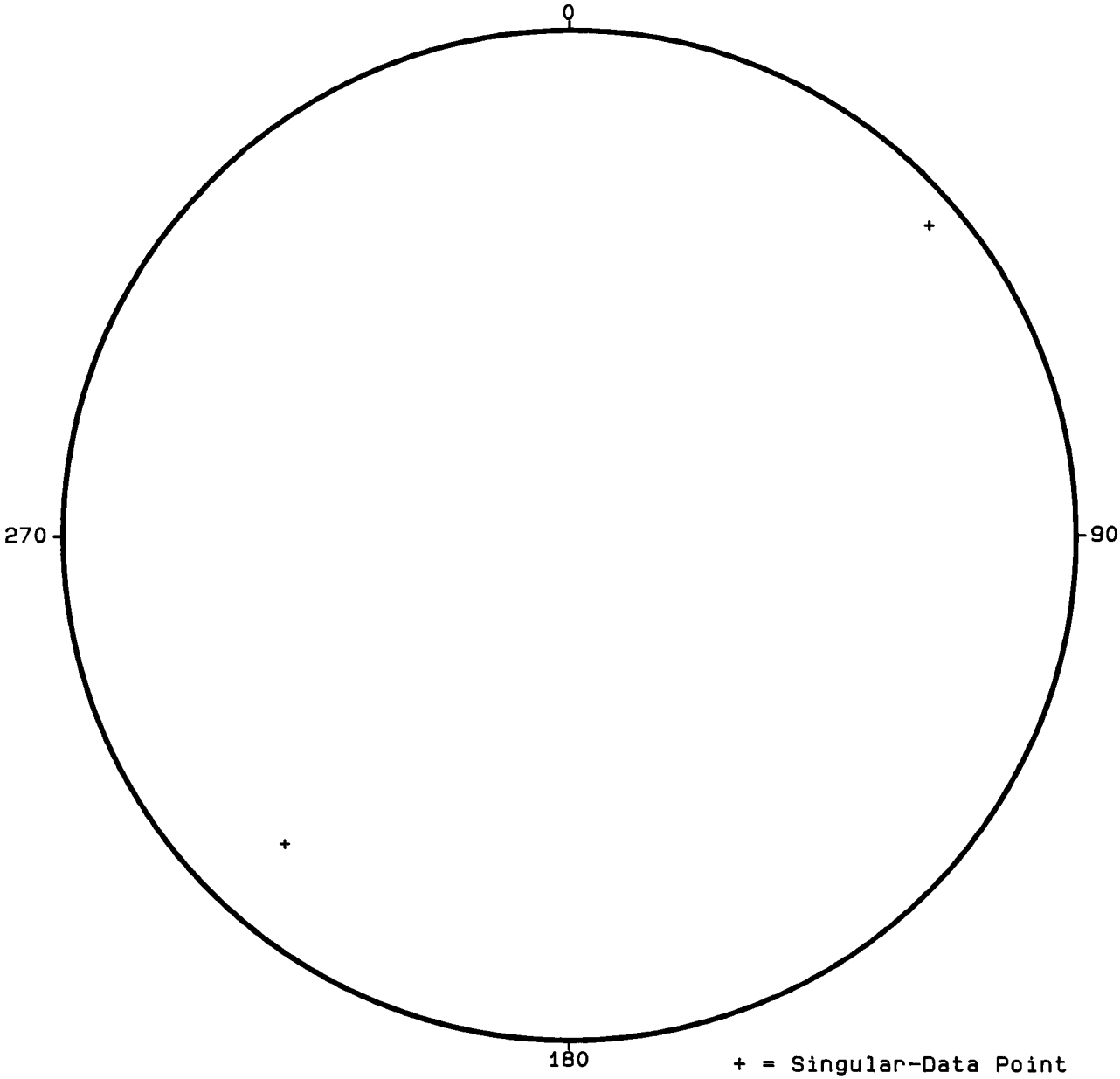
Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE DIP ANGLE
NATURAL FRACTURES
TABLE 10

ANGLE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 5	0	0.00	0.00
5 - 10	0	0.00	0.00
10 - 15	0	0.00	0.00
15 - 20	0	0.00	0.00
20 - 25	0	0.00	0.00
25 - 30	0	0.00	0.00
30 - 35	0	0.00	0.00
35 - 40	0	0.00	0.00
40 - 45	0	0.00	0.00
45 - 50	0	0.00	0.00
50 - 55	0	0.00	0.00
55 - 60	0	0.00	0.00
60 - 65	0	0.00	0.00
65 - 70	0	0.00	0.00
70 - 75	2	4.35	4.35
75 - 80	3	6.52	10.87
80 - 85	7	15.22	26.09
85 - 90	34	73.91	100.00
TOTAL	46	100.00	100.00



2 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

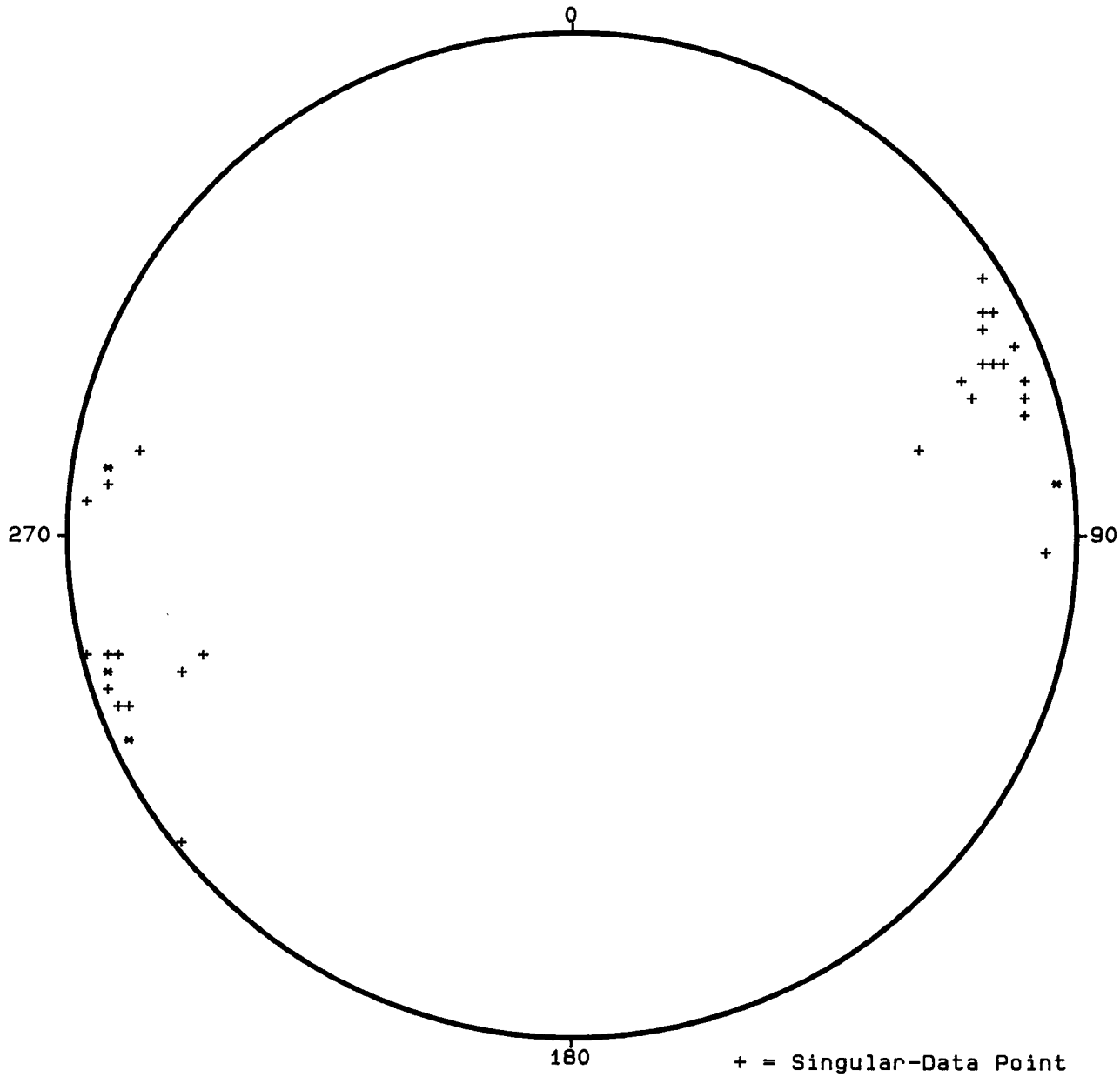
SHEAR FRACTURES

FIGURE 12

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



36 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

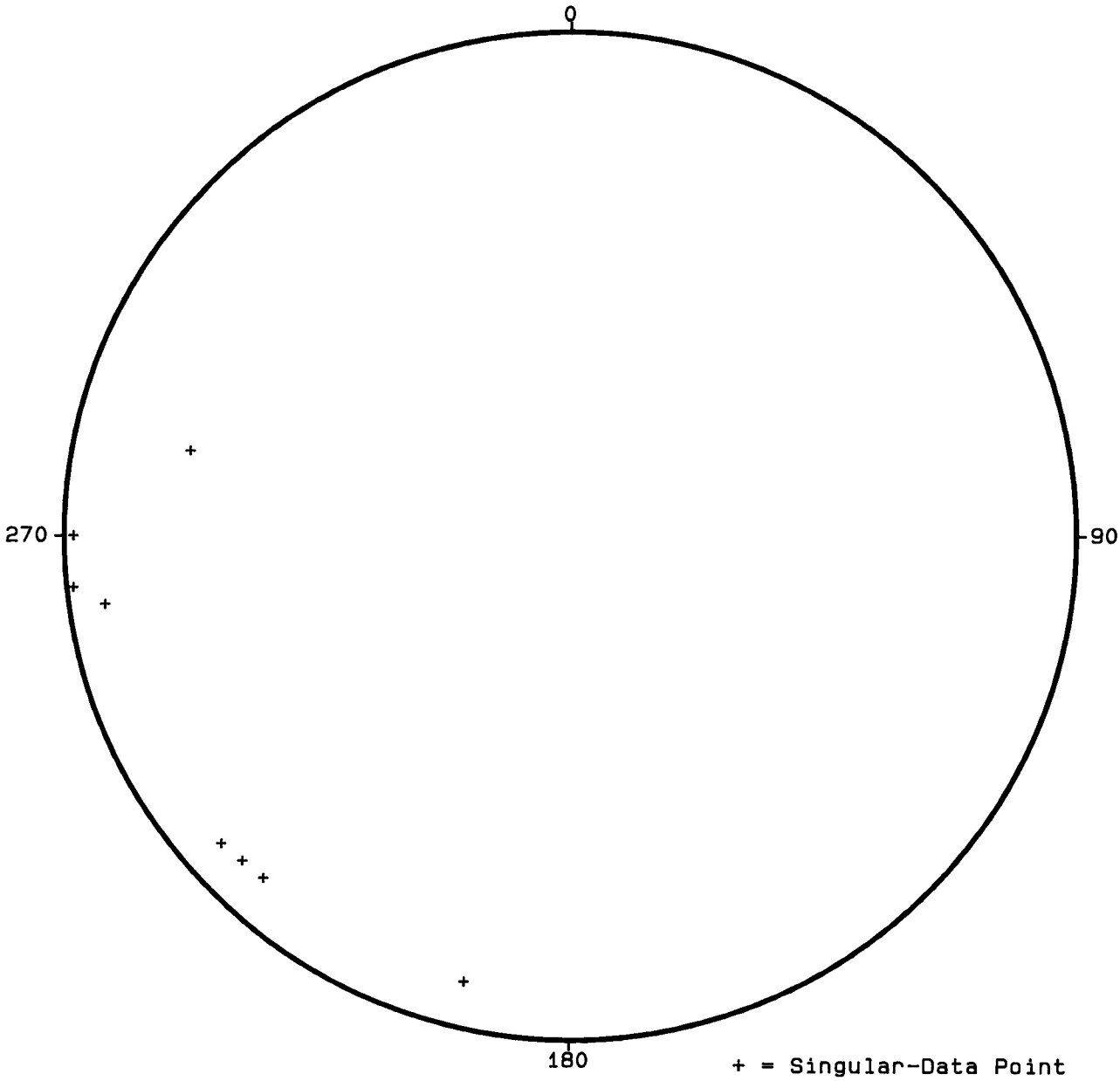
FULLY MINERALIZED FRACTURES

FIGURE 13

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



8 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

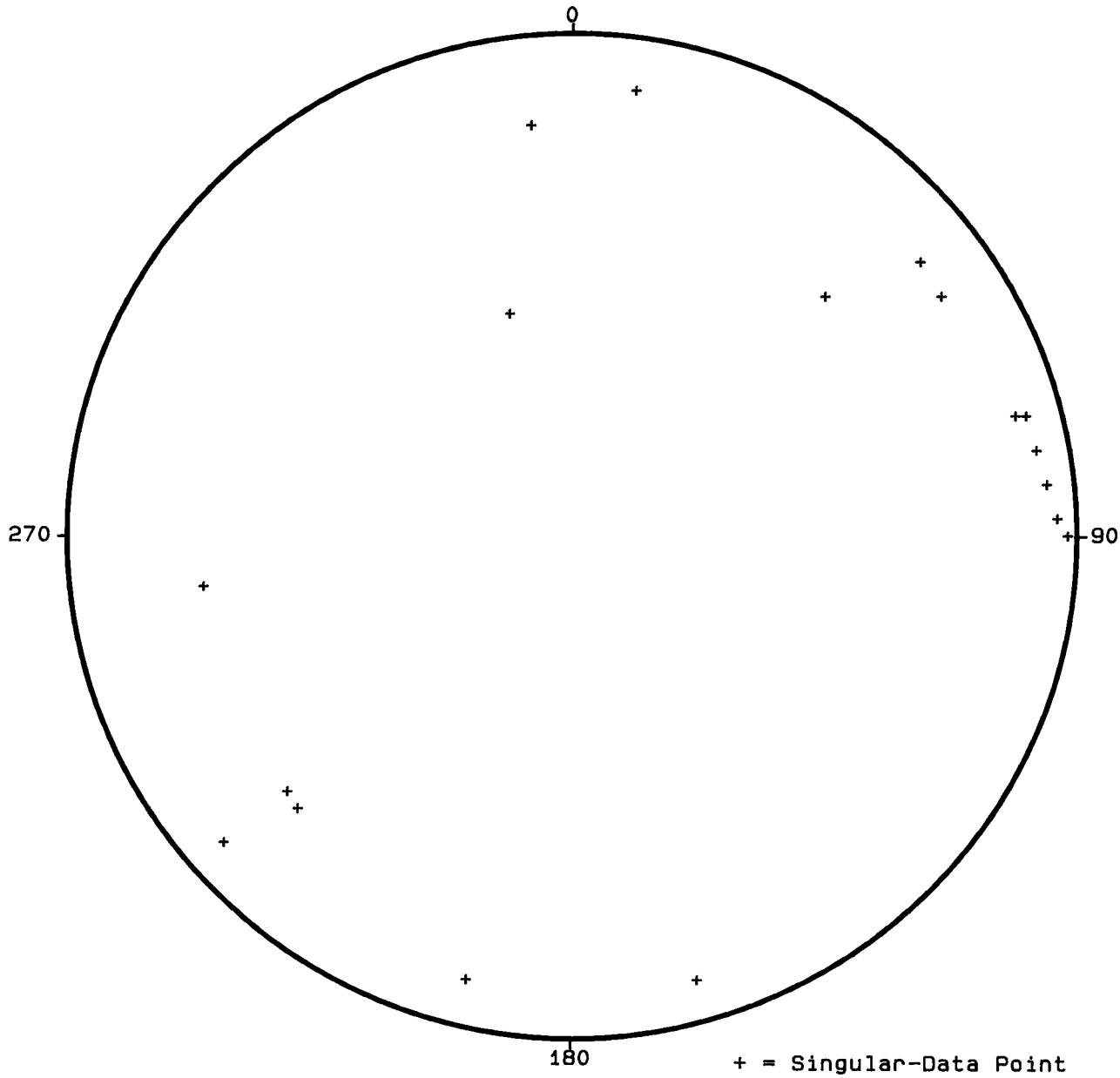
PARTIALLY MINERALIZED FRACTURES

FIGURE 14

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



18 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

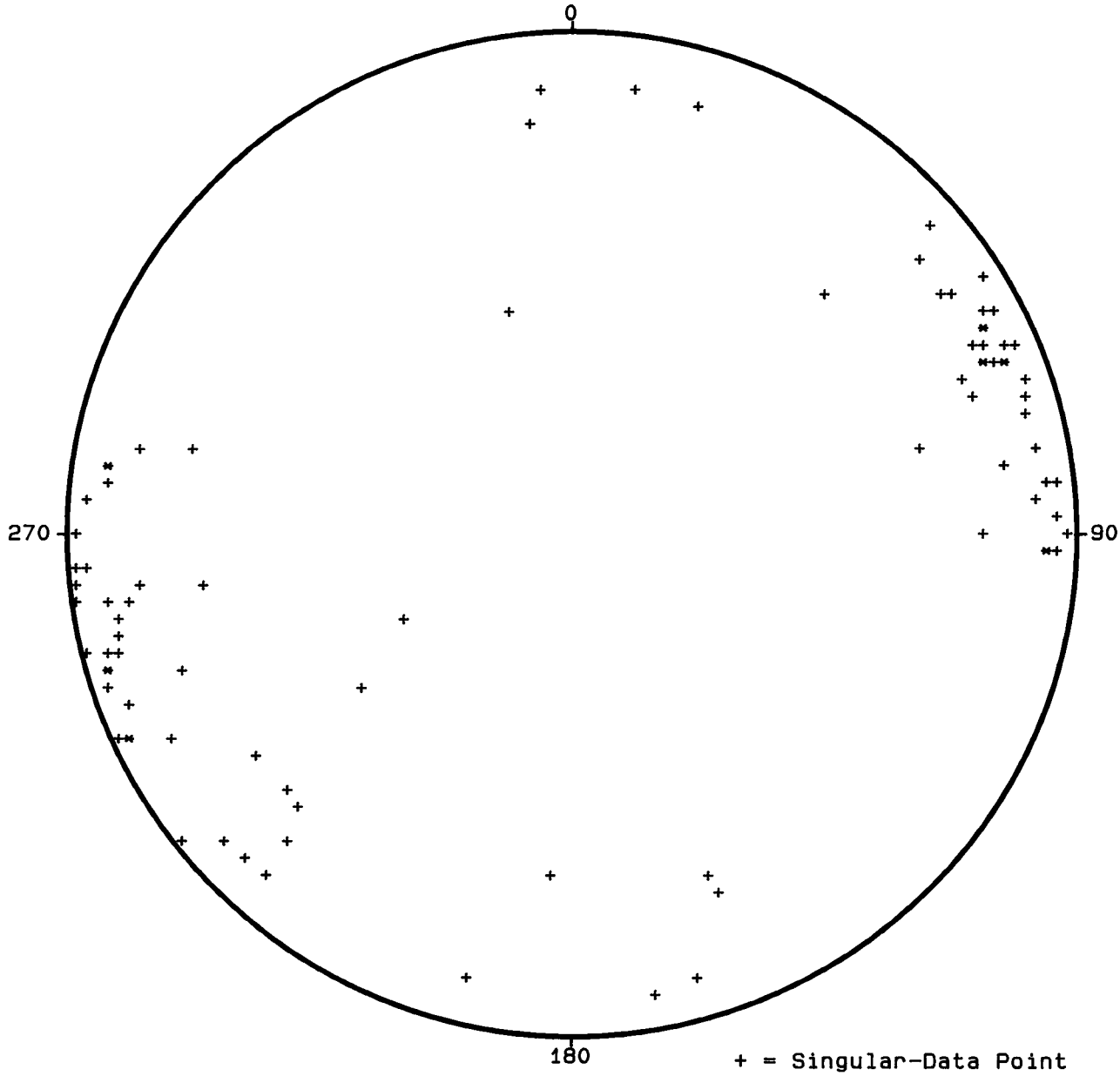
OIL STAINED NATURAL AND POSSIBLY INDUCED FRACTURES

FIGURE 15

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



87 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

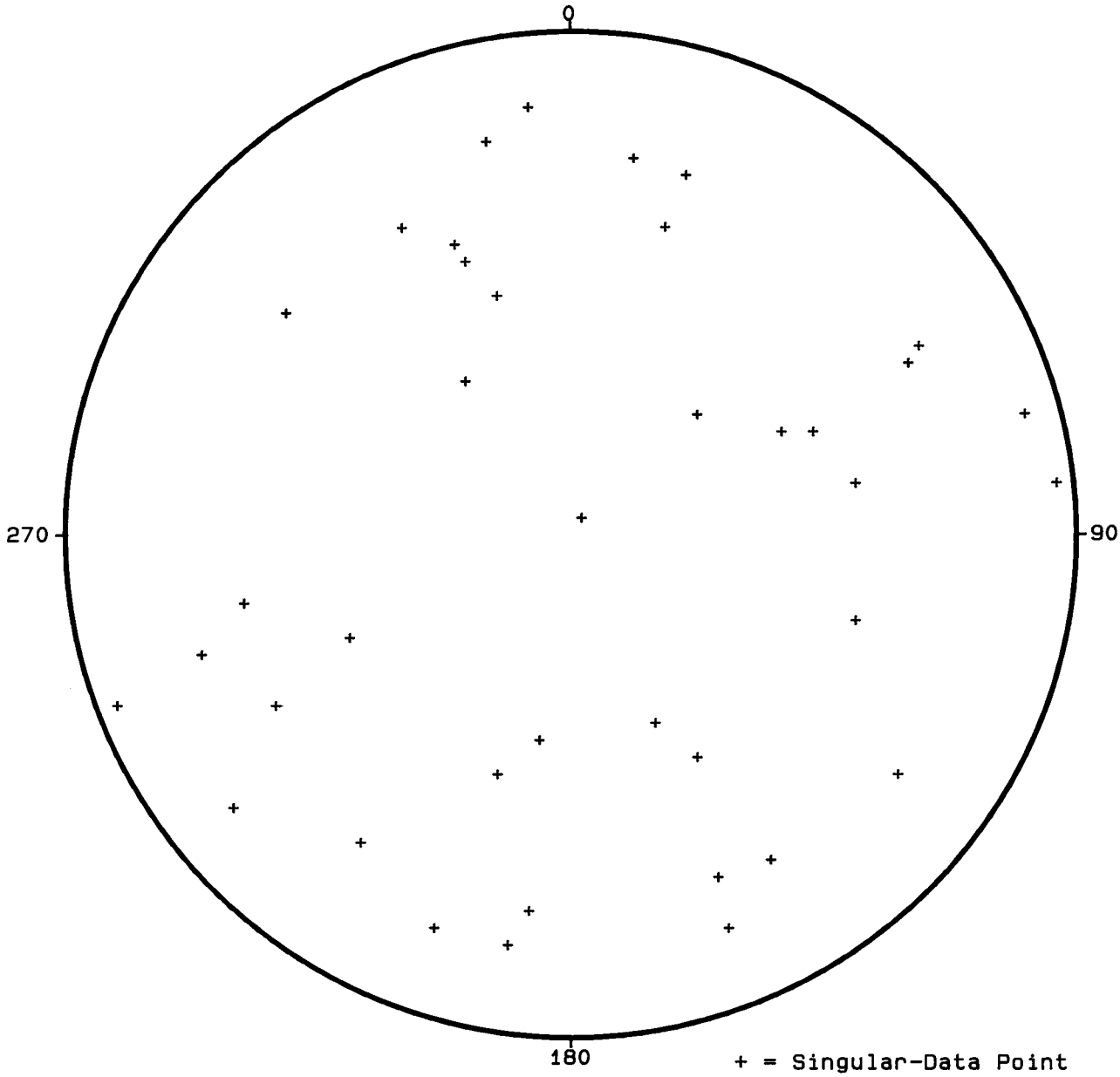
NATURAL AND POSSIBLY INDUCED FRACTURES

IN SANDSTONE AND SILTSTONE FIGURE 16

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



39 FRACTURES

+ = Singular-Data Point
* = Multiple-Data Point

STEREONET PLOT OF POLES TO FRACTURES

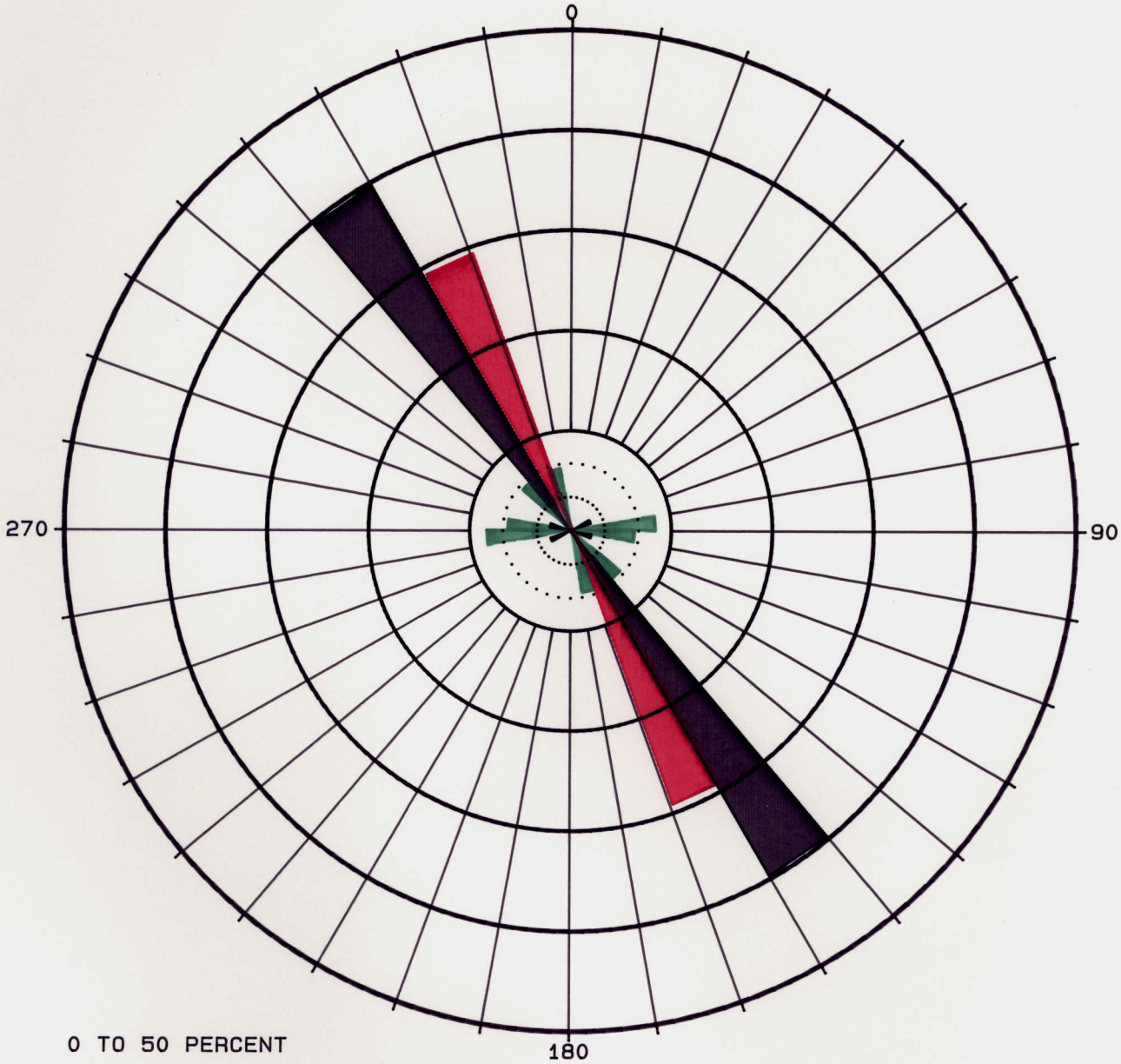
FRACTURES IN SHALE

FIGURE 17

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988



0 TO 50 PERCENT

48 FRACTURES

PERCENT DISTRIBUTION OF TRUE FRACTURE STRIKE

PETAL FRACTURES

FIGURE 18

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

CORE LABORATORIES

Company : PENNZOIL COMPANY
Well : BOREN NO. 3-11 A2
Location : SW SEC 11 T1S R2W
Co,State : DUCHESNE, UTAH

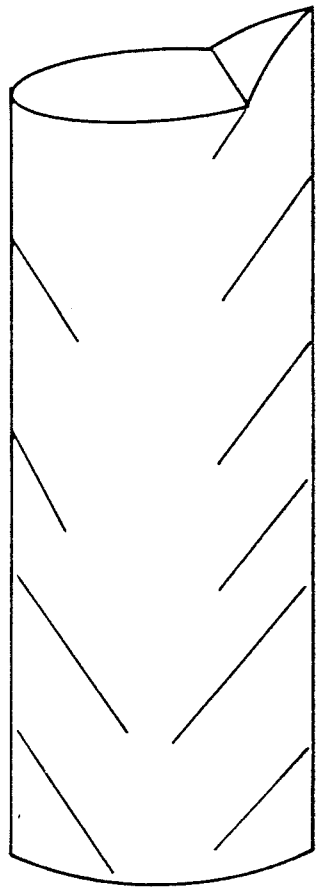
Field : BLUEBELL FIELD
Formation : UPPER GREEN RIVER
Coring Fluid : AQUAGEL-X-TEND
Elevation : 5798 KB

File : 57121-8094
Date : 12-APR-1988
API No. :
Analysts: JS

DISTRIBUTION OF FRACTURE STRIKE
PETAL FRACTURES
TABLE 11

STRIKE	NO. OF FRACTURES	PERCENT	CUMULATIVE PERCENT
0 - 10	0	0.00	0.00
10 - 20	0	0.00	0.00
20 - 30	0	0.00	0.00
30 - 40	0	0.00	0.00
40 - 50	0	0.00	0.00
50 - 60	0	0.00	0.00
60 - 70	1	2.08	2.08
70 - 80	0	0.00	2.08
80 - 90	4	8.33	10.42
90 - 100	3	6.25	16.67
100 - 110	1	2.08	18.75
110 - 120	0	0.00	18.75
120 - 130	0	0.00	18.75
130 - 140	3	6.25	25.00
140 - 150	19	39.58	64.58
150 - 160	14	29.17	93.75
160 - 170	3	6.25	100.00
170 - 180	0	0.00	100.00
TOTAL	48	100.00	100.00

FIGURE 19: Diagram of Coring Induced Petal Fractures.



MODIFIED FROM FINLEY AND LORENZ 1987

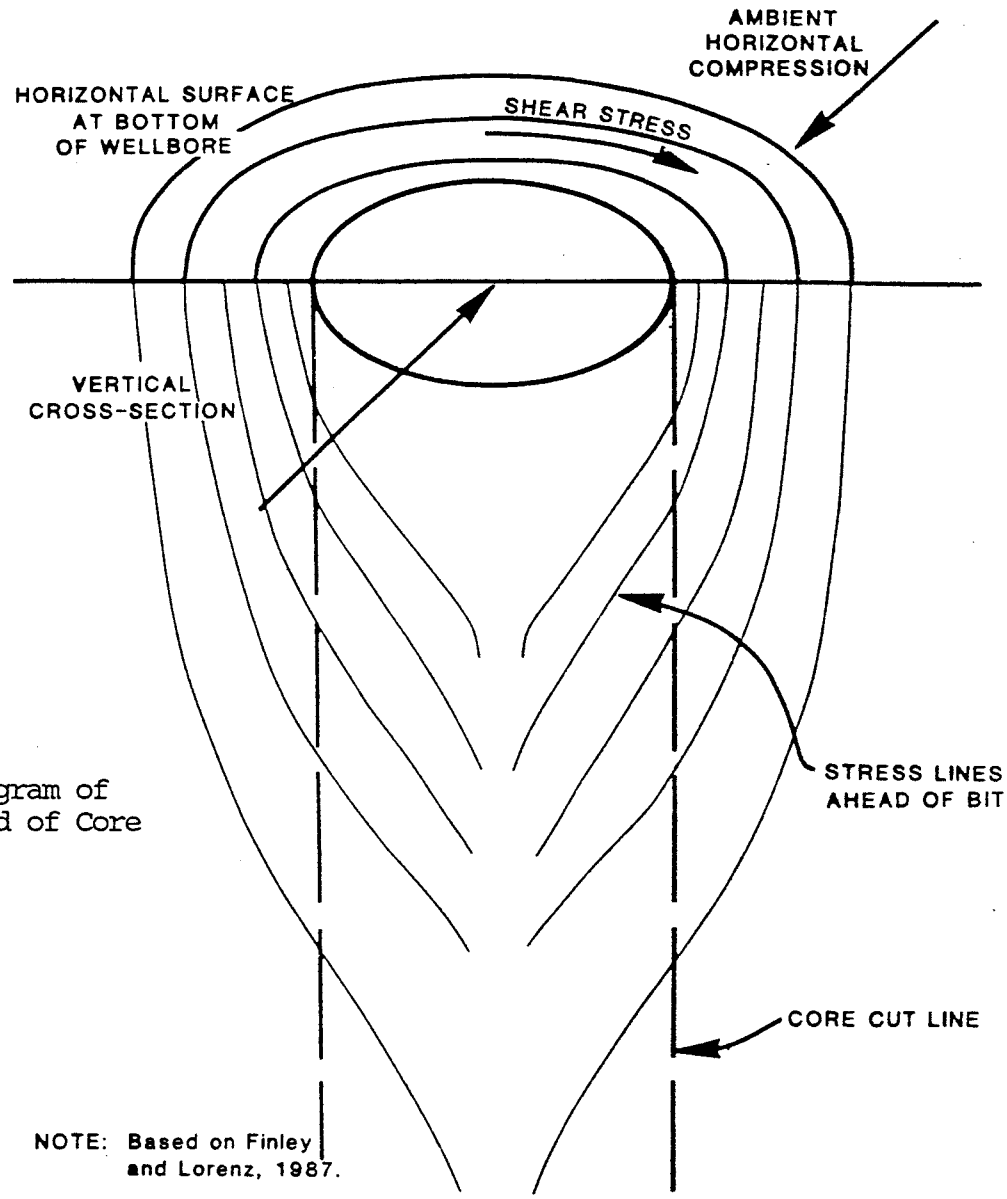
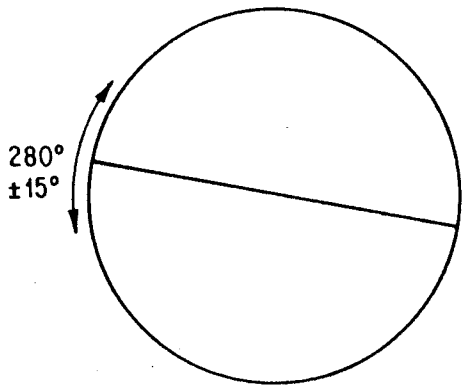


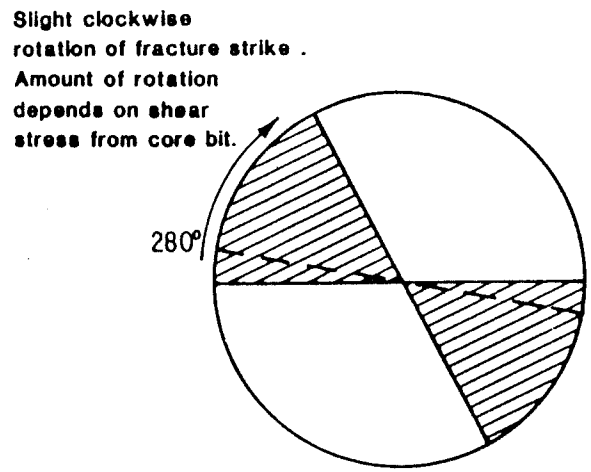
FIGURE 20: Schematic Diagram of Stresses ahead of Core Bit.

DETERMINATION OF IN-SITU HORIZONTAL COMPRESSION DIRECTION

MWX-2 WELL, PICEANCE CREEK BASIN

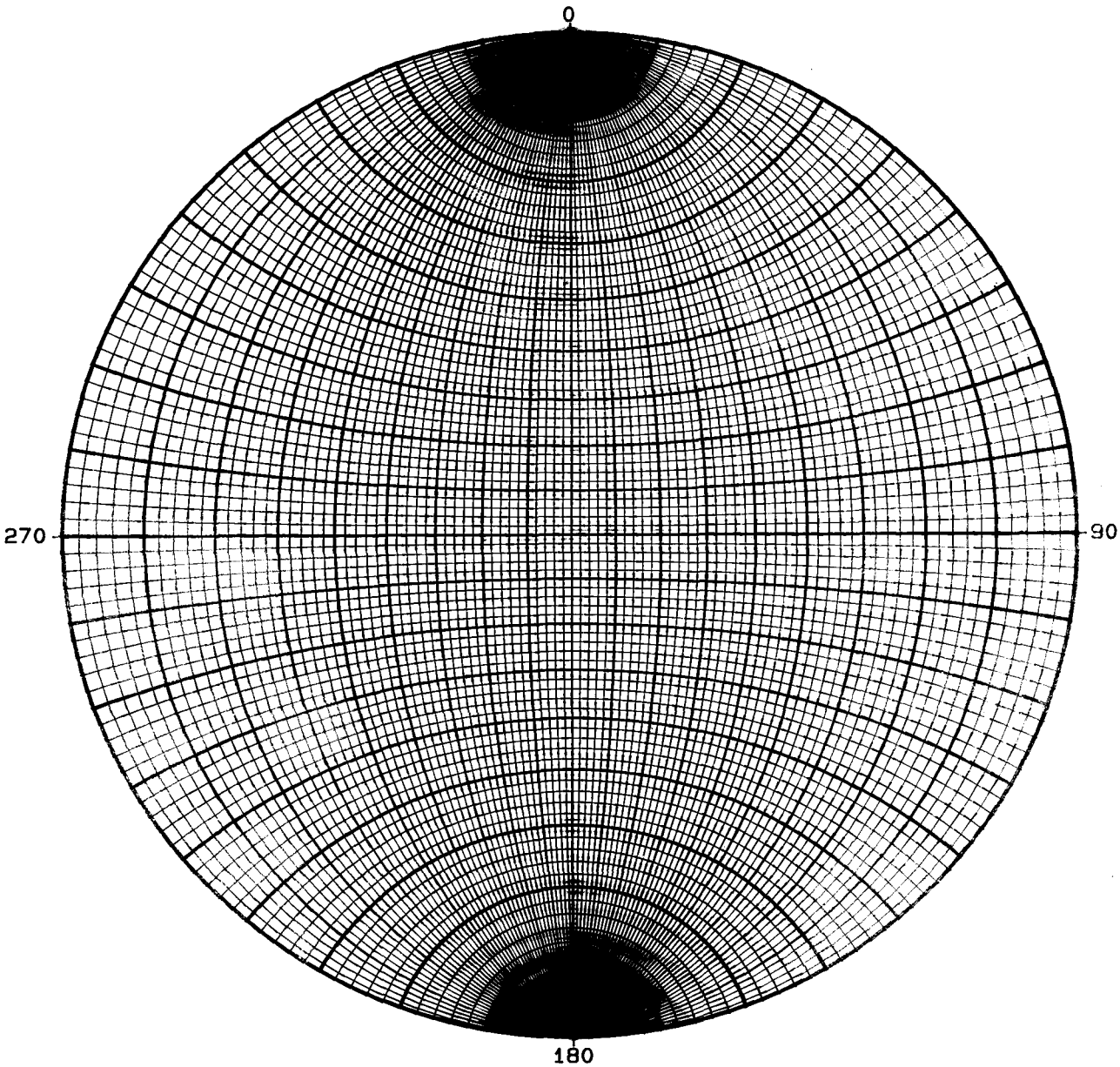


IN-SITU COMPRESSION
(Teufel, 1983)



PETAL FRACTURE
STRIKE ORIENTATION
(Finley and Lorenz, 1987)

FIGURE 21



STEREONET OVERLAY

PENNZOIL COMPANY

BOREN NO. 3-11 A2

CORE LABORATORIES 12-APR-1988

EDWARD ENGINEERING

PETROLEUM CONSULTANTS
888 SOUTH LIPAN, SUITE C
DENVER, COLORADO 80223
(303) 936-0161

PENNZOIL COMPANY

Boren 3-11A2

SWSW Section 11, T1S, R2W
Bluebell - Altamont Field
Duchesne Co., Utah

EDWARD ENGINEERING
Marjorie A. Pierce
Geological Engineer

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XVIII. Drilltime Log

WELL SUMMARY - BOREN 3-11A2

OPERATOR:	Pennzoil Company
LEASE:	Boren 3-11A2
LOCATION:	Field: Bluebell-Altamont Field Legal: SWSW Section 11, T1S, R2W 660' FSL, 825' FWL County: Duchesne County, Utah
ELEVATION:	Ground Level: 5766' Kelly Bushing: 5798'
SPUD DATE:	30 September 1987
CEASE DRILLING:	28 January 1988
TOTAL DEPTH:	14,600' Driller 14,603' Steel Line Measure 14,604' Logger 14,628' Final Logger 14,625' Final Total Depth
CASING PROGRAM:	20" Surface Casing set at 1996' 10 3/4" Intermediate Casing set at 4560' 7 5/8" Intermediate Casing set at 13,000' 5 1/2" 20# Production Liner set at 14,622'
MUD PROGRAM:	Mud Company: Bariod Mud Engineer: Lee Davis, Gary Martin Doug Moore, Chuck Dowler Mud Type: Water: surface - 1996, Gel Chemical: 1996-2390, 3615-8064 Weighted Gel Chemical: 2390-3615, 8064-11,029 Weighted Dispersed: 11,029-14,625
SAMPLE PROGRAM:	Caught: 30' 2000' - 5800' 10' 5800' - 14,625' Examined: 2000' - 14,625' by mudloggers verified by wellsite geologist Mudlogging: Continental Laboratories 24 hour - 2 man unit 2000'-14,625' FID total gas detection FID Chromatography Mudloggers: Gary Cropsey, Terry Rau

CONTRACTOR: Loffland Rig No. 60
Toolpushers: Jerome Dietz, Howard Stroup, Gene McCartney
Drillers: Gene Lay, Aaron Gaines, 'Speedy' P.B. Cockrell, Bill Mogen, Steve Dahlberg, John Sweers

CORES: NL Hycalog
Engineer: Harold Johnson
Intervals: Core #1: 6528.3-6588 U. Green River
Core #2: 6713.1-6744 U. Green River
Core #3: 6744-6761 U. Green River
Core #4: 6970-7000.3 U. Green River
Core #5: 7085-7135 U. Green River
Core Retrieval & Analysis: Core Lab

DRILL STEM TESTS: Halliburton
Testers: Danny Carter, Richard McDonald, Randy Ripple, Roy Arocho
Intervals: DST #1: 6545-6620 U. Green River
DST #2: 6553-6620 U. Green River
DST #3: 6663-6761 U. Green River
DST #4: 6810-6970 U. Green River
DST #5: 6970-7135 U. Green River
DST #6: 7375-7405 U. Green River
DST #7: 8560-8634 U. Green River
DST #8: 8984-9067 U. Green River

ELECTRIC LOGGING: Schlumberger
Run 1: Engineer: Pete Richtar
Log Types: Dual Laterolog Log w/MSFL 4560-13,005
Gamma Ray-Surface to 13,005
Compensated Neutron Litho-Density 4560-12,998
Long Spaced Sonic Log 4560-13,004
Full Wave Frac Finder 6400-13,004
Gamma RWA Log - 6400-13,004
Repeat Formation Tester 42 tests 6638-9380
Borehole Televiewer selected intervals 6580-10,400
Formation Micro-scanner 6580-10,400

Schlumberger
Run 2: Engineer: Jeff Bond & Jeff Gebhard
Log Types: Dual Induction SFL & GR
12,795-14,605
Compensated Neutron Litho-
Density 12,795-14,605
Long Spaced Sonic Log w/Full
Wave Frac Finder
13,000-14,628
Gamma RWA Log-13,000-14,605
Borehole Televiewer
13,000-14,600

WELLSITE SUPERVISOR: Mike Rousse, Paul Deaton, Pete Hagist

WELLSITE GEOLOGIST: Marjorie A. Pierce

GEOLOGIC SUMMARY - BOREN 3-11A2

The Pennzoil Company Boren 3-11A2 was drilled as a Wasatch replacement well for the Boren 2-11A2 which blew out from an Upper Green River zone when the casing failed on May 10, 1987. This Wasatch test is located in the SWSW of Section 11, T1S, R2W of Duchesne County, Utah, a southwest offset to the Boren 2-11A2. This new development well is flanked by Wasatch and Green River producers.

The Boren 3-11A2 penetrated 6488 feet of the Duchesne and Uinta formations followed by approximately 4532 feet of Green River formation and 3605 feet of the Wasatch formation. A water flow (approx. 2" stream) was encountered at a depth of 2439 feet at which point the mud weight was increased to 9.5 lbs./gal. This zone was cased off by surface casing and so it was necessary to raise the chloride level of the mud artificially by adding salt to the system before running logs at the intermediate casing point (13,000'). The chlorides were raised from 1600 to 6400 ppm in order to run the Dual Lateral Log. The mud system was then allowed to dilute itself back to 2060 ppm chlorides to allow logging with the Dual Induction Log at T.D. (14,625'). The productive intervals in the Bluebell-Altamont Field include the Green River and Wasatch formations which are both Tertiary in age. These formations represent a period of sedimentation which was dominated by a lacustrine type environment.

Lake type deposits including varved shales, marlstones, carbonates, and occasional sand comprise the Green River formation. A series of cores and drill stem tests were run throughout the Upper Green River interval of the Boren 3-11A2 in order to try and isolate the origin of the blow out in the Boren 2-11A2. The five cored intervals; (6528'-6588'), (6713'-6744'), (6744'-6761'), (6970'-7000'), and (7085'-7135') were sandstone and shale sequences except Core No. 1 (6528'-6588') which also had several limestone beds; detailed macroscopic and microscopic descriptions follow this geological summary. The results of the eight drill stem tests, No. 1 (6545'-6620'), No. 2 (6553'-6620'), No. 3 (6663'-6761'), No. 4 (6810'-6970'), No. 5 (6970'-7135'), No. 6 (7367'-7405'), No. 7 (8560-8634'), and No. 8 (8984'-9067') follow the core descriptions. All drill stem tests were successful except DST No. 1 which was misrun because the tool couldn't get to bottom. The results of the drill stem tests seem to indicate a gas prone zone at the top of the Upper Green River (DST No. 2 & No. 3) 6553' to 6761' grading into oil prone zones below (DST No. 4, No. 5, No. 6) 6810' to 7405'. The Trona I at a depth of 7768' seemed to separate the Upper Green River from the Mahogany Bench and other intervals below the Trona I. Since another gas prone zone developed immediately below the Trona I as indicated by DST No. 7 (8560'-8634') and grading into an oil prone zone as indicated by DST No. 8 (8984'-9067'). Although the drill stem tests were successful no zone

capable of producing at a rate similar to the rate experienced at the Boren 2-11A2 during the blow out was encountered, probably due to poor sand development at the 3-11A2 location. The "H", also referred to as the Douglas Creek member of the Green River, and the "HI" intervals appear to be good time lines for correlation purposes . These two intervals consist of carbonates and dark gray and dark brown shales indicating a time when most of the basin was submerged by the lake waters . An occurrence of ostracods was observed in the Lower Green River indicating a proximity to the top of the Wasatch formation. The top of the 1st Red Wedge and Wasatch formation was found at a depth of 11,020 feet in the Boren 3-11A2. The Green River has been divided into three stages for completion purposes which may be altered at the operator's discretion: Stage V (6400'-7750'), the Upper Green River littoral facies with 478 feet of potential pay; Stage IV (7750'-9650'), the Upper Green River separated from the littoral facies by the Trona I with 438 feet of potential pay; and Stage III (9650'-11,004'), the Lower Green River lacustrine facies with 405 feet of potential pay. Stage III, IV, and V are all normally pressured. A total of 1321 feet or 29% of the Green River formation may be potentially productive.

The Wasatch formation was deposited when an influx of sediments from the Wasatch mountain range encroached the basin. Generally, this was a transitional type of deposition dominated by red beds followed by a return to a more euxinic lacustrine environment and then back to the transitional red bed sequence. The second transitional red wedge was not penetrated by the Boren 3-11A2, drilling ceased at a depth of 14,625 feet in the lacustrine facies of the Wasatch formation. The top of the 1st Red Wedge of the Wasatch formation was encountered at a depth of 11,020 feet with the base at 13,114 feet . The intermediate casing was set slightly shallow at a depth of 13,000 feet. The entire 1st Red Wedge was normally pressured at this location. The first occurrence of abnormal pressure, TAP HI, was encountered in the lacustrine facies of the Wasatch at a depth of 13,190' at which point the mud weight was increased to 12 lbs./gal. TAP LO where the mud weight was increased to 14.0 lbs./gal. was encountered just 100' below TAP HI at a depth of 13,290 feet. The Wasatch formation has been divided into two stages according to the different lithofacies and the intermediate casing point for completion purposes; Stage II (11,000'-13,000') the Wasatch 1st Red Wedge, normal pressured has 284 feet of potential pay; and Stage I (13,000'-14,625') the Wasatch lacustrine facies which is overpressured below 13,190 feet has 245 feet of potential pay (18 feet of which are part of the 1st Red Wedge). The Wasatch formation has a total of 529 feet of potential pay or 15% of the total Wasatch section penetrated at this location.

Summaries of the potential productive intervals recommended for perforation for Stage I, II, III, IV, and V follow the core descriptions and DST reports. A copy of the memos sent to Gary

Kornegay which accompanied the log panels regarding the recommended perforation schedule have been included at the end of this report. Please refer to the mud log for a detailed description of the samples which were examined and verified daily by the geologist and the mudloggers. The cores were sent to Core Laboratories in Denver, CO for further analysis and samples of the various types of oil obtained from the drill stem tests and from shows while drilling were sent to Corelab in Irving, TX for analysis.

ELECTRIC LOG TOPS - BOREN 3-11A2

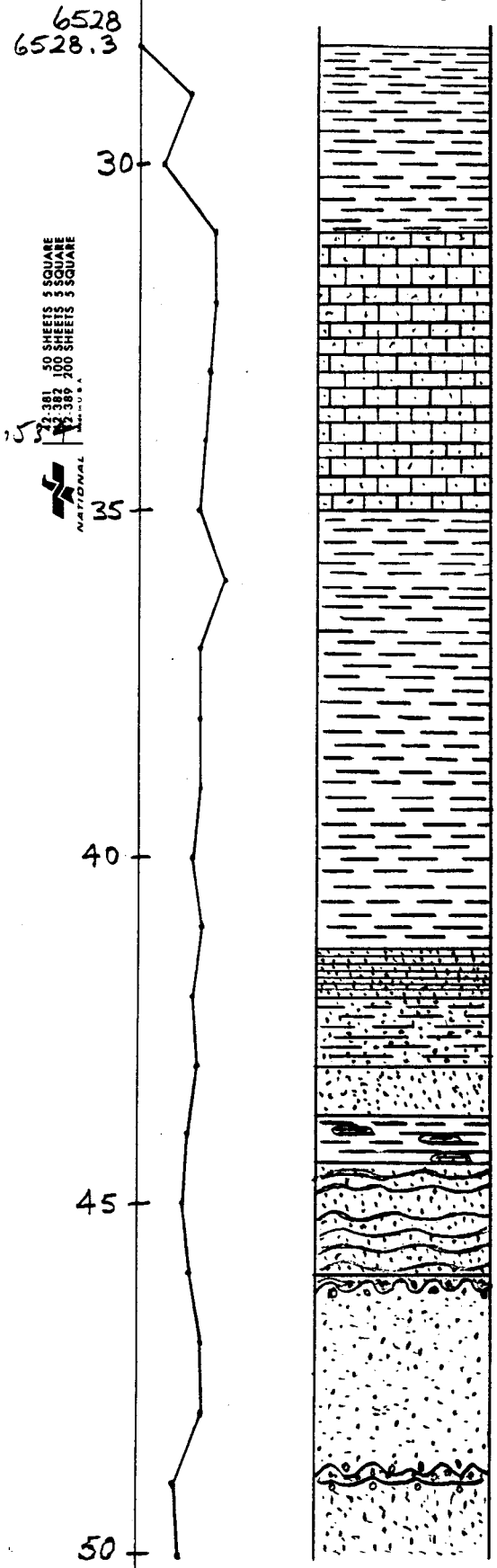
Formation	Depth	Subsea	Structural Comparison to Boren 2-11A2
Green River	6488	- 690	1' high
Evacuation Creek	7275	-1477	6' low
Trona I	7768	-1970	8' high
Parachute Creek	8360	-2562	13' low
Green River/ Mahogany Bench	8484	-2686	2' low
Green River/DJ	9202	-3404	37' low
Douglas Creek/H	9744	-3946	20' low
Green River/HI	9877	-4079	26' low
CP 70	10,560	-4762	16' low
Wasatch/ Top of 1st Red Wedge	11,020	-5222	252' high
Intermediate Casing	13,000	-7202	
Wasatch/ Base of 1st Red Wedge	13,114	-7316	18' high
Wasatch/200	13,180	-7382	12' high
Wasatch/TAP Hi	13,190	-7392	1122' low
Wasatch/TAP Lo	13,290	-7492	98' low
Wasatch/216	13,640	-7842	20' high
Wasatch/TFL	13,954	-8156	18' high
Wasatch/232	14,000	-8202	17' high
Total Depth	14,625	-8827	

CORED 59.8' RECOVERED 57.5'	PENNZOIL # 3-11A2 BOREN	10-29-87 4:00 A.M - 8:00 A.M.	1

MACROSCOPIC DESCRIPTION
CORE No. 1 (6528.3 - 6588 UPPER GREEN RIVER)

minutes/foot
10 20 40 60 80

Lithology



DESCRIPTION

2.7' dark gray-green Shale, v. brittle, fissile

4.0' dark gray-brown Limestone, micro - v. fine xln, sandy, argillaceous ip

6.3' dark gray-black Shale, brittle, fissile, pyritic (finely disseminated)

.7' light gray Sandstone, v. fine grained, v. thinly laminated

1.0' gray sandy Shale

.7' light gray Sandstone, fine-coarse grained, massive

.7' dark gray-black Shale, w/ calcite lenses

1.6' light gray-tan Sandstone, v. fine grained, thinly laminated w/ dark gray shale (varved)

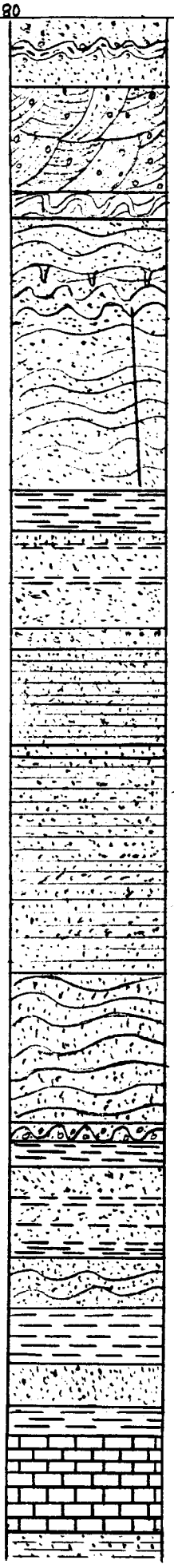
disturbed bedding

3.0' light brown Sandstone, fine-medium grained, occasionally coarse grained in disturbed beds, massive

disturbed bedding

1.0' brown Sandstone, fine-medium grained, massive

6550 10 20 40 60 80



disturbed bedding - v. shaley

1.2' brown Sandstone, fine-medium grained occasionally coarse grained in disturbed beds, massive

1.7' gray Sandstone, medium-coarse grained, cross bedded, w/ 1-2mm calcite nodules scattered through out

.4' dark gray-black shale, fissile, disturbed beds

4.45' medium gray Sandstone, shaly, burrowed, varved w/ thin wavy dark gray shale laminations disturbed bedding

55

1mm closed vertical fracture w/ calcite filling

.6' dark gray-black shale, fissile, brittle

1.65' light gray Sandstone, v. fine grained, massive w/ dark gray-black shale layers

60

.3' light gray Sandstone, v. coarse grained

1.5' light gray Sandstone, v. fine grained, interbedded w/ dark gray shale

.3' light gray Sandstone, v. fine grained

3.5' light gray Sandstone, v. fine grained, interbedded w/ dark gray shale

65

2.9' light gray Sandstone, v. fine grained, interbedded w/ dark gray shale, wavy laminated.

.3' disturbed bedding w/ gray coarse grained Sandstone & w/ 1mm calcite nodules

.45' dark gray shale, fissile, brittle

1.45' thinly interbedded light gray Sandstone and dark gray shale, (.2'-.4' thick shale layers) carbonaceous material in shale.

70

1.30' light gray Sandstone, fine-medium grained w/ thin wavy dark gray shale laminations

.90' dark gray-black shale, fissile

.70' medium gray Sandstone, fine grained massive

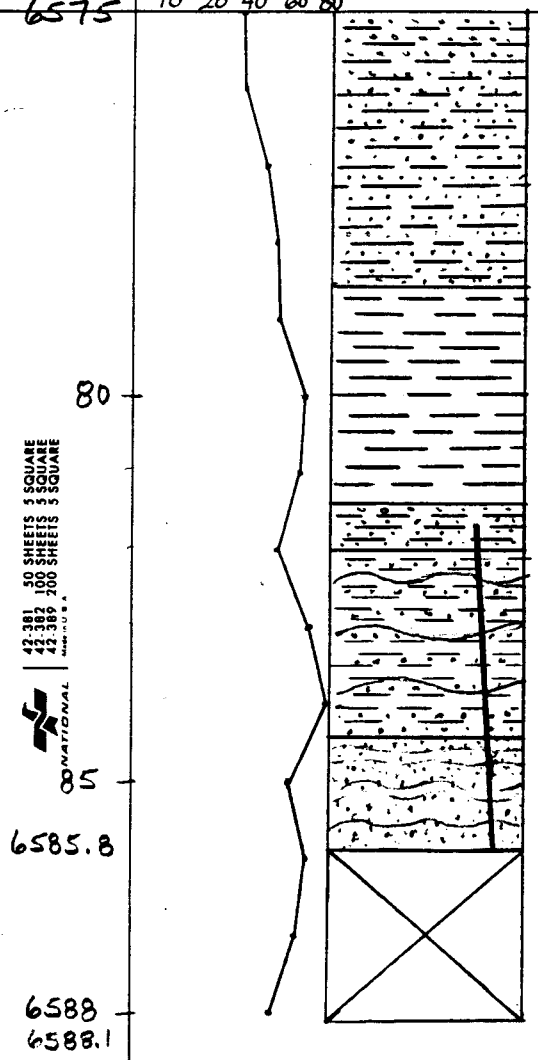
.50' dark gray-black shale, fissile

1.50' brown Limestone, micro-medium crystalline, abundant shell fragments, no visible porosity, sl. argillaceous.

75

.40' dark gray shale w/ v. thin light gray Sandstone laminations through out

42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
NATIONAL



3.60' dark gray shale w/ v. thin light gray sandstone laminations throughout (varved) v. fine grained

2.80' v. dark gray-black shale, fissile, w/ imbedded coally fragments (some 3/4" x 1/2"), & carbonaceous material

.60' dark gray shale, sandy
vertical open fracture lined w/ 2mm calcite

2.40' dark gray shale, sandy, laminated w/ tan-brown sandstone, fine grained sl. wavy laminations

1.90' tan-brown sandstone, fine grained, varved w/ dark gray shale

2.3' LOST CORE

Core No. 1 was cored by Hycalog w/ a CUHR 8 3/4" Diamond Core Bit. 59.8' were cut in 31 hours ≈ 2 feet/hr. The Bit was recovered in good condition. The Core was oriented by Sperry-Sun but their tool malfunctioned - there will be no charge on the misrun.

The core recovery was good.

Please note that all sandstone cored was very hard & tite.
No shows were encountered.

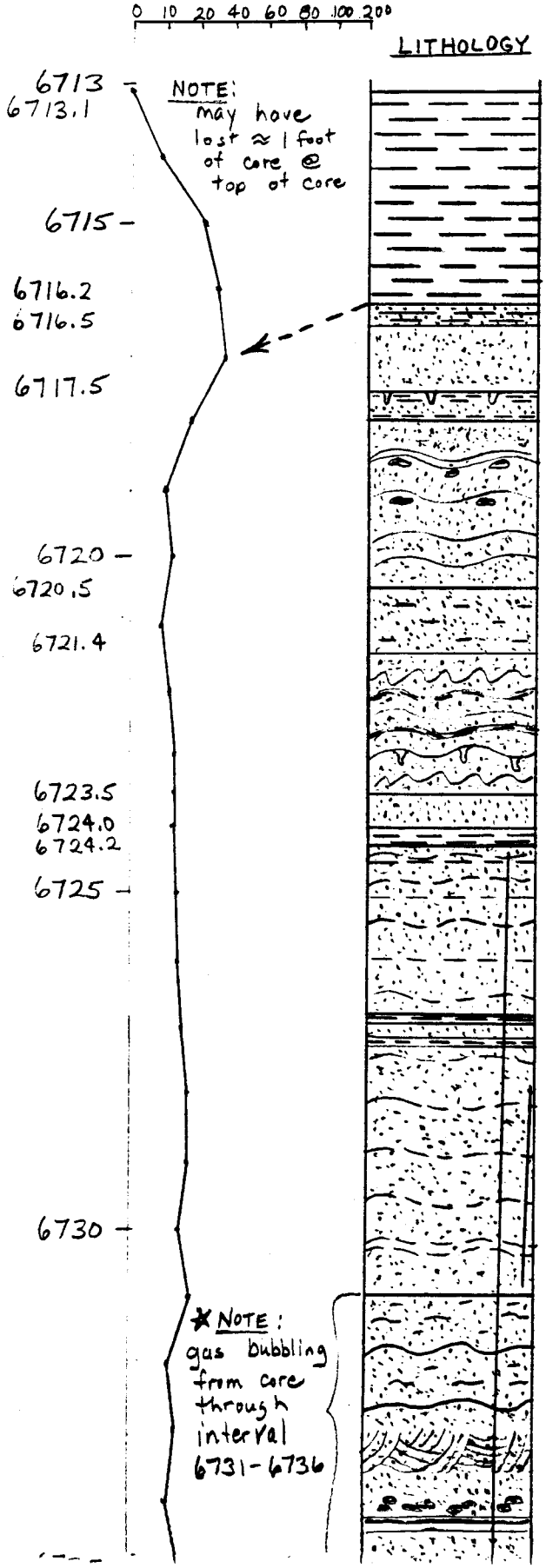
CORED 30.9 feet RECOVERED 28 feet	PENNZOIL #3-11A2 BOREN	11-2-87 11:30 A.M. – 12:30 A.M.	1 / 2

MACROSCOPIC DESCRIPTION
CORE NO. 2 (6713.1 – 6744.0)
UPPER GREEN RIVER

PENETRATION RATE

0 10 20 40 60 80 100 200

LITHOLOGY



DESCRIPTION

3.1' dark gray – gray brown Shale, hard, blocky, calcareous, non-calc. ip, w/ finely disseminated pyrite and occasional pyrite crystals, abundant black carbonaceous material.

.3' lt. gray – tan Sandstone laminated w/ Shale as above.

1.0' light gray – tan Sandstone, fine – medium grained, massive.

.5' alternating Shale & Sandstone layers approx. 2" thick w/ sand filled burrows at top.

2.5' tan – gray brown – gray Sandstone, fine grained w/ thin wavy laminations of dark gray – gray brown Shale w/ finely disseminated pyrite, and occasional Shale rip-up clasts.

.9' gray brown Sandstone, fine – medium grained, shaly, massive.

2.1' light gray – tan Sandstone, fine grained, interbedded w/ dk. gray – gray brown Shale, wavy – disturbed bedding w/ occasional burrowing.

.5' light gray Sandstone, medium grained, massive

.2' dark gray Shale, hard, w/ finely disseminated pyrite.

6.8' light gray – light gray brown Sandstone, fine grained thinly laminated w/ v. dark gray – black Shale, mostly v. thin laminations, occ. 1" thick interbeds, sl. wavy

Vertical open fracture w/ sl. calcite lining from 6724.2 – 6740.9

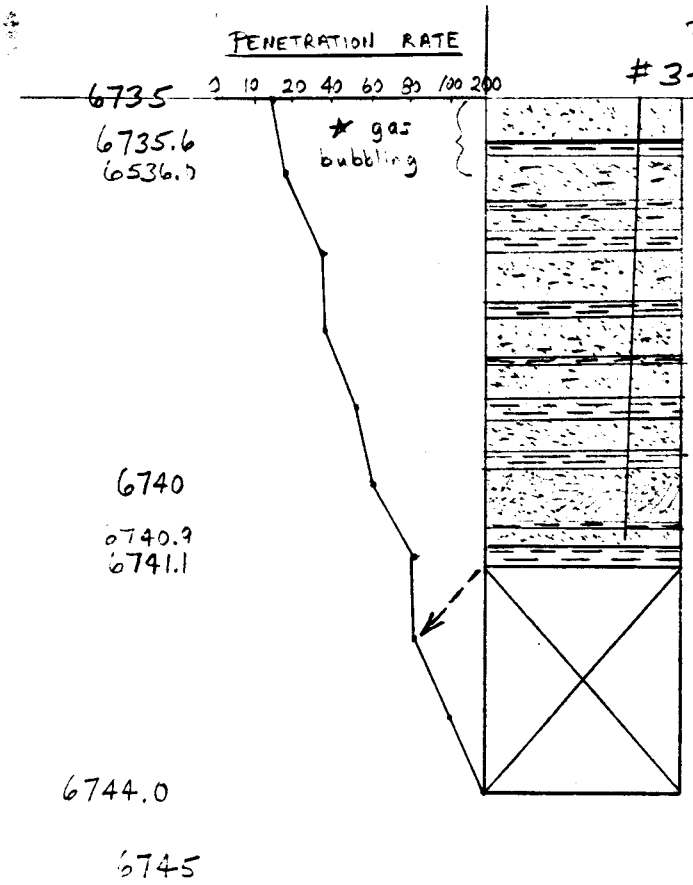
parallel vertical fracture w/ 1" spacing from 6728 – 6731 – calcite lining of fractures tends to be slightly thicker from 6729 – 6731

scribe started wearing out near top of fracture @ 6725 and was completely gone @ 6730.

4.0' tan – brown Sandstone, medium – coarse grained w/ occasional wavy dark gray shale laminations, discontinuous in part, waxy brown shale partings and black carbonaceous material, cross bedded in part. Shale pebbles w/ imbricate bedding structure ip Gilsonite layers in part.

PENNZOIL
#3-11A2 BOREN

CORE NO. 2 (CONT.)



.6' Tan-brown sandstone, medium-coarse grained as above.

5.3' light gray-gray brown sandstone, fine grained, well cemented w/ scattered pyrite crystals, interbedded w/ dark gray brown shale, hard, calcareous w/ finely disseminated pyrite
Sand and shale interbeds average 2"-4" in thickness.
cross bedded in part

.2' dark gray shale, hard w/ black carbonaceous material & v. finely disseminated pyrite.

2.9' LOST CORE
Please note that ≈ 1 foot may have been lost @ the top of the core rather than all 2.9 feet at the bottom as indicated by the correlation of the penetration rate and lithology.

Core No. 2 was cored by Hycalog w/ RR of Core No. 1 diamond bit CUHR. 30.9' were cut in 16 1/4 hours ≈ 2 feet/hr. The bit was rung out and the scribe knives were completely worn out. The pump pressure was fairly stable throughout core run, but the penetration rate dropped drastically while coring the last 3 feet. It appears that the scribe got caught in the fracture at ≈ 6725 and was destroyed by 6730 below which there were no visible scribe marks.

Core No. 2 was oriented by Sperry-Sun and their tool malfunctioned again.

Please note that all sandstone cored was very hard & tightly cemented. A slight bubbling of gas was noted in the interval of 6731-6736 were the sand appeared to be coarser grained and fractured.

The shales appeared to be harder, and more dense than the brittle fissile shales encountered in Core No. 1

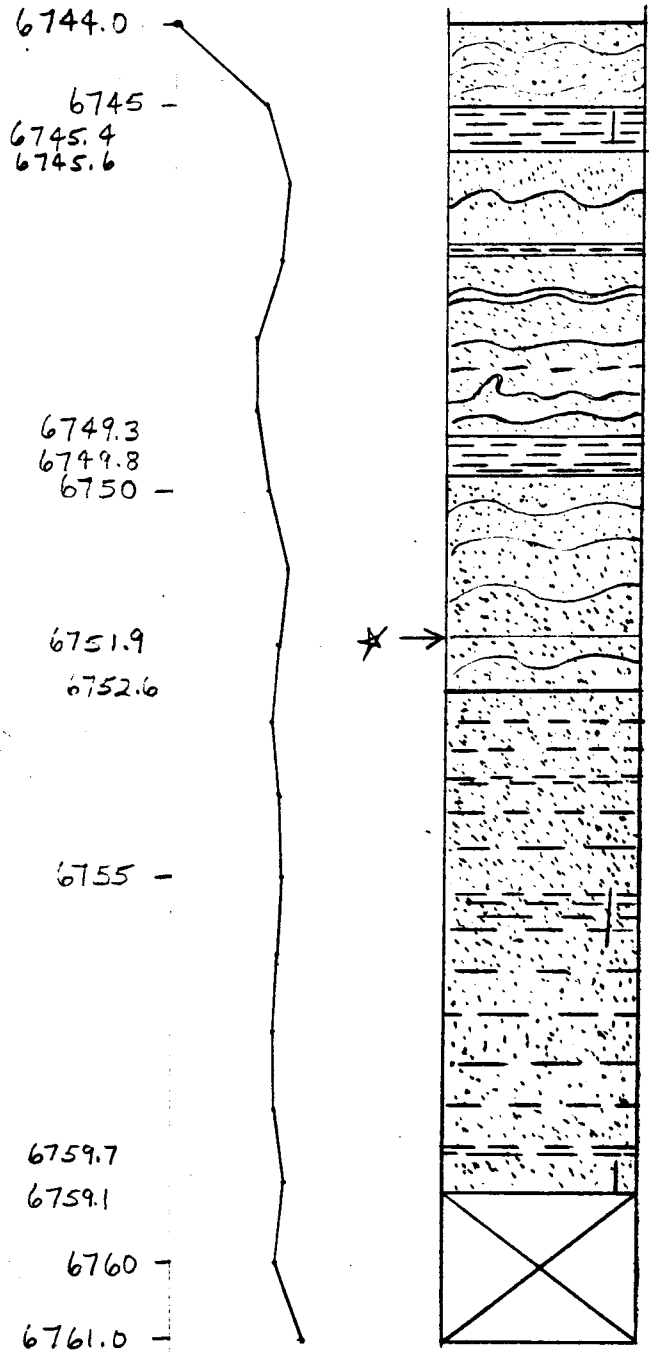
CORED 17.0 feet TOTAL RECOVERED 17.1 feet	PENNZOIL #3-11A2 BOREN	11-3-87 9:30 P.M. - 10:30 P.M.

MACROSCOPIC DESCRIPTION
CORE NO.3 (6744.0 - 6761.0)

PENETRATION RATE

0 10 20 40 60 80 100 200

LITHOLOGY



DESCRIPTION

1.0' light gray - tan Sandstone, fine grained, thinly wavy laminated w/ dark gray Shale.

.6' dark gray Shale, hard, blocky vertical open fracture - probably core induced

3.7' light brown - light gray brown Sandstone, fine-medium grained, hard, tite, w/ occasional dk. gray Shale layers, wavy laminated to slightly disturbed bedding.

.5' dark gray Shale, hard, blocky, abundant disseminated pyrite.

2.8' gray - brown Sandstone, fine - medium grained, wavy laminated with dark gray Shale laminations.

oil stain along horizontal face of core

6.5' gray - light gray brown Sandstone, fine grained, w/ dark gray argillaceous to Shale laminations.

open vertical fracture - probably core induced

open vertical fracture at base w/ thin calcite lining

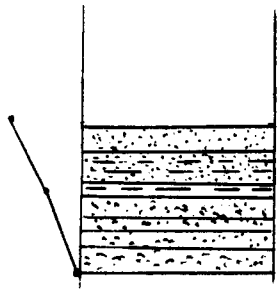
1.9' LOST CORE
Probably fractured interval which was broken up and slipped out of core barrel.

Cored 17' in 9.5 hours ≈ 1.8' feet/hour
recovered 15.1' in good condition

☆ Please note that a small amount of gas was seen bubbling sporadically throughout Core No. 3 when it was removed from the core barrel.

CORE No. 2
(additional core recovered in core barrel w/ Core No. 3)

741 { 6742 –
6742.1
6742.4
6742.9
6743.1
6743 { 6744 –



.3'	light gray Sandstone, fine-medium grained
.5'	dark gray Sandstone, fine grained, Shaly.
.2'	dark gray Shale, sandy.
.9'	gray brown-tan Sandstone, v. fine-fine grained, w/ white calcareous layers, thinly laminated.

Bottom of core was worn into a 4"-5" ball from rolling on bottom under diamond bit.

6742.1 – 6744.0
probably fits immediately below the last footage described in Core No. 2 · 6741.1

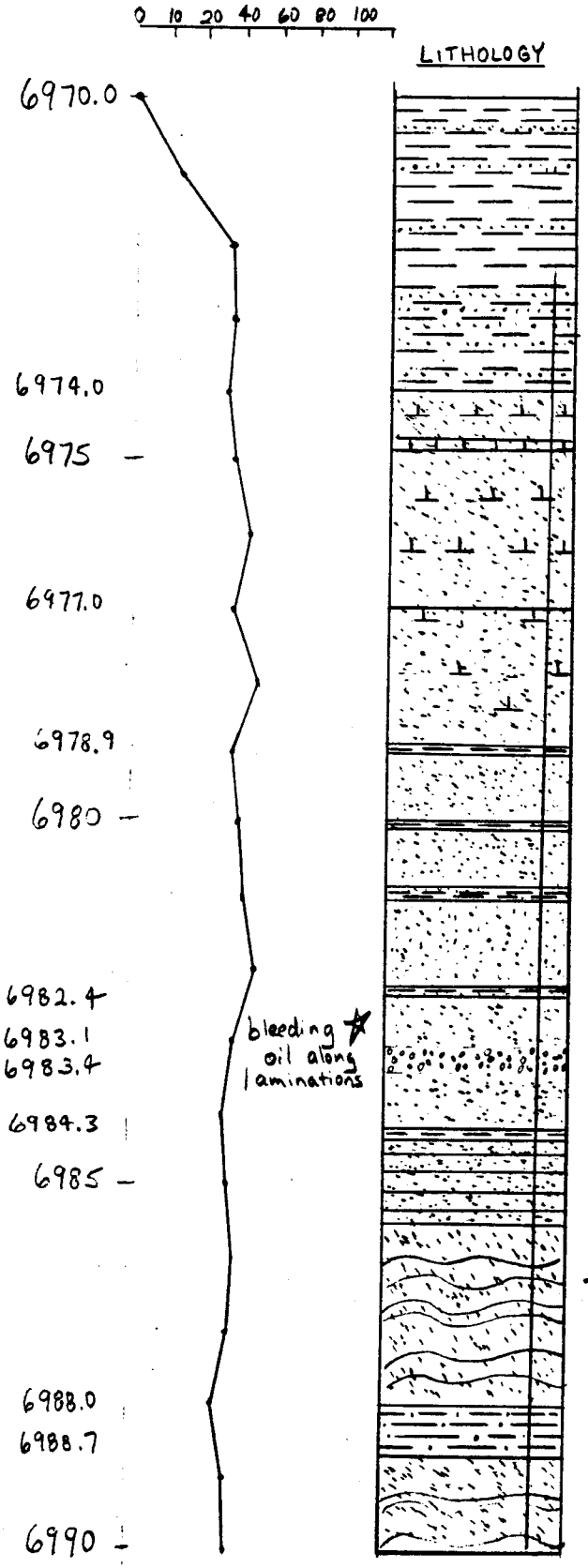
Core No. 3 was cored by Hycalog with a new CUHR diamond core bit. 17' were cut in 9.5 hours ≈ 1.8 feet/hr. The bit was recovered in good condition. The scribe appeared to get caught causing the lower scribe marks to rotate. The lower 1.9' of core was lost probably because of fracturing, but the lower 1.9' of core lost when Core No. 2 (6713.1 – 6744.0) was cut were recovered in the core barrel with Core No. 3. So the total recovery from Core No. 3 was 17.1'.

Core No. 3 was oriented by Sperry-Sun and their tool malfunctioned a third time with no apparent explanation for the problems. The service hand will take tools back to shop and have them looked at and then Pennzoil should be contacted about the problem.

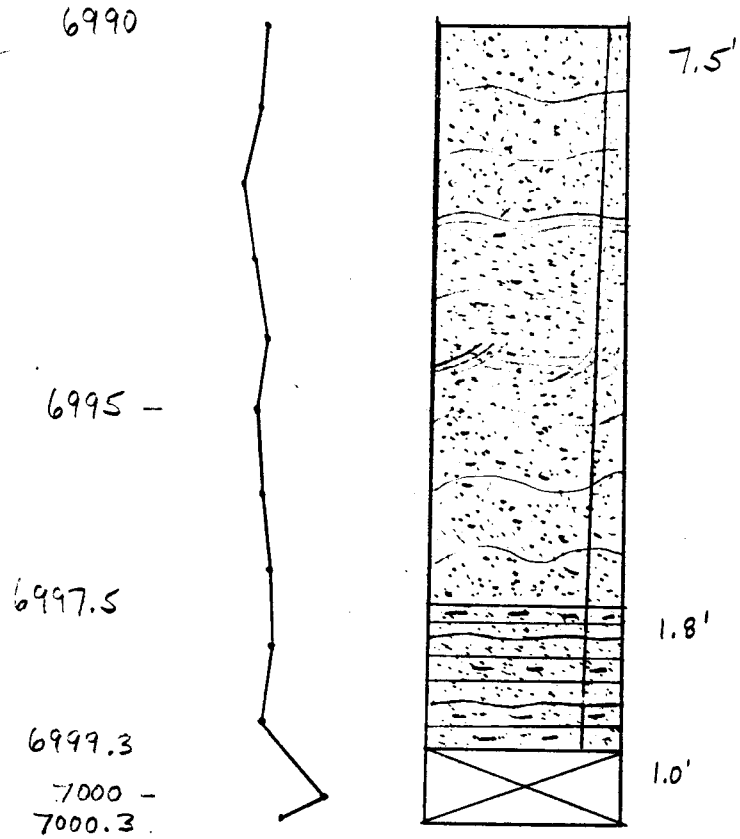
CORED 30.3 feet TOTAL RECOVERED 29.3 feet	PENNZOIL # 3-11A2 BOREN	11-9-87 2:00 A.M. - 3:00 A.M.	1/2

MACROSCOPIC DESCRIPTION

CORE No. 4 (6970.0 - 7000.3)



	DESCRIPTION
4.0'	dark gray - dark brown gray Shale, blocky, hard, calcareous, silty ip, thinly laminated with medium gray Sandstone, v. fine grained, calc., hard, tite.
3.0'	dark gray brown Sandstone, very fine grained - silty, v. limy grading to Limestone ip, hard, tite, trace of bleeding oil, dull yellow - dull gold fluorescence, dull yellow - gold diffuse cut, massive to v. thinly laminated.
1.9'	dark gray - gray brown Sandstone, very fine - fine grained, hard, tite, silica cement, calcareous in part, dull yellow fluorescence, with dull yellow-gold diffuse cut.
3.5'	dark gray brown - gray brown - occ. tan Sandstone, v. fine - fine grained, hard, tite, calcite cement, dull gold fluorescence. v. slow dull gold cut, interbedded with dark gray - dark gray brown Shale, hard, blocky, calcareous, thinly laminated with Sandstone, silty in part.
1.9'	gray brown - gray Sandstone, fine grained - coarse grained in part, hard, tite, calcite cement, dull gold fluorescence, gold diffuse cut, bright yellow residual cut.
.1'	Shale, as above
1.0'	gray - gray brown Sandstone, as above, no fluor., v. thinly laminated w/ dark gray Shale, as above
2.5'	light gray - gray brown Sandstone, v. fine - fine grained, hard, tite, calcite cement, no fluorescence, thinly laminated to varved, with dark gray Shale
.7'	dark gray Shale, blocky, hard, silty to sandy in part, calcareous.
1.3'	light gray - gray brown Sandstone, v. fine - fine grained, hard, tite, calcite cement, no fluorescence, with varved laminations <1mm.



light gray - gray brown Sandstone, v. fine - medium grained, coarse grained in part, hard, tite, Calcite & silica cement, thinly laminated - sl. wavy with occasional cross-bedding, scattered gilsonite fragments and laminations throughout, sl. trace of bleeding oil throughout.

dark gray - dark gray brown Sandstone, v. fine grained, hard, tite, calcite & silica cement, argillaceous in part, v. thinly laminated - varved.

LOST CORE
(probably just rubble from fracturing.)

NOTE: vertical open fractures with very slight to no calcite lining were present throughout the cored interval, spotty oil stain was observed on most fracture faces. The core was retrieved in very poor condition due to the intense fracturing. No spacing of fractures could be determined since no pairs of fractures were evident in the interval. No bubbling of gas was observed in this cored interval.

Core No. 4 was cored by Hycalog using a RR diamond bit CUHR used to cut Core No. 3 - the bit was recovered in good condition. The scribe marks were poor quality due to the intensity of the fracturing and the lower portion of the core may have twisted invalidating any orientation for the lower cored interval.

CORE No.4 was oriented by Eastman-Christensen. No results were obtained because the batteries died during the coring. Ray-O-Vac Industrial strength batteries were used and they evidently did not withstand the bottom hole temperature and the lengthy coring run. 30 feet were cored in 19½ hours ≈ 1.5 fph. The core barrel jammed after attempting to make a connection at 7000'!

CORED 50.0 feet TOTAL RECOVERED 50.0 feet	PENNZOIL #3-11A2 BOREN	11-11-87 5:30 P.M. – 7:30 P.M.	1/3

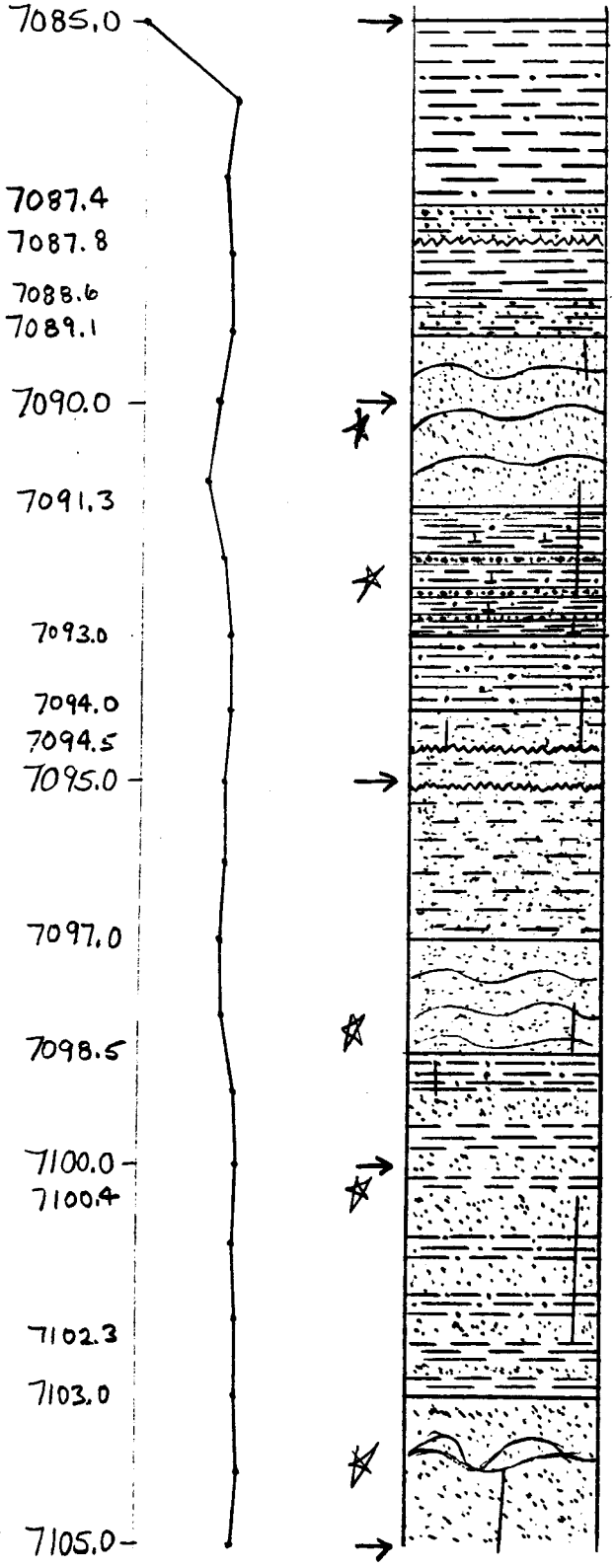
MACROSCOPIC DESCRIPTION

CORE NO. 5 (7085.0' - 7135.0')

PENETRATION RATE

0 10 20 40 60 80 100

LITHOLOGY



DESCRIPTION

2.4' dark gray brown Shale, blocky, hard, smooth, calcareous, silty ip, with occasional black carbonaceous material.

.4' dark gray brown Shale, v. thinly laminated w/ SS.

stylolite with dark brown oil on surface

.8' dark gray brown Shale, as above.

.5' dark gray-gray brown Shale, v. thinly laminated w/ SS.

vertical fracture closed to sl. open, no visible calcite lin

2.2' light gray-tan Sandstone, fine grained, subangular, moderately sorted, hard - sl. friable ip, mod. cemented, calcite cement, trace yellow fluor. trace lt. brown oil stain w/ v. thin wavy gilsonite laminations.

fracture as above

1.7' dark gray Shale (1"-6"), hard, blocky, calc.-limy ip, sandy-silty ip, pyritic, scattered gilsonite, interbedded w/ lt. gray Sandstone (1/4" trace of bleeding oil.

1.0' dark gray Shale, as above, v. sandy-silty

parallel vertical fractures, 3" spacing, tr. bleeding oil, no calcite lin

stylolites with dark brown oil on surface

3.0' lt. gray Sandstone, fine-v. fine grained, tite, very thinly laminated with dark gray brown Shale, silty-sandy ip., with black carbonaceous plant debris.

1.5' lt. gray-tan, fine grained, hard, calcite cement w/ v. thin, wavy, dark gray brown Shale laminations w/ gilsonite.

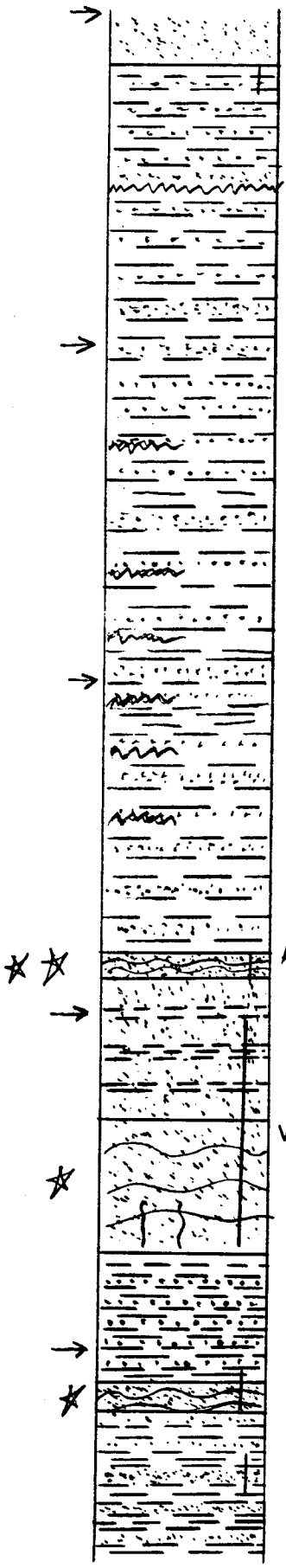
vertical open fractures w/ trace bleeding oil, no calcite lin

4.5' lt. gray-tan Sandstone, fine-v. fine grained, tite, interbedded w/ dark gray Shale, sandy-silty ip, v. carbonaceous, hard, calcareous, with slight bleeding dark brown oil throughout interval.

vertical open fracture w/ trace calcite lining & trace bleeding dark brown oil

2.0' lt. gray-gray brown Sandstone, v. fine-fine grained, medium grained ip, poorly sorted, tite, calcite cement, clay ip, massive, w/ soft sediment deformation ip, sl. oil stained throughout

open vertical fracture w/ trace oil stain, no calcite lin



7105.0

7105.7 — .7' lt. gray-gray brown Sandstone, as above.
vertical fracture, open, trace bleeding oil, no calcite lining

7107.6 — stylolite with bleeding oil on surface

13.3' dark gray-dark gray brown Shale, hard, blocky, calcareous, carbonaceous ip thinly laminated with light gray-tan Sandstone, v. fine-fine grained, hard, tite.

7110.0

7111.4 — partial stylolites throughout interval, pitted surfaces with bleeding oil.

7113.4

7114.3

7115.0

7115.3

7116.0

7117.0

vertical fracture, open, heavily oil stained, trace calcite lining.

7119.0

7119.3 — .3' brown Sandstone, v. fine-fine grained, well sorted, fair intergranular porosity w/ v. thin wavy laminations, heavily oil stained - bleeding dark brown oil.

7120.0

2.2' gray & light gray laminated Sandstone, v. fine-fine grained, v. argillaceous ip.

7121.5 — vertical fracture, open, no visible oil stain, trace calcite li

2.0' tan-brown Sandstone, fine grained, tite, calcite cement, w/ thin wavy dark gray-black shaley laminations w/ gilsonite bleeding oil on outside of core.

7123.5 — vertical fractures,

1.9' dark gray brown Shale with thin light gray Sandstone laminations

7125.0 — vertical fracture, open, sl. oil stain, trace calcite lining

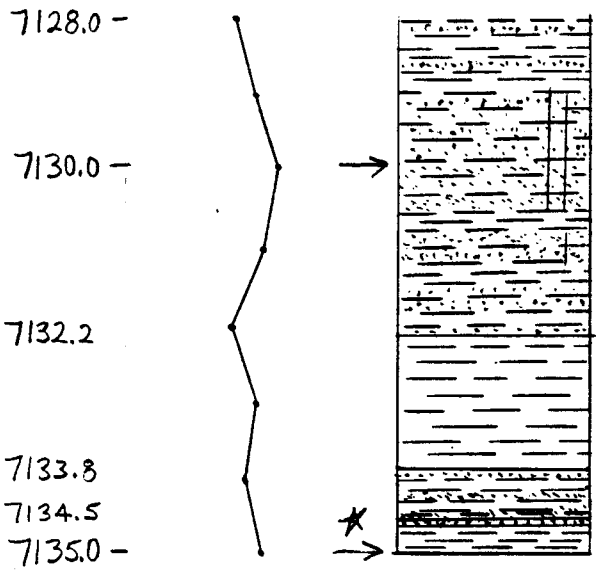
7125.4

2125.8 — .4' tan-brown Sandstone, fine grained, tite, w/ thin wavy laminations, as above, bleeding oil on outside of core.

vertical fracture, open, trace calcite lining, no oil stain.

2.2' dark gray Shale interbedded to laminated with lt. gray Sandstone, v. fine-fine grained, tite.

7128.0



4.2' dark gray shale interbedded to laminated with lt. gray sandstone v. fine - fine grained, tite, no visible shows

parallel vertical fractures, 1/2" spacing, open, no calcite lining, no oil stain

vertical fracture, open, no calcite lining, no oil stain

1.6' dark gray brown shale, firm-hard, blocky-subplaty, calcareous

.7' dark gray brown shale interbedded w/ lt. gray sands

.1' tan sandstone, fine grained, w/ bleeding oil

.4' dark gray brown shale, firm-hard with abundant black carbonaceous plant debris.

NOTE:

☆ denotes oil show

→ denotes orientation station

CORE No.5 was cored by Hycalog using a RR diamond bit CUHK used to cut Core No.3 and Core No.4 - the bit was worn out on the face. Scribe appeared to work well. 50 feet of core were cut in 28 hours ≈ 1.8 feet/hour. 100% of cored interval 7085 - 7135 was recovered.

CORE No. 5 was oriented by Eastman-Christensen. Little to possibly no results were obtained because the camera and other orientation tools were recovered in pieces apparently due to high vibration during coring. The design of the Hycalog core barrel may not be adequate to protect orientation equipment in the tough coring encountered in the Upper Green River formation.

The core barrel was cracked half way around when recovered after completing Core No. 5, it was fortunate that we did not lose the core barrel while coring.

MICROSCOPIC CORE DESCRIPTION
CORE #1

Well: Pennzoil Boren 3-11A2
Duchesne Co., Utah
Formation: Upper Green River
Interval: 6528.3-6588.1 (59.8')
Recovery: 57.5'
Lost Core: 2.3'

DESCRIPTION

6528.3: SHALE: dark gray, soft-brittle, blocky-platy, fissile, sub-waxy ip, slightly calcareous, slightly bentonitic ip, NSFOC.

6531.5: LIMESTONE: dark gray-brown, micro-very fine crystalline,
hard, dense, sandy, argillaceous in part, no porosity, NSFOC.

6535.0: SHALE: dark-gray-black, firm-hard, blocky-platy, fissile,
slightly calcareous, finely disseminated pyrite throughout NSFOC.

6537.0: SHALE: as above

6538.0: SHALE: dark gray-black, firm-hard, blocky-platy, fissile,
sub-waxy ip, slightly calcareous, finely disseminate pyrite and occasional pyrite crystals, NSFOC.

6539-40: SHALE: dark gray-black, hard, brittle, blocky-platy, fissile, calcareous, finely disseminate pyrite, NSFOC.

6541.0: SHALE: as above laminated with SANDSTONE, light gray, very fine grained, subangular-subrounded, mod. sorted, well cemented, calcareous cement, trace black carbonaceous material, NSFOC.

6541.3: SHALE & SANDSTONE: as above, very thinly laminated, NSFOC.

6542.0: SHALE: gray, hard, blocky-platy, very calcareous, very sandy ip, silty ip, NSFOC.

6543.7: SANDSTONE: light gray, fine-coarse grained, subangular -subrounded, very poorly sorted, well cemented, calcareous cement, slightly friable, tite, NSFOC.

6544.4: SHALE: dark gray-black, hard, brittle, blocky-platy, very calcareous, with scattered black carbonaceous material.

6545-46: SHALE: as above with light gray-gray sandstone laminations, very fine-fine grained, subangular-subrounded, moderately sorted, well cemented, calcareous cement, slightly friable, tite, NSFOC.

6548-49: SANDSTONE: tan-light brown, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-poorly sorted, moderately cemented, poorly cemented ip, friable, calcareous cement, fair porosity ip, occasional black carbonaceous material & shale inclusions, NSFOC.

6550.9: SANDSTONE: light gray-white, clear, fine-medium grained, coarse grained ip, subangular-subrounded, moderately sorted, moderately-well cemented, calcite cement, occasional black carbonaceous material, rare pyrite inclusions, NSFOC.

6552-6552.3: SHALE: dark gray, firm, hard, blocky, very calcareous, scattered finely disseminated black carbonaceous material, NSFOC.

6552.7: SANDSTONE: light gray, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-poorly sorted, moderately-well cemented, calcite cement, tite, coarse grained dark gray shale inclusions, rare pyrite inclusions and bentonite inclusions, NSFOC.

6553.7: SANDSTONE: light-medium gray, very fine-medium grained, subangular-subrounded, moderately-poorly sorted, well cemented, calcite cement, clay ip, very shaly ip, abundant pyrite crystals, erratically interbedded with dark gray-black shale, firm, hard, blocky, calcareous, pyritic, with sand-filled burrows, NSFOC.

6556.5: SANDSTONE: light gray, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-poorly sorted, moderately-well cemented, calcite cement, tite, coarse grained dark gray shale inclusions, NSFOC. w/occasional black organic inclusions, NSFOC.

6558.0: SHALE: very dark gray-black, firm-brittle, blocky-platy, fissile, subwaxy ip, slightly calcareous-calcareous, slightly pyritic, occasional black carbonaceous material, NSFOC.

6559.3: SANDSTONE: light gray-gray, very fine-fine grained, subangular-subrounded, moderately-well sorted, well cemented, calcite cement, tite, NSFOC.

6561.1: SHALE: dark gray, hard, blocky, very calcareous, very sandy, NSFOC.

6563.3: SANDSTONE: light gray, very fine-fine grained, subangular-subrounded, moderately-well sorted, well cemented, calcite cement, tite, thinly laminated with shale, dark gray, as above.

6565.6: SANDSTONE: light gray, fine-medium grained, coarse grained ip, subangular-subrounded, moderately sorted, well cemented, calcite cement, tite, with coarse grained shale and black carbonaceous inclusions, NSFOC.

6568.3: SHALE: dark gray-black, hard-brittle, blocky-platy, fissile, slightly calcareous, NSFOC.

6569.8: SHALE: dark gray-black, hard, blocky, calcareous, black carbonaceous plant debris, trace gilsonite.

6571.0: SANDSTONE: light-medium gray, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-poorly sorted, well cemented, calcite cement, tite, with coarse grained black shale inclusions and gilsonite inclusions, NSFOC.

6571.6: SHALE: dark gray-black, hard, brittle, platy, slightly calcareous, finely disseminated black carbonaceous material, NSFOC.

6572.6: SANDSTONE: light-medium gray, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-poorly sorted, well cemented, calcite cement, tite, with coarse grained black shale inclusions, NSFOC.

6574.0: *LIMESTONE: brown-tan, micro-medium crystalline, slightly argillaceous, fossiliferous (shell fragments), tite, no visible porosity, NSFOC.

6575.0: SHALE: dark gray-black, hard, brittle, blocky, calcareous, sandy ip, with very thin sandstone laminations ip, NSFOC.

6577.9: SANDSTONE: medium gray, very fine-fine grained, subangular-subrounded, moderately-well sorted, well cemented, calcite cement, tite, occasional black carbonaceous material & gilsonite, NSFOC, interbedded with dark gray shale, hard, brittle, platy, slightly calcareous, with black carbonaceous material. NSFOC.

6578.3: SANDSTONE & SHALE: as above interbedded, very thinly laminated.

6579.2: SHALE: very dark gray-black, hard, blocky-platy, slightly calcareous with black carbonaceous, coaly fragments (gilsonitic fragments), NSFOC.

6579.9: SHALE: as above with very large coal fragments 3/4"x1/2".

6581.4: SHALE: dark gray, hard, blocky-platy, slightly calcareous-calcareous ip, very sandy ip, pyrite veining ip, NSFOC.

6581.7: SHALE: as above

6582.7: SANDSTONE: light gray-tan, fine-medium grained, coarse grained ip, subangular-subrounded, poorly sorted, well cemented, tite, calcite cement, with coarse grained black shale inclusions, NSFOC.

6583.4: SANDSTONE: tan-light gray, fine-medium grained, subangular-subrounded, poorly sorted, well cemented, tite, calcite cement, with coarse grained black shale inclusions, NSFOC.

6585.8: SANDSTONE: tan, fine-medium grained, coarse grained ip, subangular-subrounded, moderately-well sorted, moderately-well cemented, slightly friable ip, calcite cement, tite, occasional black carbonaceous material, NSFOC.

MICROSCOPIC CORE DESCRIPTION
CORE #2

WELL: Pennzoil Boren 3-11A2
Duchesne Co., Utah
FORMATION: Upper Green River
INTERVAL: 6713.1-6744.0 (30.9')
RECOVERY: 28'
LOST CORE: 2.9'

DESCRIPTION

6713.1: SHALE: dark gray-dark gray brown, firm-hard, blocky, non-calcareous, slightly bentonitic ip, occasional bentonite inclusions, scattered biotite, NSFOC.

6714.0: SHALE: gray-dark gray brown, firm-hard, blocky, very calcareous, sandy ip, with scattered black carbonaceous material, and occasional gilsonite, NSFOC.

6715.0: SHALE: as above, with scattered pyrite nodules & crystals, NSFOC.

6716.0: SHALE: as above, also pyritic, NSFOC.

6717.5: *SANDSTONE: light gray-tan, fine-medium grained, subrounded-subangular, moderately sorted, moderately cemented, calcite cement, slightly friable, with coarse grained shale inclusions, poor-fair intergranular porosity, bright yellow-yellow white fluorescence, with very slow streaming bright yellow cut, trace brown dead oil stain, and occasional black carbonaceous inclusions.

6718.0: SANDSTONE: gray brown-gray, fine grained, subrounded-subangular, moderately-well sorted, well cemented, calcite cement, tite, with thin wavy laminations and occasional rip-up clasts of very dark gray-black shale, firm-hard, blocky-platy, with abundant finely disseminate pyrite and pyrite crystals, very slightly calcareous, NSFOC.

6719.5: *SANDSTONE: light gray-tan-brown, fine-medium grained, subrounded-subangular, well sorted, moderately cemented, calcite cement, slightly friable, fair intergranular porosity, some thin laminations with brown oil stain, bright yellow-yellow white fluorescence and some yellow-dull gold fluorescence, immediate bright yellow streaming cut, very thinly laminated with dark gray-black shale, with very finely disseminated pyrite.

6720.3:**SANDSTONE: as above, with abundant light brown oil stain, yellow-dull gold fluorescence, immediate fast streaming yellow-white cut, very thinly laminated with dark gray shale.

6720.5: SANDSTONE: gray brown, very fine-fine grained, subrounded-subangular, well sorted, well cemented, calcite cement, tite, very shaly with very dark to black shale partings with abundant gilsonite inclusions, and finely disseminated pyrite, NSFOC.

6720.6: SANDSTONE: as above

6721.8: *SANDSTONE: light gray-tan, fine-medium grained, subrounded-subangular, well sorted, moderately cemented, cement, slightly friable, fair intergranular porosity, with occasional course grained shale inclusions, and pyrite crystals, some light brown oil stain, yellow-dull gold fluorescence and some yellow white fluorescence, fast light yellow streaming cut.

6722.3: SANDSTONE: light gray-gray brown, very fine grained, subrounded-subangular, well sorted, well cemented, calcite cement, hard, tite, shaly, with occasional very dark gray-black shale partings, NSFOC.

6723.3: SANDSTONE: as above, with disturbed bedding, and finely disseminated pyrite.

6724.5: SANDSTONE: as above, thinly laminated, not disturbed.

6725.0: SANDSTONE: light gray, fine grained, subrounded-subangular, well sorted, well cemented, calcite cement, tite, thinly laminated with gray shaly layers with abundant gilsonite, black carbonaceous material and pyrite, NSFOC.

6726.0: SANDSTONE: light gray as above, interbedded with gray brown sandstone, fine grained, subrounded-subangular, well sorted, well cemented, calcite cement, tite, shaly, NSFOC.

6727.7: SANDSTONE: gray brown, as above, with abundant gilsonite inclusions and pyrite, NSFOC.

6728.0: SANDSTONE: light gray brown, fine grained, subrounded-subangular, well sorted, well cemented, calcite cement, tite, very thinly laminated with dark gray shaly layers with abundant gilsonite and pyrite, NSFOC.

6729.0: SANDSTONE: gray brown, very fine-fine grained, subangular-subrounded, well sorted, well cemented, calcite cement, hard, tite, thinly laminated with dark gray shaly layers with abundant gilsonite and pyrite, NSFOC.

6730.0: SANDSTONE: gray brown, as above, slightly disturbed bedding with light gray brown sandstone and dark gray shaly layers, NSFOC.

6731.0: SANDSTONE: as above with vertical fracture with minor amount of calcite lining on fracture face, NSFOC.

6732.5: *SANDSTONE: tan, medium-coarse grained, subangular-subrounded, moderately sorted, moderately-well cemented, calcite cement, fair-poor intergranular porosity, slightly friable, with coarse grained dark gray shale inclusions, no fluorescence, very slow light blue-white-yellow cut, no visible oil stain.

6733.0: *SANDSTONE: as above, with spotty yellow-dull gold fluorescence, very thinly laminated with shaly layers with abundant gilsonite, immediate white milky cut with fast yellow streaming cut.

6734.5:**SANDSTONE: light brown, medium grained, subrounded-subangular, well sorted, moderately-well cemented, calcite cement, fair-poor intergranular porosity, light brown oil stain, good yellow-dull gold fluorescence, immediate bright yellow fast streaming cut.

6736.0: SHALE: dark gray, firm-hard, blocky-platy, slightly calcareous, sandy ip, finely disseminated pyrite and pyrite crystals, NSFOC.

6737.4: *SANDSTONE: light gray-gray brown, fine grained-medium grained ip, subrounded-subangular, well sorted, well cemented, calcite cement, very poor intergranular porosity ip, trace of yellow-dull gold fluorescence, very slow light yellow streaming cut, occasional pyrite crystals, interbedded with dark gray-gray brown shale, blocky-platy, slightly-noncalcareous, with very finely disseminated pyrite.

6738.5: SANDSTONE & SHALE: as above, NSFOC, thinly laminated.

6739.0: SANDSTONE & SHALE: as above, NSFOC, thin slightly wavy laminations, occasional gilsonite inclusions layered along laminations.

6740.0: SANDSTONE: light gray, fine grained grading to medium grained, subrounded-subangular, well sorted, well cemented, calcite cement, hard, tite, with occasional gilsonite inclusions layered along laminations, and occasional pyrite crystals, NSFOC.

6741.0: SHALE: dark gray, firm-hard, blocky-platy, slightly calcareous, pyritic.

Lower 2' of Core No. 2 was recovered in core barrel w/Core No. 3

6742.1: SANDSTONE: light gray, fine-medium grained, subrounded-subangular, moderately sorted, well cemented, calcite cement, interbedded with dark gray shale, hard, calcareous, black carbonaceous material throughout, very pyritic ip, NSFOC.

6742.4: SHALE: dark-medium gray, hard, very calcareous, very sandy, grading to fine-very fine grained sandstone, NSFOC.

6743.0: SHALE: medium gray, with black partings, calcareous-slightly calcareous sand ip, abundant pyrite crystals along laminations, NSFOC.

6743.5: SANDSTONE: light gray-gray-gray brown, very fine-fine grained medium grained ip, subrounded-subangular, moderately sorted, well cemented, calcite cement, very poor intergranular porosity, thinly laminated with dark gray argillaceous layers, NSFOC.

MICROSCOPIC CORE DESCRIPTION
CORE #3

WELL: Pennzoil Boren 3-11A2
Duchesne Co., Utah
FORMATION: Upper Green River
INTERVAL: 6744.0-6761.0 (17')
RECOVERY: 15.9'
LOST CORE: 1.9'

DESCRIPTION

6744.0: SANDSTONE: light gray-tan, fine grained medium grained ip, moderately-well sorted, well cemented, calcite cement, with thin wavy dark gray shale laminations, NSFOC.

6745.0: SHALE: very dark, firm-hard, blocky, very calcareous, abundant finely disseminated pyrite & pyrite crystals, NSFOC.

6746.1: *SANDSTONE: light brown-light gray-brown, medium grained, coarse grained ip, subrounded-subangular, moderately-well sorted, well cemented, calcite cement, very slightly friable, poor intergranular porosity, occasional coarse grained shale inclusions, no fluorescence, very slow weak bright yellow-white cut.

6746.7: *SANDSTONE: as above, with very thin wavy dark gray shale laminations.

6747.4: *SANDSTONE: as above, with trace light brown stain, yellow-dull yellow-gold fluorescence, moderately streaming bright yellow-white cut.

6748.0: *SANDSTONE: as above, with abundant light brown oil stain, and yellow-dull yellow-gold fluorescence, moderately streaming bright yellow-white cut.

6749.5: SHALE: dark gray, firm-hard, blocky, calcareous, abundant finely disseminated pyrite and pyrite crystals, black partings.

6751.0: *SANDSTONE: light gray-light gray-brown, fine-medium grained, subrounded-subangular, well sorted, well cemented, calcite cement, very poor intergranular porosity, with thin wavy dark gray shale laminations, abundant pyrite along laminations, no fluorescence, slow streaming bright yellow-white cut.

6751.9:**SANDSTONE: brown-light brown, fine-medium grained, subangular-subrounded, well sorted, well cemented, calcite cement, scattered coarse grained gilsonite and shale inclusions, poor intergranular porosity, heavily oil stained (light brown), good yellow-gold fluorescence, immediate fast streaming bright yellow cut.

6752.5: *SANDSTONE: gray-gray brown, very fine-medium grained ip, subangular-subrounded, poorly sorted, well cemented, calcite cement, tite, with abundant coarse grained shale inclusions, no fluorescence, no stain, very weak slow milky cut, with darker gray argillaceous laminations.

6753.3: *SANDSTONE: as above

6754.2: *SANDSTONE: black-dark gray, very fine-medium grained, subangular-subrounded, poorly sorted, well cemented, calcite cement, very thinly laminated with dark gray shale and gilsonite layers, no fluorescence, very weak slow milky cut.

6755.8: SHALE: dark gray, hard, blocky-platy, calcareous, finely disseminated pyrite and occasional pyrite crystals, sandy ip, abundant black carbonaceous material, NSFOC.

6756.8: SHALE: as above, very calcareous.

6757.7: SHALE: as above, laminated.

6758.7: SHALE: as above.

6759.1: SANDSTONE: gray, very fine grained, subangular-subrounded, well sorted, well cemented, calcite, very hard, tite, shaly ip, thinly laminated, NSFOC.

MICROSCOPIC CORE DESCRIPTION
CORE #4

Well: Pennzoil Boren 3-11A2
Duchesne Co., Utah
Formation: Upper Green River
Interval: 6970.0-7000.3 (30.3')
Recovery: 29.3'
Lost Core: 1.0'

DESCRIPTION

6970.0: SHALE: dark gray-dark gray brown, blocky-subplaty, hard, calcareous, silty ip, very thinly laminated ip with medium gray sandstone, very, very fine grained, well cemented, hard, tite, calcite cement, NSFOC.

6972.75: hard, dense, sandy, argillaceous in part, no porosity, NSFOC.

6974.75:*SANDSTONE: gray brown, very, very fine grained-silty, moderately sorted, very limy grading to limestone ip, hard, tite, scattered black carbonaceous material, trace of oil on outside of core with dull yellow fluorescence.

6977.0: *SANDSTONE: dark gray-gray brown, very fine-fine grained, subangular-subrounded, moderately-well sorted, hard, tite, slightly calcareous, silica cement ip, stylolitic surfaces along laminations, light brown oil stain with bleeding oil on surfaces, dull yellow-yellow green fluorescence, dull yellow-gold diffuse cut, & slow bright yellow-white streaming cut.

6978.9: SHALE: gray-gray brown, blocky, hard, calcareous, silty ip, with thin sandstone laminations, NSFOC.

6979.6: *SANDSTONE: light gray-tan, very fine-fine grained, subangular, moderately sorted, tite, slightly friable, moderately cemented, calcite cement, trace light brown oil stain, dull yellow-gold fluorescence, immediate bright yellow white streaming cut.

6982.8:**SANDSTONE: dark gray brown, occasional tan, fine grained, subangular-subrounded, moderately sorted, hard, tite, calcite cement, with scattered coarse grained gilsonite inclusions, very poor intergranular porosity, fair light brown oil stain, dull yellow-gold fluorescence, immediate bright yellow-white streaming cut and gold diffuse cut.

6984.3: SHALE: dark gray, subplaty, hard, calcareous, silty ip, with scattered black carbonaceous material, NSFOC (thinly laminated with sandstone).

6984.7: SANDSTONE: gray-gray brown, very fine-fine grained, subangular-subrounded, moderately sorted, hard, tite,

calcite cement, occasional gilsonite inclusions, NSFOC, very thinly laminated with dark gray shale as above.

6986.6: SANDSTONE: as above thinly laminated with dark gray shale, NSFOC.

6987.5: SANDSTONE: light gray-gray, very fine-fine grained, subangular-subrounded, moderately sorted, hard, tite, calcite cement, with abundant black carbonaceous grains and occasional gilsonite partings, NSFOC.

6989.1: SANDSTONE: as above, with <1mm varved argillaceous laminations & gilsonite partings, NSFOC.

6992.2: SANDSTONE: light gray-gray, very fine-fine grained, subangular-subrounded, moderately sorted, hard, tite, calcite cement, abundant gilsonite, inclusions and gilsonite layers, stylolitic ip,, no stain, no fluorescence, bright yellow-white residual cut (from gilsonite).

6992:7: SANDSTONE: light gray, very fine-fine grained, subangular-subrounded, well sorted, hard, tite, calcite cement, with very large gilsonite inclusions 1-5mm, no stain, no fluorescence, slightly residual cut (from gilsonite).

6995.4: SANDSTONE: medium-dark gray, very fine grained, moderately sorted, hard, tite, calcite cement, silica cement ip, abundant scattered gilsonite grains throughout, NSFOC.

6996.2: SANDSTONE: light gray, very fine-fine grained, subangular-subrounded, moderately sorted, hard, tite, calcite cement, silica cement ip, with scattered fine grained gilsonite and occasional large gilsonite inclusions 1-5mm, NSFOC.

6997.5: SANDSTONE: dark gray-dark gray brown, very fine grained-silty, moderately sorted, hard, tite, calcite cement ip, silica cement ip, argillaceous ip, NSFOC.

6997.8: SANDSTONE: dark gray laminated with medium-dark gray, very fine grained, moderately sorted, hard, tite, increased calcite cement, silica cement ip, argillaceous ip, abundant fine grained gilsonite scattered throughout, NSFOC.

6998.5: SANDSTONE: as above.

MICROSCOPIC CORE DESCRIPTION
CORE #5

WELL: Pennzoil Boren 3-11A2
Duchesne Co., Utah
FORMATION: Upper Green River
INTERVAL: 7085.0-7135.0 (50.0')
RECOVERY: 50.0'
LOST CORE: NONE

DESCRIPTION

7085-86: SHALE: dark gray brown, subblocky-subplaty, hard, calcareous, occasional black carbonaceous material, NSFOC.
7086-87: SHALE: as above, NSFOC.
7087-88: SHALE: as above, NSFOC.
7088-89: SHALE: dark gray brown, as above, very thinly laminated with dark gray sandstone, very very fine grained-silty, poorly sorted, well cemented, calcareous, NSFOC.
7089-90: SANDSTONE: light gray-white, very fine-fine grained, subangular-subrounded, moderately-poorly sorted, well cemented, calcite & silica cement, clay ip, scattered black carbonaceous material, NSFOC.
7090-91: SANDSTONE: light gray-tan, very fine-medium grained, subangular-subrounded, moderately-poorly sorted, moderately-well cemented, calcite & silica cement, clay ip, slightly friable ip, scattered black carbonaceous material, and gilsonite laminations, no fluorescence, very slow dull yellow-gold diffuse cut, milky residual cut.
7091-92: SANDSTONE: as above, with abundant wavy gilsonite laminations and large gilsonite inclusions.
7092-93: SHALE: dark gray, blocky-subblocky, hard, calcareous, limy ip, sandy-silty ip, pyritic, scattered gilsonite inclusions, thinly laminated and interbedded with sandstone, gray very fine grained, poorly sorted, subangular-subrounded, very well cemented, calcite cement, pyritic, NSFOC.
7093-94: SHALE: dark gray, subblocky-subplaty, very hard, calcareous, very sandy, very silty, grading to very fine grained gray sandstone ip, scattered pyrite and gilsonite inclusions, NSFOC.
7094-95: SANDSTONE: gray-light gray, fine-very fine grained, tite, moderately sorted, well cemented calcite cement, scattered gilsonite inclusions, very thinly laminated to slightly disturbed interbeds of dark gray brown shale, blocky-subblocky, hard, calcareous, with

stylolitic surfaces ip, dull yellow-gold fluorescence, moderate streaming bright yellow-white cut and diffuse dull yellow-gold cut, trace of dark brown oil stain.

7095-96: SANDSTONE & SHALE: as above, no fluorescence, no visible oil stain, very slow milky cut.

7096-97: SHALE: dark gray, subplaty-subblocky, silty-sandy ip, calcareous, abundant black carbonaceous material & plant debris, hard, NSFOC.

7097-98: *SANDSTONE: light gray-tan, salt & pepper ip, very fine-fine grained medium grained ip, subangular-subrounded, moderately-poorly sorted, hard, tite, well cemented, calcite cement, silica cement ip, with very thin wavy dark gray brown shale laminations with gilsonite, no fluorescence, very slow streaming bright yellow-white cut, and diffuse dull yellow-gold cut.

7098-99: SANDSTONE: as above

7099-7100.0: SHALE: dark gray, subplaty, hard, calcareous, finely disseminated pyrite and occasional pyrite crystals, scattered black carbonaceous material, NSFOC.

7100-01: SANDSTONE: light gray-tan, very fine-fine grained subangular-subrounded, moderately-poorly sorted, hard, tite, well cemented, calcite cement, silica cement ip with occasional pyrite crystals, very thinly laminated with dark gray SHALE, as above, no fluorescence, very very slow milky to yellow white cut.

7101-02: SANDSTONE & SHALE: thinly laminated as above, no fluorescence, very weak slow milky to yellow-white cut.

7102-03: SANDSTONE & SHALE: thinly to slightly wavy laminated as above with shale becoming dark gray brown with abundant black carbonaceous material, no fluorescence, very weak slow milky to yellow-white cut.

7103-04: *SANDSTONE: light gray-light gray brown, very fine-fine grained, medium grained ip, subangular-subrounded, poorly sorted, well cemented, hard, tite, calcite cement, abundant clay fill, occasional dark gray shale partings, massive, with soft sediment deformation ip, trace dark brown oil stain, trace dull yellow-gold fluorescence, immediate fast streaming bright yellow-yellow white cut, strong odor.

7104-05: SANDSTONE: light gray-tan, salt & pepper ip, very fine-fine grained, medium grained ip, subangular-subrounded, moderately-poorly sorted, well cemented, hard, tite, calcite cement, silica ip, abundant clay fill, scattered black carbonaceous material and abundant dark gray shale partings, massive, no fluorescence, very slow milky to yellow-white cut.

7105-06: SHALE: dark gray-dark gray brown, subblocky, firm-hard,slightly calcareous, silty ip, carbonaceous ip, very slow milky-yellow residual cut, trace of bleeding dark brown oil from induced fracture.

7106-07: SHALE: as above, with dark brown oil bleeding on stylolitic surfaces, sandy ip, trace dull yellow

fluorescence on stylolitic surfaces, sandy ip, trace dull yellow fluorescence on stylolite surface.

7107-08 SHALE: very dark gray brown, subblocky-subplaty, slightly brittle, firm-hard, slightly calcareous, appears to be very rich, very slight dull yellow-gold fluorescence, moderate bright yellow-white streaming cut.

7108-09: SHALE: as above

7109-10: SHALE: dark gray brown, subblocky-subplaty, firm-hard, slightly calcareous ip, no fluorescence, very weak milky cut.

7110-11: SHALE: very dark gray brown, subblocky-subplaty, firm-hard, slightly calcareous, appears to be very rich, no visible fluorescence, moderate-slow bright yellow streaming cut.

7111-12: SHALE: dark gray brown, subplaty, slightly brittle, firm-hard, slightly calcareous, no visible fluorescence, moderate bright yellow streaming cut.

7112-13: SHALE: dark gray brown, subblocky, hard, slightly calcareous, occasional black carbonaceous material, no visible fluorescence, slow bright yellow-white streaming cut.

7113-14: SHALE: dark gray brow-very dark gray brown, subblocky, hard, slightly calcareous, trace dull yellow-green fluorescence, moderate bright yellow-white streaming cut.

7114-15: SHALE: dark gray brown, subplaty, slightly brittle, calcareous, sandy ip, no visible fluorescence, moderate-slow bright yellow-white cut.

7115-16: SHALE: as above, interbedded with light gray-tan sandstone, very fine-fine subangular-subrounded, moderately sorted, well cemented, calcite cement, silica cement ip, no fluorescence, immediate yellow-white milky cut.

7116-17: SHALE: dark gray brown, subplaty-subblocky, slightly brittle, calcareous, sandy ip, bleeding dark brown oil on stylolitic surface, trace dull gold fluorescence, fast streaming bright yellow white cut.

7117-18: SHALE: dark gray brown, subblocky, firm-hard, calcareous, sandy ip, occasional black gilsonite inclusions, immediate yellow-white milky cut, no visible fluorescence.

7118-19: SHALE: dark gray brown, subblocky-subplaty, firm-hard, calcareous, sandy ip, trace dark brown bleeding oil, trace dull gold fluorescence, very slow streaming bright yellow-white cut-milky yellow-white cut.

7119-20:*SANDSTONE: brown-gray, very fine-fine grained, well sorted, fair intergranular porosity, very thinly laminated, moderately cemented, calcite cement, hard, oil saturated, heavy dark brown oil stain, abundant dull gold fluorescence, fast streaming bright yellow-green cut.

7120-21: SANDSTONE: gray-light gray, very fine-fine grained, subangular-subrounded, well cemented, calcite & clay cement, moderately sorted, scattered black carbonaceous material, with very thin dark gray to black shale laminations & stylolites with abundant gilsonite, NSFOC.

7121-22: SANDSTONE: as above

7122-23: SANDSTONE: as above, gray very fine grained interbedded with light gray very fine-medium grained with large inclusions and thin dark gray to black shale laminations & stylolites, NSFOC.

7123-24: SANDSTONE: brown-tan, fine grained, well sorted, subangular-subrounded, fair-poor intergranular porosity, moderately cemented, calcite cement, clay fill ip, with slightly wavy dark gray-black shale very thin laminations & stylolites, fair brown oil stain, trace bright yellow-green fluorescence, fast streaming bright yellow-green cut.

7124-25: SHALE: dark gray brown shale, subblocky, hard calcareous, sandy ip, with thin light gray sandstone laminations, very fine grained, subangular-subrounded, moderately sorted, tite, well cemented, calcite cement, NSFOC.

7125-26: SANDSTONE: tan-brown, fine grained, subangular-subrounded, moderately sorted, well cemented, calcite and clay cement, poor intergranular porosity, with wavy dark gray shale partings and laminations, abundant gilsonite ip, some dull yellow fluorescence, fast streaming bright yellow white cut, some brown oil stain.

7126-27: SHALE: dark gray, subblocky, hard calcareous sandy ip, interbedded to laminated with gray-light gray sandstone, very fine-fine grained, poorly sorted with abundant black carbonaceous material & gilsonite inclusions, and scattered pyrite, tite, well cemented, calcite cement.

7127-28: SHALE: dark gray brown, subblocky-subplaty, calcareous, smooth sandy ip, hard, NSFOC.

7128-29: SHALE: as above

7129-30: SHALE: as above, very sandy, with black carbonaceous inclusions and gilsonite, scattered pyrite, NSFOC.

7130-31: SHALE: dark gray, subplaty, slightly carbonaceous, hard, slightly brittle, scattered black carbonaceous material and pyrite, NSFOC.

7131-32: SHALE: dark gray brown, subblocky, calcareous, smooth, hard, sandy ip, NSFOC.

7132-33: SHALE: dark gray brown, as above

7133-34: SANDSTONE: brown, very fine grained to silty, subangular-subrounded, well sorted, very poor intergranular porosity, well cemented, calcite cement, some brown oil stain, trace of dull yellow fluorescence, fast streaming bright yellow-white cut.

7134-35: SHALE: dark gray brown-dark gray, blocky, firm-hard, calcareous, with abundant black carbonaceous plant debris, silty-sandy ip, trace dull gold fluorescence, slow bright yellow-white streaming cut.

DRILL STEM TEST
DST NO.1

OPERATOR: Pennzoil Company
WELL: Boren 3-11A2

DATE: October 30, 1987
INTERVAL: 6545'-6620'

LOCATION: SWSWSec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Upper
Green River

MUD PROPERTIES: Mud Wt.: 8.7; Vis.: 38; pH: 9.6; WL: 12.8; FC: 2/32

DRILL STEM TEST DATA

MISRUN - could not get tool to bottom.

DRILL STEM TEST
DST NO.2

OPERATOR: Pennzoil Company

DATE: October 31, 1987

WELL: Boren 3-11A2

INTERVAL: 6553-6620'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Upper
Green River

MUD PROPERTIES: Mud Wt.: 8.8; Vis.: 40; pH: 9.4; WL: 8.8; FC: 2/32

DRILL STEM TEST DATA

2 min. Initial Open: opened w/immediate strong blow
60 min. Initial Shut-in: shut in w/8#; open to flare pit
87 min. Final Open: opened w/immediate blow, 20# in 1 min., 40# in 3 min., 49# & GTS in 5 min., w/5-6' yellow flare, 69# in 10 min., 110# in 20 min., 150# in 40 min., 175# in 60 min., 193# in 80 min., 202# in 87 min.
300 min. Final Shut-in: shut-in w/202#; open bypass valve

Drill Pipe Recovery: 445' gas cut mud

Sample Chamber Recovery: 400cc gas cut mud
(2400cc capacity) 1.9cf gas @ 340psi

Pressure Data:

TIME	BOTTOM RECORDER	TOP RECORDER	
		IPH	3032#
2 min.	malfunctioned	IFP	133.4#213.4#
60 min.	no data	ISIP	2925.4#
87 min.		FFP	120.0#346.7#
300 min.		FSIP	2965.4#
		FHP	3032#
		BHT	118 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Sample Chamber:	Rw .55	@ 68 deg.F	6,600 PPM
Top DP:	Rw 1.5	@ 68 deg.F	2,400 PPM
Bottom DP:	Rw .75	@ 68 deg.F	4,800 PPM
Pit Mud:	Rw 2.9	@ 68 deg.F	1,180 PPM

MAXIMUM CALCULATED FLOW RATE = 319 MCF/Day

DRILL STEM TEST
DST NO.3

OPERATOR: Pennzoil Company

DATE: November 4, 1987

WELL: Boren 3-11A2

INTERVAL: 6663'-6761'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Upper
Green River

MUD PROPERTIES: Mud Wt.: 9.1; Vis.: 39; pH: 9.9; WL: 8.0; FC: 2/32

DRILL STEM TEST DATA

2 min. Initial Open: opened w/immediate blow, 12" in 1 min., 2# on 1/8" choke in 2 min.

60 min. Initial Shut-in: shut in w/2#, dead in 15 min.

60 min. Final Open: opened w/8" blow on 16/64" choke, 27# in 10 min., 29# & GTS in 12 min. w/ 5-6' flare, 48# in 30 min., 85# in 50 min., 100# in 60 min.

300 min. Final Shut-in: shut-in w/100#, opened bypass valve

Drill Pipe Recovery: 514' gas cut mud

Sample Chamber Recovery: 415cc gas cut mud
(2400cc capacity) 1.4cf gas @ 200psi

Pressure Data:

TIME	BOTTOM RECORDER		TOP RECORDER	
	IPH	3235.0#	IPH	3152.0#
2 min.	IFP	79.2#-79.2#	IFP	26.7#-26.7#
60 min.	ISIP	2629.3#	ISIP	2578.7#
60 min.	FFP	132#- 250.7#	FFP	80#-213#
300 min.	FSIP	2695.3#	FSIP	2605.4#
	FHP	3169.3#	FHP	3138.7#
	BHT	118 deg. F	BHT	118 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Sample Chamber:	Rw 1.4	@ 67 deg.F	2,727 PPM
Top DP:	Rw 1.9	@ 74 deg.F	1,700 PPM
Bottom DP:	Rw 1.4	@ 74 deg.F	2,485 PPM
Pit Mud:	Rw 2.1	@ 68 deg.F	1,700 PPM

MAXIMUM CALCULATED FLOW RATE = 170 MCF/Day

DRILL STEM TEST
DST NO.4

OPERATOR: Pennzoil Company

DATE: November 7, 1987

WELL: Boren 3-11A2

INTERVAL: 6810'-6970'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Upper
Green River

MUD PROPERTIES: Mud Wt.: 9.2; Vis.: 37; pH: 10.5; WL: 9.2; FC: 2/32

DRILL STEM TEST DATA

2 min.Initial Open: opened w/1" blow, 6" in 2 min.
75 min.Initial Shut-in: shut in w/6" blow
75 min.Final Open: opened w/1 1/2" blow, 8" in 10 min., 11 1/2" in 17 min., 1/2" on 16/64" choke then dead in 30 min., 9 1/2" in 34 min., 11" in 47 min., 12" in 57 min., 1# through hose in 75 min.
300 min. Final Shut-in: shut-in w/1# through hose, opened bypass

Drill Pipe Recovery: 120' oil cut mud

Sample Chamber Recovery: 1225cc oil
(2400cc capacity) 525cc mud
1750cc total recovery
0.110cf of gas @ 60 psi

Pressure Data: TIME	BOTTOM RECORDER		TOP RECORDER
	IPH	3232#	
2 min.	IFP	13.4#-13.4#	Clock stopped
75 min.	ISIP	1526#	no data
60 min.	FFP	26.7#- 40.0#	
300 min.	FSIP	2525#	
	FHP	3192#	
	BHT	123 deg. F	

Rw's and Chlorides:	RW	TEMP.	CHLORIDES
Sample Chamber:	Rw 2.4 @	96 deg.F	970 PPM
Top DP:	Rw 2.4 @	63 deg.F	1,636 PPM
Mid DP:	Rw 2.7 @	63 deg.F	1,455 PPM
Pit Mud:	Rw 2.4 @	66 deg.F	1,515 PPM

GOR (cu. ft./bbl.): 14

DRILL STEM TEST
DST NO.5

OPERATOR: Pennzoil Company

DATE: November 11, 1987

WELL: Boren 3-11A2

INTERVAL: 6970'-7135'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Upper
Green River

MUD PROPERTIES: Mud Wt.: 9.1+; Vis.: 35; pH: 10.4; WL: 8.4; FC: 2/32

DRILL STEM TEST DATA

3 min.Initial Open: opened w/1" blow, 7" in 1 min., 12" in 2 min., closed in 3 min. w/10 oz.
75 min.Initial Shut-in: shut in w/10 oz.
60 min.Final Open: opened w/13", 2 1/4# in 5 min., 2 1/2# in 10 min., 2 3/4# in 15 min., 2 3/4# in 60 min.
420 min. Final Shut-in: shut-in w/2 3/4#, opened bypass

Drill Pipe Recovery: 53' slightly mud cut oil
375' oil
428' total recovery

Sample Chamber Recovery: 1000cc oil
(2400cc capacity) 100cc mud
1100cc total recovery
0.560cf of gas @ 155 psi

Pressure Data:

TIME	BOTTOM RECORDER		TOP RECORDER	
	IPH	3392.4#	IPH	3325.4#
3 min.	IFP	184.7#-184.7#	IFP	106.7#-106.7#
75 min.	ISIP	2708.5#	ISIP	2658.7#
60 min.	FFP	184.7#-263.9#	FFP	133.4#-200.0#
420 min.	FSIP	2952#	FSIP	2845.4#
	FHP	3366.2#	FHP	3312.0#
	BHT	126 deg. F	BHT	126 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Top DP:	Rw 1.5	@ 68 deg.F	2,424 PPM
Bottom DP:	Rw 2.9	@ 68 deg.F	1,212 PPM
Pit Mud:	Rw 1.8	@ 68 deg.F	2,000 PPM

GOR (cu. ft./bbl.): 89

Oil Gravity (deg. API): 16.3 @ 60 deg.F

DRILL STEM TEST
DST NO.6

OPERATOR: Pennzoil Company

DATE: November 15, 1987

WELL: Boren 3-11A2

INTERVAL: 7367'-7405'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: U. Green River
Evacuation Creek

MUD PROPERTIES: Mud Wt.: 9.2; Vis.: 38; pH: 10.8; WL: 8.8; FC: 2/32

DRILL STEM TEST DATA

3 min. Initial Open: opened w/2" blow, closed in 3 min. w/15"
75 min. Initial Shut-in: shut in w/15"
60 min. Final Open: opened w/8", 25" in 5 min., 24 1/2# in 10 min., 23 1/2# in 15 min., 23 in 20 min., 22" in 30 min., 21" in 40 min., 20" in 50 min., 19" in 60 min.
450 min. Final Shut-in: shut-in w/19", opened bypass

Drill Pipe Recovery: 144.5' oil

Sample Chamber Recovery: 2400cc oil
(2400cc capacity) 2400cc total recovery
0.0cf of gas @ 70 psi

Pressure Data:

TIME	BOTTOM RECORDER		TOP RECORDER	
	IPH	3635.1#	IPH	3740.0#
3 min.	IFP	83.2#-83.2#	IFP	81.5#-81.5#
75 min.	ISIP	561.4#	ISIP	570.3#
60 min.	FFP	83.2#-104.0#	FFP	81.5#-101.9#
420 min.	FSIP	3305.2#	FSIP	3300.0#
	FHP	3593.9#	FHP	3580.0#
	BHT	129 deg. F	BHT	129 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Pit Mud:	Rw 2.49	@ 68 deg.F	1,818 PPM

Note: could not read chlorides on middle sample, top sample and sample chamber were tar, could not read gravity of oil

DRILL STEM TEST
DST NO.7

OPERATOR: Pennzoil Company

DATE: November 23, 1987

WELL: Boren 3-11A2

INTERVAL: 8560'-8634'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Green River
Mahogany Bench

MUD PROPERTIES: Mud Wt.: 9.4; Vis.: 40; pH: 9.6; WL: 8.8; FC: 2/32

DRILL STEM TEST DATA

2 min. Initial Open: opened w/3" blow, 2# in 2 min.
75 min. Initial Shut-in: shut in w/2#
60 min. Final Open: opened w/8" blow, 7# in 5 min., 8# in 10 min., 8# in 15 min., 8 1/4# in 20 min., 9# in 30 min., 11# in 40 min., 12# in 45 min., 13# in 55 min., 13 1/2# in 60 min.
450 min. Final Shut-in: shut-in w/13 1/2#, opened bypass after 10 min., GTS 15 min. into FSI w/5-10' flare, dead in 40 min.

Drill Pipe Recovery: Reversed out, no fluid entry visible, gas cut mud returns.

Sample Chamber Recovery: 400cc mud
(2400cc capacity) 400cc total recovery
0.534cf of gas @ 85 psi

Pressure Data:

TIME	BOTTOM RECORDER		TOP RECORDER	
	IPH	4294.9#	IPH	4219.6#
2 min.	IFP	83.2#-83.2#	IFP	61.1#-61.1#
75 min.	ISIP	3428.9#	ISIP	3380.0#
60 min.	FFP	104.0#-145.6#	FFP	61.1#-81.5#
420 min.	FSIP	3779.4#	FSIP	3760.0#
	FHP	4253.7#	FHP	4199.7#
	BHT	148 deg. F	BHT	148 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Sample Chamber	Rw 1.81	@ 68 deg.F	2,060 PPM
Top DP:	Rw 1.21	@ 68 deg.F	3,030 PPM
Mid DP:	Rw 1.48	@ 68 deg.F	2,545 PPM
Pit Mud:	Rw 2.34	@ 68 deg.F	1,636 PPM

Note: lost fluid on backside, approximately 1/4 bbl. every 15 min., mud from samples in pipe was gas cut.

DRILL STEM TEST
DST NO.8

OPERATOR: Pennzoil Company

DATE: November 26, 1987

WELL: Boren 3-11A2

INTERVAL: 8984'-9067'

LOCATION: SWSW Sec. 11, T1S, R2W
Bluebell-Altamont Field
Duchesne Co., Utah

FORMATION: Green River

MUD PROPERTIES: Mud Wt.: 9.3+; Vis.: 35; pH: 10.6; WL: 9.2; FC: 2/32

DRILL STEM TEST DATA

5 min. Initial Open: opened w/2" blow, 6" in 3 min., 7" in 5 min.

90 min. Initial Shut-in: shut in w/7", 10" in 2 min., open bypass valve

60 min. Final Open: opened w/8", 13" in bottom of bucket instantly, 18 1/2 oz. in 5 min., 1 1/4# thru 1/8" choke in 10 min., 1 1/2# in 15 min., 1 3/4# in 20 min., 2# in 30 min., 2 1/2# in 40 min., 3# in 60 min.

450 min. Final Shut-in: shut-in w/3#, opened bypass valve

Drill Pipe Recovery: 534' oil cut mud and gas reversed out

Sample Chamber Recovery: (2400cc capacity)
960cc oil
640cc mud
1600cc total recovery
0.195cf of gas @ 90 psi

Pressure Data:

TIME	BOTTOM RECORDER		TOP RECORDER	
	IPH	4379.0#	IPH	4339.1#
5 min.	IFP	39.6#-39.6#	IFP	26.7#-40.0#
90 min.	ISIP	4207.9#	ISIP	4166.3#
60 min.	FFP	132.0#-171.6#	FFP	53.4#-133.4#
450 min.	FSIP	4221.1#	FSIP	4179.6#
	FHP	4365.8#	FHP	4339.1#
	BHT	156 deg. F	BHT	156 deg. F

Rw's and Chlorides:

	RW	TEMP.	CHLORIDES
Sample Chamber	not measurable		
Top DP:	Rw 2.4 @	68 deg.F	1,515 PPM
Mid DP:	not measurable		
Pit Mud:	Rw 2.1 @	68 deg.F	1,757 PPM

GOR (cu. ft./bbl.): 33

Oil Gravity (deg. API): 13.8 @ 60 deg.F

SUMMARY OF POTENTIAL PRODUCTIVE INTERVALS RECOMMENDED FOR PERFORATION

BOREN 3-11A2

STAGE I - Wasatch Lacustrine, normal pressured & overpressured

E-Log Depth GR on DIL	Mudlog Depth	GR <60 API	RT >30 ohms	Total Gas units	Oil in Mud	Oil on Pits	Mud Wt. in/out	Sample Show	Fract	Show Report	Net Ft. Pay	Quality	Remarks
13,010-20	13,004-14	yes	yes	200-250	no	no	11.5+/11.6	no	fl		10	fair	lost 120 bbls.
13,042-47	13,036-41	yes	yes	100	no	no	11.6+/11.6+	no	ft		5	poor	
13,062-65	13,056-61	yes	yes	90	no	no	11.5+/11.5	no	fl		3	poor	lost 45 bbls.
13,114	13,117	Base of 1st Red Wedge											
13,132-38	13,128-40	yes	no	76-2600	yes	no	11.7/11.6	yes	ft	#25	6	fair	
13,173-76	13,168-71	yes	yes	2000-3000	yes	no	11.8+/11.8+	no	fl		3	poor	
13,190-201	13,190-201	yes	no	2000-4000	yes	no	11.8+/11.8+	yes	fl,ft	#26	11	good	TAP Hi 12# mud
13,257-64	13,257-64	yes	no	2000	yes	no	11.9+/11.8+	no			7	fair	
13,285-310	13,285-310	yes	no	1400-6500	yes	no	13.8/9.4	yes	fl	#27	25	good	TAP Lo 14# mud
13,330-36	13,330-36	yes	no	1500-2000	yes	no	14.3/14.3	no	fs,fl		6	fair	
13,376-80	13,376-80	yes	yes	1200-500	yes	no	14.3+/14.3	no	fs,fl		4	fair	lost circ.
13,385-98	13,385-98	yes	no	500	yes	no	14.3/14.1	no	fs,fl		13	fair	lost circ. 370 bbls
13,428-31	13,428-31	yes	yes	1800-2000	yes	no	14.4/14.3+	no			3	poor	
13,500-22	13,500-22	yes	no	1400-2700	yes	no	14.3+/14.2	yes	fs,fl	#28	22	good	
13,574-82	13,574-82	yes	yes	2300-3400	yes	no	14.3+/14.2	yes	ft,fl	#29	8	good	
13,645-50	13,645-50	yes	yes	2700	yes	no	14.4/14.3+	no	ft		5	good	
13,663-68	13,663-68	yes	yes	3000-3200	yes	no	14.3+/14.3	no	fs		5	good	
13,676-86	13,676-86	yes	yes	3000	yes	no	14.3+/14.3	no	ft,fs,fl		10	good	
13,721-23	13,721-23	yes	yes	2500-3500	yes	no	14.3/14.2+	no	ft		2	fair	
13,870-73	13,870-73	yes	yes	900-1000	yes	no	14.4/14.4	no	fs,ft,fl		3	poor	
13,904-09	13,904-09	yes	yes	1500	yes	no	14.3+/14.3	no	fs,ft		5	poor	
13,958-70	13,958-70	yes	no	900-2100	yes	no	14.4+/14.4	yes	fs,ft,fl	#30	12	good	
14,012-26	14,012-26	yes	no	1400-5500	yes	no	14.4/14.4	yes	fs	#31	14	good	
14,162-66	14,162-66	yes	no	1500-2000	yes	no	14.4/14.4	no	ft		4	poor	
14,238-64	14,238-64	yes	no	2600-4800	yes	no	14.4/14.2+	yes	ft,fs,fl	#32	26	fair	lost 5 bbls.
14,279-82	14,279-82	yes	yes	4000	yes	no	14.4/14.2	no	ft		3	fair	
14,296-300	14,296-300	yes	yes	4000	yes	no	14.4+/14.2+	no	ft		4	fair	
14,321-23	14,321-23	yes	yes	1500	yes	no	14.4/14.3+	no	ft		2	poor	
14,358-61	14,358-61	yes	yes	2000	yes	no	14.4/14.4	no			3	poor	
14,380-86	14,380-86	yes	yes	1900-4200	yes	no	14.3+/14.3+	yes	ft	#33	6	good	
14,394-402	14,394-402	yes	no	1900-4200	yes	no	14.3+/14.2+	yes		#33	8	good	
14,538-42	14,538-42	yes	yes	750-1000	yes	no	14.4+/14.4+	no			4	fair	
14,572-75	14,572-75	yes	yes	1000-2500	yes	no	14.4+/14.3+	no			3	poor	

STAGE I SUBTOTAL 245

SUMMARY OF POTENTIAL PRODUCTIVE INTERVALS RECOMMENDED FOR PERFORATION

BOREN 3-11A2

STAGE II - Wasatch, 1st Red Wedge, normal pressured

E-Log Depth GR on DLL	Mudlog Depth	GR <60 API	RT >30 ohms	Total Gas units	Oil in Mud	Oil on Pits	Mud Wt. in/out	Sample Show	Fract	Show Report	Net Ft. Pay	Quality	Remarks
11,020	11,020	Top of 1st Red Wedge - Wasatch											
11,128-40	11,128-40	yes	yes	200-450	yes	no	9.4/9.3+	no			12	fair	
11,240-44	11,240-44	yes	yes	280-300	yes	no	9.3/9.4	no			4	poor	
11,297-300	11,297-300	yes	no	220-780	yes	no	9.3+/9.4	no	fs		3	poor	
11,336-42	11,336-42	yes	yes	700-800	yes	no	9.4/9.4	no	fl	#22	6	poor	
11,426-36	11,426-36	yes	yes	800-850	yes	no	9.5/9.5	no			10	fair	
11,446-50	11,446-50	yes	yes	800	yes	no	9.5/9.5+	no			4	poor	
11,590-94	11,590-94	yes	yes	450	yes	no	9.5+/9.5	no	fl		4	poor	
11,606-20	11,606-20	yes	yes	450-700	yes	no	9.5+/9.5	no	fl		14	fair	
11,718-24	11,718-24	yes	yes	600	yes	no	9.5/9.5	no			6	poor	
11,740-44	11,740-44	yes	yes	620	yes	no	9.4+/9.4	no			4	poor	
11,810-14	11,810-14	yes	yes	520-600	yes	no	9.5/9.5	no			4	poor	
11,855-72	11,855-72	yes	yes	550-5200	yes	no	9.5/9.5	yes		#23	17	good	
11,890-900	11,890-900	yes	yes	3600	yes	no	9.7/9.4	no			10	fair	
11,908-18	11,908-18	yes	yes	3600	yes	no	10+/9.8+	no			10	fair	
11,990-98	11,990-98	yes	yes	3600-4600	yes	no	10.2/10.1+	no			8	fair	
12,000-06	12,000-06	yes	yes	3600-4600	yes	no	10.2/10.0+	no			6	fair	
12,186-94	12,186-94	yes	yes	1200-4700	yes	no	10.6/10.5	yes	fl	#24	8	good	TG 0-5'flare
12,205-12	12,205-12	yes	yes	2500-5000	yes	no	10.7+/10.5+	no	fl		7	fair	
12,228-32	12,228-32	yes	yes	7500-9500	yes	no	10.8/10.5	no	fl		4	good	
12,244-50	12,244-50	yes	yes	6000-9500	yes	no	11.0/10.6	no			6	good	
12,306-10	12,306-10	yes	yes	6000-7200	yes	no	11.2/11.1	no	fl		4	fair	
12,314-18	12,314-18	yes	yes	5000-7000	yes	no	11.3/11.2+	no	fl		4	fair	
12,332-35	12,332-35	yes	yes	4500-5500	yes	no	11.2+/11.2+	no	fl		3	fair	
12,370-76	12,370-76	yes	yes	6000-7000	yes	no	11.3/11.2+	no	fl		6	fair	0-3' flare
12,384-92	12,384-92	yes	yes	5000-7000	yes	no	11.4/11.3	no	fl		8	fair	
12,410-16	12,410-16	yes	yes	4200-7000	yes	no	11.5+/11.4+	no	fl		6	fair	
12,420-24	12,420-24	yes	yes	6500	yes	no	11.5+/11.4+	no			4	fair	
12,432-35	12,432-35	yes	yes	6000-8500	yes	no	11.4+/11.4+	no			3	fair	
12,444-48	12,444-48	yes	yes	3000	yes	no	11.4+/11.4+	no			4	fair	
12,530-34	12,530-34	yes	yes	2100-3600	yes	no	11.5/11.5	no			4	fair	
12,542-47	12,542-47	yes	yes	2800-3500	yes	no	11.5/11.5	no			5	fair	
12,600-08	12,600-08	yes	yes	2800-4000	yes	no	11.5/11.5	no			8	fair	
12,612-20	12,612-20	yes	yes	4000-4500	yes	no	11.5/11.5	no	fl		8	fair	
12,636-40	12,636-40	yes	yes	2000	yes	no	11.6+/11.5	no			4	fair	
12,654-60	12,654-60	yes	yes	1900-2200	yes	no	11.6+/11.6	no			6	fair	
12,770-82	12,770-82	yes	yes	300-650	yes	no	11.6+/11.7	no			12	fair	
12,794-800	12,794-800	yes	yes	350-500	yes	no	11.6+/11.6	no			6	fair	
12,802-06	12,802-06	yes	yes	150	yes	no	11.6/11.4+	no			4	fair	
12,824-28	12,824-28	yes	yes	300-400	yes	no	11.6+/11.7	no	fl		4	fair	
12,860-75	12,860-75	yes	yes	500-600	yes	no	11.6/11.5	no	fl		15	fair	
12,902-10	12,902-10	yes	yes	280-400	yes	no	11.7/11.6	no			8	fair	
12,923-26	12,923-26	yes	yes	100	yes	no	11.7/11.5+	no	fl		3	poor	
12,928-30	12,928-30	yes	yes	90-100	yes	no	11.7/11.5+	no	fl		2	poor	
12,944-50	12,944-50	yes	yes	100-200	yes	no	11.7/11.7	no			6	fair	
13,000	13,000	Intermediate Casing											

STAGE II SUBTOTAL 284

SUMMARY OF POTENTIAL PRODUCTIVE INTERVALS RECOMMENDED FOR PERFORATION

BOREN 3-11A2

STAGE III - Green River Lacustrine Facies, normal pressured (includes "H" & "HI")

B-Log Depth GR on DLL	Mudlog Depth	GR <60 API	RT >30 ohms	Total Gas units	Oil in Mud	Oil on Pits	Mud Wt. in/out	Sample Show	Fract	Show Report	Net Ft. Pay	Quality	Remarks
9744	9744	Top of Douglas Creek, "H"											
9758-68	9758-68	yes	yes	200-250	no	no	9.3+/9.3+	no			10	poor	
9772-82	9772-82	yes	yes	250-420	no	no	9.3+/9.3+	no	fl		10	poor	
9784-96	9784-96	yes	yes	275-380	no	no	9.3+/9.3+	no	fl		12	poor	
9877	9877	Top of "HI"											
9877-9900	9877-9900	yes	yes	200-300	no	no	9.4/9.4	no	fl		23	poor	
9906-14	9906-14	yes	yes	300-320	no	no	9.4/9.4+	no			8	poor	
9922-30	9922-30	yes	yes	200-250	no	no	9.3+/9.4	no	fl		8	poor	
9950-62	9950-62	yes	yes	150-250	no	no	9.3+/9.4	no	fl		12	poor	
10,004-14	10,004-14	yes	yes	180-450	no	no	9.3+/9.3	no	fl		10	poor	
10,034-48	10,034-48	yes	yes	300-350	no	no	9.3+/9.3+	no			14	poor	
10,074-79	10,074-79	yes	yes	300-400	no	no	9.3+/9.3+	no	fl		5	poor	
10,098-102	10,098-102	yes	yes	375-520	no	no	9.3+/9.3+	no	fl		4	poor	
10,120-26	10,120-26	yes	yes	350-390	no	no	9.3+/9.4	no	fl		6	poor	
10,128-32	10,128-32	yes	yes	350-400	no	no	9.3+/9.4	no	fl		4	poor	
10,162-76	10,162-76	yes	yes	340-1400	no	no	9.3/9.4	no	fl	#15	14	fair	
10,184-90	10,184-90	yes	yes	350-500	no	no	9.4/9.4	no	fl		6	poor	
10,192-202	10,192-202	yes	yes	320-420	no	no	9.4/9.4	no	fl		10	poor	
10,252-56	10,252-56	yes	yes	530-1520	yes	no	9.4/9.4	no		#16	4	fair	
10,290-306	10,290-306	yes	yes	600-800	yes	no	9.4/9.4	no	fl	#16	16	fair	lost 54 bbls.
10,314-30	10,314-30	yes	yes	450-800	some	no	9.3+/9.4	no	fl		16	poor	lost 33 bbls.
10,346-50	10,346-50	yes	yes	500-800	yes	no	9.3+/9.4	no			4	poor	
10,364-74	10,364-74	yes	yes	500-1000	yes	no	9.3+/9.4	no	fl		10	poor	lost 12 bbls.
10,390-410	10,390-410	yes	yes	500-2200	yes	no	9.3+/9.4	no	fl	#17	20	fair	
10,448-58	10,448-58	yes	yes	600-800	yes	no	9.4/9.3+	no	fl		10	poor	lost 15 bbls.
10,480-86	10,480-86	yes	yes	400-500	yes	no	9.4/9.4	no	fl		6	poor	
10,518-26	10,518-26	yes	yes	400-980	yes	no	9.3+/9.3+	no	fl		8	poor	
10,532-46	10,532-46	yes	yes	350-500	yes	no	9.3+/9.3+	no	fs,fl		14	poor	
10,560-82	10,560-82	yes	yes	500-825	yes	no	9.3/9.3+	no	ft,fl		22	poor	
10,590-98	10,590-98	yes	yes	250-600	yes	no	9.2+/9.3	no			8	poor	
10,667-70	10,667-70	yes	yes	325-500	yes	no	9.4/9.3+	no			3	poor	
10,672-78	10,672-78	yes	yes	250-750	yes	no	9.4/9.3+	no			6	poor	
10,742-46	10,742-46	yes	yes	450-625	yes	no	9.3+/9.3	no	fl		4	poor	
10,752-66	10,752-66	yes	yes	300	yes	no	9.3+/9.3	no	fl		14	poor	
10,770-80	10,770-80	yes	yes	280-740	yes	no	9.3/9.3	yes	fl	#18	10	fair	
10,837-42	10,837-42	yes	yes	200-550	some	no	9.3+/9.4	no	fl		5	poor	
10,848-54	10,848-54	yes	yes	220-300	some	no	9.4+/9.4	no			6	poor	
10,856-62	10,856-62	yes	yes	200-300	some	no	9.4+/9.4	no			6	poor	
10,868-70	10,868-70	yes	yes	250-650	some	no	9.4/9.3	no	fl		2	poor	
10,886-89	10,886-89	yes	yes	280-1540	some	no	9.4/9.3	yes	fl	#19	3	fair	
10,916-26	10,916-26	yes	yes	360-2200	yes	no	9.3+/9.3	yes	fl	#20	10	fair	
10,954-86	10,954-86	yes	yes	920-2600	yes	no	9.3+/9.3+	yes	fs,fl	#21	32	good	
10,990-94	10,990-94	yes	yes	700	yes	no	9.3+/9.3+	no		#21	4	poor	
10,998-004	10,998-004	yes	yes	620-1100	yes	no	9.3+/9.3+	yes		#21	6	fair	lost 47 bbls.
										STAGE III SUBTOTAL	405		

SUMMARY OF POTENTIAL PRODUCTIVE INTERVALS RECOMMENDED FOR PERFORATION

BOREN 3-11A2

STAGE IV - Upper Green River (below Trona I), normal pressured

E-Log Depth GR on DLL	Mudlog Depth	GR <60 API	RT >30 ohms	Total Gas units	Oil in Mud	Oil on Pits	Mud Wt. in/out	Sample Show	Fract	Show Report	Net Ft. Pay	Quality	Remarks
7768	7768	Top of Trona I											
7870-74	7870-74	yes	yes	250-1000	yes	no	9.0+/9.1	no	fl		4	fair	
7878-84	7878-84	yes	yes	300-950	yes	no	9.1+/9.1+	no	fl		6	fair	
7934-54	7934-54	yes	yes	360-520	yes	no	9.0+/9.1+	no			20	poor	
8016-50	8016-50	yes	yes	180-350	yes	no	9.1/9.1+	no			34	poor	
8224-30	8224-30	yes	yes	300-720	yes	no	9.3+/9.3+	no	fs,fl		6	poor	
8256-62	8256-62	yes	yes	300-680	yes	no	9.3+/9.3+	no	fl		6	poor	
8266-74	8266-74	yes	yes	380-700	yes	no	9.3+/9.3+	no	fl		8	poor	
8302-08	8302-08	yes	yes	275-600	yes	no	9.3+/9.3+	no	fl		6	poor	
8380-90	8380-90	yes	yes	260-420	yes	no	9.4/9.4	no			10	poor	
8564-72	8564-72	yes	yes	300-450	yes	no	9.3+/9.3+	no	fl		8	fair	DST #7
8588-8620	8588-8620	yes	yes	380-2400	yes	no	9.3+/9.4	yes	fl	#12	32	good	DST #7
8630-40	8630-40	yes	yes	200-500	yes	no	9.3+/9.3+	no	fl		10	fair	DST #7
8664-67	8664-67	yes	yes	100	yes	no	9.3+/9.4	no			3	poor	
8794-8808	8794-8808	yes	yes	150-800	yes	no	9.4/9.4+	yes	fl	#13	14	fair	
8832-42	8832-42	yes	yes	200-300	yes	no	9.4/9.4	no	fl		10	poor	
8882-88	8882-88	yes	yes	270-400	yes	no	9.4/9.4	no			6	poor	
8892-94	8892-94	yes	yes	100-300	yes	no	9.4/9.4	no			2	poor	
8902-10	8902-10	yes	yes	120-200	yes	no	9.4/9.4	no			8	poor	
8966-82	8966-82	yes	yes	150-300	yes	no	9.3+/9.4	no			16	poor	
9018-34	9018-34	yes	yes	120-570	yes	no	9.3+/9.3+	yes	fl	#14	16	fair	DST #8
9038-42	9038-42	yes	yes	200-260	yes	no	9.3+/9.3+	no			4	fair	DST #8
9068-94	9068-94	yes	yes	100-420	yes	no	9.3/9.3+	no	fl		26	poor	
9106-20	9106-20	yes	yes	180-250	yes	no	9.3+/9.3+	no	fl		14	poor	
9128-30	9128-30	yes	yes	180-250	yes	no	9.3+/9.3+	no			2	poor	
9134-38	9134-38	yes	yes	150-200	yes	no	9.3+/9.3+	no			4	poor	
9158-64	9158-64	yes	yes	120-330	yes	no	9.3+/9.3+	no	fl		6	poor	
9172-74	9172-74	yes	yes	90-300	yes	no	9.3/9.3	no	fl		2	poor	
9176-98	9176-98	yes	yes	100-300	yes	no	9.3/9.3	no	fl		12	poor	
9202-10	9200-08	yes	yes	120-180	some	no	9.3/9.3	no	fl		8	poor	
9232-52	9230-50	yes	yes	150-320	some	no	9.4/9.3	no	fl		20	poor	
9318-33	9318-33	yes	yes	180-550	some	no	9.3+/9.3+	no	fl		15	poor	
9346-54	9346-54	yes	yes	220-320	some	no	9.3+/9.3+	no	fl		8	poor	
9364-70	9364-70	yes	yes	180-340	some	no	9.3+/9.3+	no			6	poor	
9374-94	9374-94	yes	yes	220-480	some	no	9.3+/9.3+	no	fl		20	poor	
9400-24	9400-24	yes	yes	100-200	some	no	9.3+/9.3+	no			24	poor	
9470-88	9470-88	yes	yes	280-450	some	no	9.3+/9.3	no	fl		18	poor	
9522-30	9522-30	yes	yes	200-320	some	no	9.4/9.4	no	fl		8	poor	
9560-66	9560-66	yes	yes	150-420	no	no	9.3/9.4	no			6	poor	
9570-76	9570-76	yes	yes	100-300	no	no	9.3/9.4	no			6	poor	
9628-32	9628-32	yes	yes	200-350	no	no	9.3/9.3	no			4	poor	

STAGE IV SUBTOTAL 438

DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
				water w/gel water; POOH.
28-Oct-87	28	6567	41	TIH to circ. & work junk basket & drill 2'; POOH; TIH w/core bit #1; wash 15' to bottom; coring.
29-Oct-87	29	6588	21	Coring; POOH w/core #1 6528-6588.
30-Oct-87	30	6620	32	TIH w/bit #10 to 6528 & ream 60' of 8 3/4" core hole; drlg. #10; circ. & cond. for DST #1; TOOH & PU test tool.
31-Oct-87	31	6620	0	Couldn't get tools to bottom; DST #1 6545-6620 misrun; TIH; make short trip; wash & ream 5950-6250; circ. & cond. for DST #2; TOOH.
01-Nov-87	32	6620	0	TOOH & PU test tool; run DST #2 6553-6620; TIH.
02-Nov-87	33	6737	117	Drlg. #10; circ. & cond. for core #2; trip for core barrel @ 6713; coring w/RR core bit #1.
03-Nov-87	34	6745	8	Coring; POOH w/core #2 6713-6744; TIH w/ core bit #2 to cut core #3; coring.
04-Nov-87	35	6761	16	Coring; POOH w/ core #3 6744-6761; PU DST tools; run DST #3 6663-6761.
05-Nov-87	36	6761	0	Run DST #3; TIH w/bit #11; ream 6460-6713; CO trip gas.
06-Nov-87	37	6831	70	Ream 8 1/2" core hole to 9 7/8"; trip for bit #12; cut drill line; wash 48' to bottom; drlg. #12.
07-Nov-87	38	6970	139	Drlg. #12; circ. & cond. for DST #4; PU test tools.
08-Nov-87	39	6978	8	Run DST #4 6810-6970; TIH w/ core barrel & RR core bit #2; coring.
09-Nov-87	40	7000	22	Coring; POOH w/core #4 6970-7000; PU new BHA.
10-Nov-87	41	7085	85	Ream 8 1/2" core hole to 9 7/8"; drlg. #12; TIH w/ core barrel & RR core bit #2.
11-Nov-87	42	7126	41	Coring.
12-Nov-87	43	7135	9	Coring; POOH w/core #5 7085-7135; test BOP; PU test tools.
13-Nov-87	44	7135	0	Run DST #5 6970-7135; TIH; magnaflux drill collars.
14-Nov-87	45	7205	70	Cut drill line; TIH w/bit #13; ream 8 1/2" core hole to 9 7/8";

SUMMARY OF POTENTIAL PRODUCTIVE INTERVALS RECOMMENDED FOR PERFORATION

BOREN 3-11A2

STAGE V - Upper Green River, littoral, normal pressured

E-Log Depth GR on DLL	Mudlog Depth	GR <60 API	RT >30 ohms	Total Gas units	Oil in Mud	Oil on Pits	Mud Wt. in/out	Sample Show	Fract	Show Report	Net Ft. Pay	Quality	Remarks
6488	6488	Top of Green River											
6493-6506	6493-6506	yes	yes	2-5	no	no	8.6/8.6	no	fl		13	poor	
6510-16	6510-16	yes	yes	2-5	no	no	8.6/8.6	no	fl		6	poor	
6532-34	6532-34	yes	yes	1	no	no	8.6+/8.6+	no	fl		2	poor	
6550-98	6550-98	yes	yes	8-44	no	no	8.7/8.6	no	fs,fl	#2	48	fair	DST #2
6606-48	6606-48	yes	yes	5-620	no	no	8.7/8.7	yes	fl	#2	42	good	DST #2
6656-62	6656-62	yes	yes	5-50	no	no	8.6/8.6	no			6	fair	
6680-83	6680-83	yes	yes	90-200	no	no	8.6/8.6	no	fl		3	fair	DST #3
6706-12	6706-12	yes	yes	25-90	no	no	8.9/8.9	yes	fl		6	fair	DST #3
6716-38	6716-38	yes	yes	82-925	no	no	8.9/8.9	yes	fs,fl	#3	22	good	DST #3
6744-54	6744-54	yes	yes	5-29	no	no	9.1/9.1	yes	fl	#4	10	good	DST #3
6814-24	6814-24	yes	yes	23-100	no	no	9.1+/9.2	yes		#5	10	fair	DST #4
6850-68	6850-68	yes	yes	28-100	no	no	9.2/9.2	yes		#5	18	fair	DST #4
6896-6908	6896-6908	yes	yes	40-108	no	no	9.1+/9.2+	yes	fl	#5	12	fair	DST #4
6910-18	6910-18	yes	yes	40-80	no	no	9.1+/9.2+	yes	fl	#5	8	fair	DST #4
6928-34	6928-34	yes	yes	40-75	no	no	9.3/9.2+	yes	fl	#5	6	fair	DST #4
6936-38	6936-38	yes	yes	80-162	no	no	9.3/9.2+	yes		#5	2	fair	DST #4
6948-62	6948-62	yes	yes	80-178	no	no	9.3/9.2+	yes		#5	14	fair	DST #4
6984-98	6984-98	yes	yes	30-120	no	no	9.1/9.1	yes	fl		14	fair	DST #5
7010-26	7010-26	yes	yes	65-175	no	no	9.1/9.1	yes	fl	#6	16	fair	DST #5
7032-46	7032-46	yes	yes	65-190	no	no	9.1/9.1	yes	fl	#6	14	fair	DST #5
7056-64	7056-64	yes	yes	175-270	no	no	9.1/9.1	no		#6	8	poor	DST #5
7068-72	7068-72	yes	yes	65-270	no	no	9.1+/9.2	no		#6	4	poor	DST #5
7076-80	7076-80	yes	yes	80-100	no	no	9.1+/9.2	no		#6	4	poor	DST #5
7090-7108	7090-7108	yes	yes	70-150	no	no	9.1+/9.2	no			18	poor	DST #5
7118-28	7118-28	yes	yes	20	no	no	9.1+/9.1+	no			10	poor	DST #5
7184-7204	7184-7204	yes	yes	200-370	yes	no	9.1+/9.2	no		#7	20	poor	
7216-20	7216-20	yes	yes	240-315	yes	no	9.1+/9.2	no		#7	4	poor	
7230-44	7230-44	yes	yes	200-290	yes	no	9.1+/9.2	no		#7	14	poor	
7275-79	7275-79	yes	yes	240-410	no	no	9.1/9.1+	no		#8	4	poor	
7330-36	7330-36	yes	yes	300-500	no	no	9.1+/9.2	no			6	poor	
7352-64	7352-64	yes	yes	300-400	no	no	9.2/9.2	no			12	poor	
7388-7414	7388-7414	some	yes	340-2650	yes	no	9.2/9.0+	no	fl	#9	26	fair	DST #6
7432-36	7432-36	yes	yes	440-1720	yes	no	9.2+/9.3	no	fl	#10	4	fair	lost 9 bbl
7444-56	7444-56	yes	yes	1720-2100	yes	no	9.2/9.2+	no	fl	#10	12	fair	
7497-7500	7497-7500	yes	yes	1200-2300	yes	no	9.2/9.1	no	fl	#10	3	fair	
7510-16	7510-16	yes	yes	600-800	yes	no	9.2/9.1	no	fl		6	poor	
7640-58	7640-58	yes	yes	320-2700	yes	no	9.1+/9.1+	no	fl	#11	18	fair	
7686-91	7686-91	yes	yes	400-550	yes	no	9.2/9.1+	no			5	poor	
7694-98	7694-98	yes	yes	300-600	yes	no	9.2/9.1+	no			4	poor	
7710-16	7710-16	yes	yes	375-525	yes	no	9.1+/9.2+	no	fl		6	poor	
7728-46	7728-46	yes	yes	250-725	yes	no	9.2+/9.2+	no			18	poor	
								STAGE V SUBTOTAL			478		

DRILLING AND LOGGING SUMMARY - BOREN 3-11A2

The Boren 3-11A2 was spud on September 30, 1987 by Loffland Rig No. 60. A 26" hole was drilled with water to a depth of 1996' where 20" surface casing was set and cemented. A 9-1/2" hole was then drilled to a depth of 4560'. A water flow was encountered at a depth of 2439 feet at which point the drilling fluids were weighted up to 9.5 lbs./gal. The 9-1/2" hole was then opened up to 14-3/4" and 10-3/4" casing was set and cemented at 4560 feet. The drilling of a 9-7/8" hole with water resumed. The mud weight was increased at the first core point 6528' to facilitate coring and drill stem testing in the Upper Green River. The core point for Core #1 (6528'-6588') was determined by the occurrence of the first significant gas increase (Show #1) which helped determine the top of the Green River and subsequently the desired core point. A 60 foot oriented core was attempted, 57.5 feet were recovered and the CUHR Hycalog diamond core bit was recovered in good condition. The Sperry Sun orientation tool malfunctioned. Drill Stem Test No. 1 (6545'-6620') was run after the 8-1/2" core hole was reamed to a 9-7/8" full gauge hole and drilled to a depth of 6620 feet. DST No. 1 was misrun because the tools could not get to bottom due to tight hole. The hole was cleaned out, circulated and conditioned before attempting to run Drill Stem Test No. 2 (6553'-6620'). DST No. 2 was a successful test and recovered gas at an estimated rate of 319 MCF/day. The second core point was selected at 6713 feet. The CUHR Hycalog bit used to cut Core #1 was rerun to cut Core #2 (6713'-6744'). A 60 foot oriented core was attempted, 30.9 feet were cut before the bit was pulled due to a drastic drop in penetration rate; 28 feet were recovered and the Sperry Sun orientation tool malfunctioned again. Core #2 was immediately followed by Core #3 (6744'-6761') which was cut using a new CUHR Hycalog diamond bit. 17 feet were cored and 17.1 feet were recovered (1.9' of which was actually cut in Core #2 but recovered with Core #3). The bit was recovered in good condition but the Sperry Sun orientation tool failed for the third time. Drill Stem Test No. 3 (6663'-6761') was run immediately after Core #3 was cut. DST #3 was a successful test and recovered gas at an estimated rate of 170 MCF/day. The 8-1/2" core hole was then reamed to 9-7/8" full gauge hole and drilled to a depth of 6970 feet, at which point Drill Stem Test No. 4 (6810'-6970') was run. DST #4 was also a successful test recovering 120 feet of oil cut mud. Core #4 (6970'-7000') was then cut using the CUHR Hycalog bit used to cut Core #3. A 60 foot oriented core was attempted but the core barrel jammed after attempting to make a connection at 7000 feet, 30 feet were cored and 29 feet were recovered. The bit was recovered in good condition but the orientation attempt by Eastman-Christensen failed. The 8-1/2" core hole was reamed to 9-7/8" full gauge hole and then drilled to the next core point at 7085 feet. The last cored interval Core #5 (7085'-7135') was cut with the CUHR Hycalog bit used to cut Core #3 and Core #4. A 60 foot oriented core was attempted, 50 feet were cored and 50

feet were recovered. The bit was worn out and the second attempt by Eastman-Christensen to orient the core also failed. Drill Stem Test No. 5 (6970'-7135') was run immediately after Core #5 was cut. DST #5 was a successful test and recovered 53 feet of slightly mud cut oil and 375 feet of oil. The 8-1/2" core hole was reamed to 9-7/8" full gauge hole and continued drilling to a depth of 7405 feet where Drill Stem Test No. 6 (7367'-7405') was run. DST #6 was a successful test recovering 144.5 feet of oil. Drilling of 9-7/8" hole then continued to a depth of 8634 feet where Drill Stem Test No. 7 (8560'-8634') was executed. DST #7 was a successful test reversing out gas cut mud (there was GTS 15 minutes into FSI with 5'-10' flare). Drilling was then continued to a depth of 9067 feet where the final Drill Stem Test No. 8 (8984'-9067') was run. DST #8 was successful test reversing out 534 feet of oil cut mud and gas. The drilling of the 9-7/8" hole was continued; a depth of 12,000 feet was reached at 10:45 P.M. MST on December 16, 1987 at which point the rig contractor converted from a footage contract to a daily rate basis. 7-5/8" casing was set and cemented at a depth of 13,000 feet, approximately 100 feet above the base of the 1st Red Wedge (13,114').

Schlumberger logged the open hole before immediate casing was set. The Dual Laterolog-Micro SFL was the first log run followed by the Litho-Density/Compensated Neutron. A total borehole volume of 8280 cubic feet was calculated from the DLL and a total borehole volume of 8320 cubic feet was calculated from the FDC/CNL. A trip to circulate and condition the hole was made before running the Borehole Compensated Sonic and Full Waveforms. The Repeat Formation Tester was run following the sonic tool. 42 pressure tests were executed with the RFT tool which all indicated very tight to no matrix porosity. Another trip to circulate and condition the hole was completed before making the final logging passes. The Borehole Televiewer was run next followed by the Formation Micro-Scanner. The BHTV and FMS were being run promotionally for Pennzoil by Schlumberger. The electric logging of the intermediate hole was completed successfully and trouble-free.

The remainder of the hole was drilled with 6-3/4" diamond bits. The top of the overpressured interval (TAP HI) was encountered at 13,190 feet, just below the base of the 1st Red Wedge of the Wasatch. TAP LO was encountered 100 feet lower at 13,290 feet. A 27 barrel pit gain was noted at this point and the gas increased from a background of 1400 units to 6500 units (Show #27). The well was shut-in and gas and yellow-brown oil was circulated out through the choke and the gas buster creating a 10'-20' flare. A trip for a new bit was necessary at 13,315 feet and the well began to flow again while tripping out and magnafluxing the drill collars. It was necessary to shut-in the well and strip in the hole so the mud weight could be raised to 14.4 lbs./gal. At 13,385 feet total circulation was lost and the well began to flow again. The well was shut-in and gas and yellow-brown oil was circulated out through the choke and the

gas buster once again. Lost circulation zones were battled to approximately 13,700 feet. The Boren 3-11A2 reached a total drilling depth of 14,600 feet with a mud weight of 14.5 lbs./gal.

Schlumberger returned to log the lower portion of the hole when a depth of 14,600 feet was reached. The Dual Induction-SFL was run first followed by the Compensated Neutron-Litho Density Log. An annular hole volume of 145 cubic feet and total borehole volume of 406 cubic feet were calculated from the FDC/CNL. Upon inspection of the logs it was determined that extra rathole would be needed for completion purposes so an additional 25 feet of hole was drilled after tripping in the hole to circulate and condition for the next log runs. The Borehole Televiewer and the Borehole Compensated Sonic with Fullwave Forms were then run. The loggers T.D. was 14,628 feet and the final total depth of the Boren 3-11A2 was 14,625 feet. The total borehole volume calculated from the sonic log was 445 cubic feet. The electric logging by Schlumberger was completed successfully. 5-1/2" production casing was set and cemented at a depth of 14,622 feet and the well is currently being completed.

DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
30-Sep-87		132		Spud 9:00 PM MST 9-30-87.
01-Oct-87	1	258	126	Drlg. 26" hole w/bit #1.
02-Oct-87	2	748	490	Drlg. #1.
03-Oct-87	3	1076	328	Drlg. #1.
04-Oct-87	4	1181	105	Trip for bit #2; wash 70' to bottom; drlg. #2; trip for bit #3.
05-Oct-87	5	1482	301	TIH; wash 65' to bottom; drlg. #3; trip for bit #4; ream 840-940; finish TIH; drlg. #4.
06-Oct-87	6	1787	305	Drlg. #4.
07-Oct-87	7	1935	148	Drlg. #4.
08-Oct-87	8	1996	61	Drlg. #4; trip for bit #5; wash 80' to bottom; drlg. #5; POOH; RU to run 20" csg.
09-Oct-87	9	1996	0	Set & cement 20" csg. @ 1996.
10-Oct-87	10	1996	0	WOC; install 20" BOP & Hydril.
11-Oct-87	11	2036	40	Test BOP & Hydril; test csg.; drlg. 14 3/4" hole w/bit #6; test csg. seat; drlg. #6.
12-Oct-87	12	2170	134	Drlg. #6; trip for bit #7; inspect BHA; wash 30' to bottom; drlg. 9 1/2" hole w/ bit #7.
13-Oct-87	13	2875	705	Drlg. #7; SI to raise mud wt. to control water flow @ 2391; drlg. #7.
14-Oct-87	14	3644	769	Drlg. #7.
15-Oct-87	15	4290	646	Drlg. #7.
16-Oct-87	16	4560	270	Drlg. #7; trip for bit #8.
17-Oct-87	17	4560	0	Ream 9 1/2" hole to 14 3/4" w/bit #8.
18-Oct-87	18	4560	0	Reaming w/bit #8.
19-Oct-87	19	4560	0	Reaming w/bit #8.
20-Oct-87	20	4560	0	Reaming w/bit #8.
21-Oct-87	21	4560	0	Reaming w/bit #8; POOH; RU to run 10 3/4" csg.
22-Oct-87	22	4560	0	Set & cement 10 3/4" csg. @ 4560.
23-Oct-87	23	4560	0	Install 13 5/8" BOP & Hydril; test BOP & Hydril.
24-Oct-87	24	4915	355	TIH w/bit #9; test csg.; drlg. 9 7/8" hole w/bit #9; test csg. seat; drlg. #9.
25-Oct-87	25	5514	599	Drlg. #9; TOOH for washout; drlg. #9.
26-Oct-87	26	6258	744	Drlg. #9.
27-Oct-87	27	6526	268	Drlg. #9 and circ. samples to locate core point; displace

DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
				drlg. #13.
15-Nov-87	46	7405	200	Drlg. #13; CO samples for DST; PU test tools & TIH.
16-Nov-87	47	7405	0	Run DST #6 7375-7405; TIH w/ RR bit #13; CO trip gas.
17-Nov-87	48	7804	399	Drlg. #13 & CO samples.
18-Nov-87	49	7863	59	Drlg. #13; trip for bit #14; Ream 7800-7852; stuck pipe @ 7852 while reaming; work stuck pipe @ 7852.
19-Nov-87	50	8037	174	Trip for bit #15; wash 125' to bottom; drlg. #15.
20-Nov-87	51	8064	27	Drlg. #15; trip for bit #16; well started flowing; TIH & raise mud wt. to 9.3+; finish trip for bit #16.
21-Nov-87	52	8395	331	TIH; wash 60' to bottom; drlg. #16; CO samples; drlg. #16.
22-Nov-87	53	8550	155	Drlg. #16 & circ. samples; trip for bit #17.
23-Nov-87	54	8634	84	TIH; wash 60' to bottom; drlg. #17 & circ. samples; circ. for DST #7; PU test tools.
24-Nov-87	55	8640	6	Run DST #7 8560-8634; TIH w/bit #18; drlg. #18.
25-Nov-87	56	8936	296	Drlg. #18.
26-Nov-87	57	9067	131	Drlg. #18 & circ. samples; PU test tools for DST #8.
27-Nov-87	58	9067	0	Run DST #8 8984-9067; TOOH w/DST #8; test BOP.
28-Nov-87	59	9271	204	TIH w/bit #19; wash & ream 8967-9067; drlg. #19.
29-Nov-87	60	9512	241	Drlg. #19; POOH for washout.
30-Nov-87	61	9567	55	TIH w/bit #20; wash 30' to bottom; drlg. #20; POOH for washout; inspect BHA.
01-Dec-87	62	9685	118	Magnafluxing; TIH w/bit #20; wash 70' to bottom; drlg. #20.
02-Dec-87	63	9834	149	Drlg. #20; POOH for washout; TIH w/bit #21.
03-Dec-87	64	9972	138	Wash 30' to bottom; drlg. #21; POOH for washout; TIH w/bit #21; drlg. #21.
04-Dec-87	65	10250	278	Drlg. #21.
05-Dec-87	66	10502	252	Drlg. #21; trip for bit #22; lost 350 bbls. mud 10,300-10,502.
06-Dec-87	67	10762	260	Wash & ream 60' to bottom; Drlg. #22; lost 300 bbls. mud when drlg. fractures.

DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

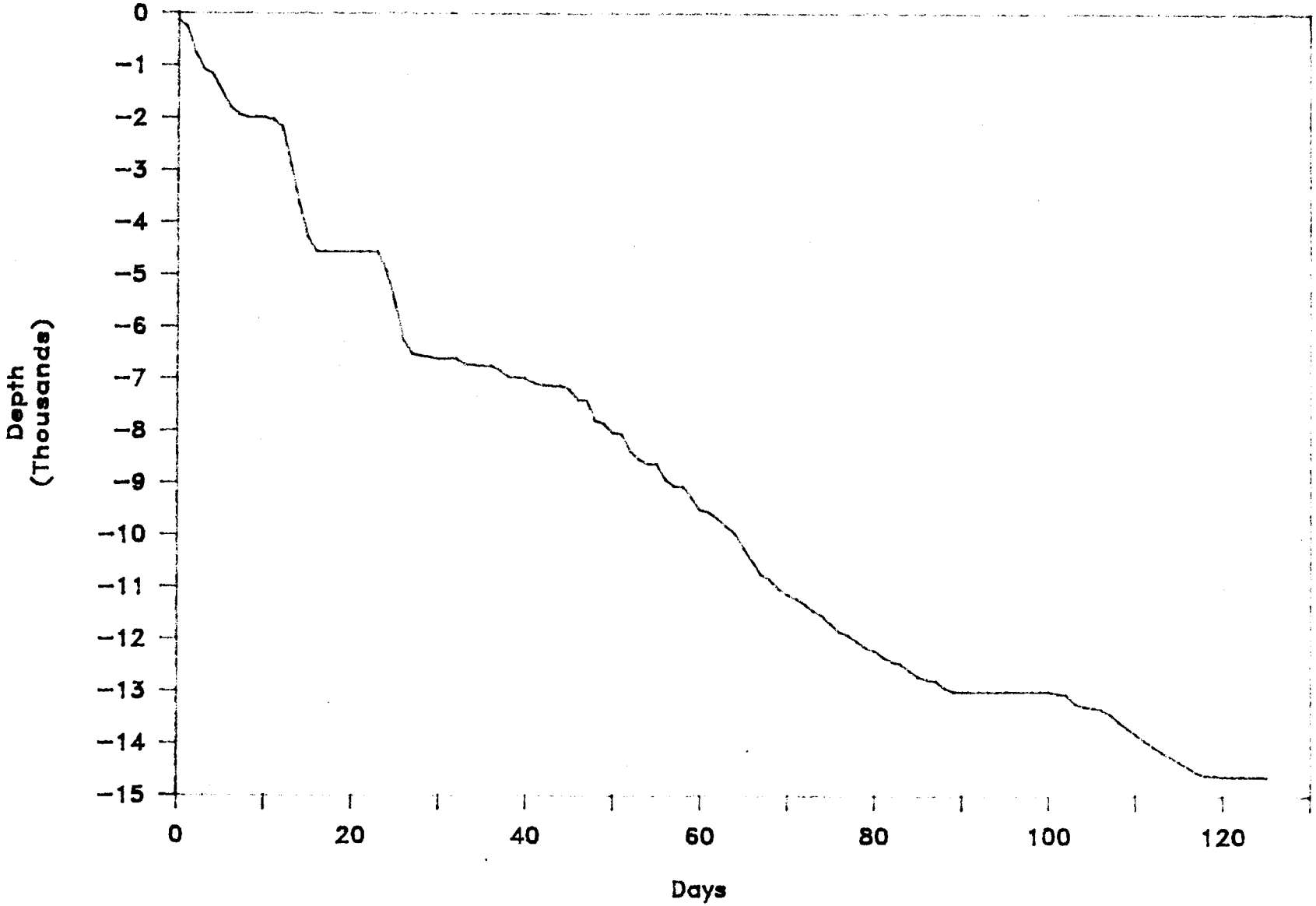
DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
07-Dec-87	68	10855	93	Drlg. #22; trip for bit #23; replace junk sub; drlg. #23; lost 100 bbls. mud on trip.
08-Dec-87	69	11029	174	Drlg. #23; lost 75 bbls. mud 10,950-11,000;trip for bit #24.
09-Dec-87	70	11148	119	TIH; wash & ream 60' to bottom; drlg. #24.
10-Dec-87	71	11222	74	Drlg. #24; POOH for washout; test BOP.
11-Dec-87	72	11324	102	TIH w/bit #25; ream 75' to bottom; drlg. #25.
12-Dec-87	73	11463	139	Drlg. #25.
13-Dec-87	74	11548	85	Drlg. #25; POOH for washout.
14-Dec-87	75	11706	158	TIH w/bit #26; ream 75' to bottom; drlg. #26.
15-Dec-87	76	11855	149	Drlg. #26.
16-Dec-87	77	11925	70	Drlg. #26; trip for bit #27.
17-Dec-87	78	12040	115	TIH; wash & ream 75' to bottom; drlg. #27; lost 125 bbls. mud on trip & 25 bbls. while drlg.; reached 12,000' @ 10:45 PM MST 12-16-87.
18-Dec-87	79	12160	120	Drlg. #27; lost 100 bbls. mud due to seepage.
19-Dec-87	80	12220	60	Drlg. #27; trip for bit #28; cut drill line; drlg. #28.
20-Dec-87	81	12333	113	Drlg. #28; lost partial returns.
21-Dec-87	82	12433	100	Drlg. #28; lost 200 bbls. mud due to seepage & fractures.
22-Dec-87	83	12476	43	Drlg. #28; trip for bit #29; cut drill line; lost 58 bbls. mud on trip; drlg. #29.
23-Dec-87	84	12602	126	Drlg. #29.
24-Dec-87	85	12716	114	Drlg. #29; lost 80 bbls. mud.
25-Dec-87	86	12766	50	Drlg. #29; trip for bit #30; inspect BHA; test BOP.
26-Dec-87	87	12796	30	TIH w/bit #30; wash 45' to bottom; lost 85 bbls. mud on trip; drlg. #30.
27-Dec-87	88	12929	133	Drlg. #30; lost 85 bbls. 12,796 -12,850; lost partial returns @ 12,926 (135 bbls.).
28-Dec-87	89	13000	71	Drlg. #30; lost 50 bbls. mud 12,930-960 & 35 bbls. @ 12,985; circ. & cond. for logs.
29-Dec-87	90	13000	0	Circ. & cond. for logs while WO Schlumberger; POOH to log; run DLL & FDC/CNL.
30-Dec-87	91	13000	0	Finish running FDC/CNL; TIH to circ. & cond.; POOH to log.

DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
31-Dec-87	92	13000	0	Run sonic log; LD lubricator & run RFT; ran 42 pressure tests.
01-Jan-88	93	13000	0	TIH to circ. & cond. mud; wash & ream 50' to bottom; short trip; lost 35 bbls. mud on trip & 40 bbls. on short trip.
02-Jan-88	94	13000	0	Circ. & cond.; POOH to log; run BHTV & FMS (dipmeter).
03-Jan-88	95	13000	0	RD Schlumberger; TIH to circ. & cond. for csg.; lost 60 bbls. mud on trip.
04-Jan-88	96	13000	0	TOOH; RU to run csg.
05-Jan-88	97	13000	0	Ran 329 jts. 7 5/8" csg.; Set & cemented @ 13,000'; lost 100 bbls. mud while cementing.
06-Jan-88	98	13000	0	Cement 2nd stage; install BOP & hydril; test BOP & hydril; change out kelly.
07-Jan-88	99	13000	0	Clean mud tank; PU 3 1/2" DP; test csg.; drill on DV tool.
08-Jan-88	100	13004	4	Drill DV tool & test csg.; drill cement; drlg. w/bit #31.
09-Jan-88	101	13045	41	Drlg. #31; lost partial returns @ 13,010 (80 bbls.); spot LCM pill; test csg. seat; drlg. #31.
10-Jan-88	102	13063	18	Drlg. #31; trip for bit #32; ream 40' to bottom; drlg. #32.
11-Jan-88	103	13220	157	Drlg. #32.
12-Jan-88	104	13289	69	Drlg. #32; took 27 bbl. pit gain @ 13,285; SI & build mud wt. to 13.8#; drlg. #32; took 15 bbl. pit gain; SI & build mud wt. to 14.1#; circ. on choke.
13-Jan-88	105	13315	26	Drlg. #32; trip for bit #33; well started flowing while TOOH; TIH; SI & build mud wt. to 14.3#; circ. on choke.
14-Jan-88	106	13342	27	Drlg. #32; circ. bottoms up; trip for bit #33; magnaflux BHA; wash & ream 60' to bottom; Drlg. #33.
15-Jan-88	107	13436	94	Drlg. #33; lost complete returns @ 13,385; pump LCM pill; circ. on choke; drlg. #33 & continue to lose mud; lost 570 bbls. mud in last 24 hours.
16-Jan-88	108	13574	138	Drlg. #33; lost 210 bbls. mud in last 24 hours.
17-Jan-88	109	13696	122	Drlg. #33; lost 190 bbls. mud in last 24 hours.

BOREN 3-11A2

DEPTH VS DAYS



DAILY LOG OF OPERATIONS FOR BOREN 3-11A2
(6:00 AM depths)

DATE	DAY	DEPTH	FOOTAGE	OPERATIONS
18-Jan-88	110	13820	124	Drlg. #33; no mud lost in last 24 hours.
19-Jan-88	111	13940	120	Drlg. #33.
20-Jan-88	112	14048	108	Drlg. #33.
21-Jan-88	113	14156	108	Drlg. #33.
22-Jan-88	114	14248	92	Drlg. #33.
23-Jan-88	115	14344	96	Drlg. #33.
24-Jan-88	116	14441	97	Drlg. #33.
25-Jan-88	117	14541	100	Drlg. #33.
26-Jan-88	118	14600	59	Drlg. #33; circ. & cond. for logs; strap out of hole to log.
27-Jan-88	119	14600	0	RU Schlumberger; run DIL & FDC/CNL; test BOP; inspect BHA; TIH to circ. & cond. for logs.
28-Jan-88	120	14625	25	TIH; drlg. w/RR bit #31 (25' rathole); circ. & cond. mud.
29-Jan-88	121	14625	0	Circ. & cond.; POOH for logs; run BHTV & sonic logs; TIH.
30-Jan-88	122	14625	0	Circ. & cond. for csg.; POOH & RU to run csg.
31-Jan-88	123	14625	0	Run 47 jts. of 5 1/2" liner; set & cement 5 1/2" liner @ 14,622.
01-Feb-88	124	14625	0	TIH w/ 7 5/8" csg. scraper; drill cement; top of liner @ 12,748.
02-Feb-88	125	14625	0	Drill cement; circ. & cond.; POOH; TIH w/mill & 5 1/2" csg. scraper to top of liner; drill through liner hanger; prepare to run CBL.

Geologist released 1-29-88.
Mudloggers released 1-30-88.

BIT RECORD FOR BOREN 3-11A2

BIT NO.	SIZE	MAKE	TYPE	NOZZLES	SERIAL NO.	DEPTH OUT	FEET	HRS.	FT/HR	ACC. HRS.	WOB 1000#	RPM	PUMP PRESS	SPM #1	SPM #2	MUD WT.	VIS.
1	26	SMITH	DSJ	18 18 18	RR	1,076	944	52.5	18.0	52.5	65	65	1650	112	111	8.4	26
2	26	SEC	S3SJ	18 18 18	RR	1,181	105	7	15.0	59.5	50	60	1650	112	111	8.4	26
3	26	SEC	S3SJ	18 18 18	RR	1,347	166	13	12.8	72.5	50	55	1650	112	110	8.4	26
4	26	HTC	OSC3A	18 18 18	RR	1,937	590	54	10.9	126.5	50	60	1650	112	110	8.6	26
5	26	HTC	OSC3A	18 18 18	RR	1,996	59	5.5	10.7	132	50	60	1650	112	110	8.6	26
6	14.75	SMITH	DT	15 15 15	RR	2,115	119	4.5	26.4	136.5	50	60	1800	105		8.4	26
7	9.5	HTC	ATJ-22	13 14 0	NR302	4,560	2445	67.5	36.2	204	65	70	2190	110		9.2	35
8	14.75	SMITH	F2	15 15 15	RR	OPEN 9 1/2" HOLE TO 14 3/4"											
9	9.875	HTC	ATJ-33	12 12 0	NS971	6,526	1966	60	32.8	264	70	70	2500	105		8.7	27
C1	8.5	HYC	CUHR	0.45	30362	6,588	62	30.5	2.0	294.5	22	62	880	92		8.7	44
10	9.875	HTC	ATJ-44C	13 13 0	NH685	6,620	32	4.5	7.1	299	75	70	2240	110		8.7	44
11	9.875	HTC	ATJ-44C	13 13 0	RR#10	6,620	wash & ream; circ. & cond.										
12	9.875	HTC	ATJ-44C	13 13 0	RR#11	6,713	93	5	18.6	304	75	75	2150	109		8.8	40
C2	8.5	HYC	CUHR	0.45	RR#C1	6,743	30	18	1.7	322	24	60	1200	95		8.8	36
C3	8.5	HYC	CUHR	0.45	30898	6,761	18	10	1.8	332	22	60	910	91		9.1	38
13	9.875	HTC	ATJ-44C	13 13 0	RR#12	6,970	209	17	12.3	349	55	75	2250	108		9.2	37
C4	8.5	HYC	CUHR	0.45	RR#C3	7,000	30	19.5	1.5	368.5	23	55	975	90		9.1	33
14	9.875	HTC	ATJ-44C	13 13 0	RR#13	7,085	85	4.5	18.9	373	75	75	2400	110		9.1	39
C5	8.5	HYC	CUHR	0.45	RR#C1	7,135	50	28.5	1.8	401.5	22	50	950	90		9.1	33
15	9.875	HTC	ATJ-44C	13 13 0	RR#14	7,405	270	16.5	16.4	418	75	75	2300	103		9.1	36
16	9.875	HTC	ATJ-44C	13 13 0	RR#15	7,863	458	30	15.3	448	75	75	2300	103		9.2	33
17	9.875	HTC	ATJ-44C	13 13 0	NH686	reaming; stuck pipe @ 7852'											
18	9.875	HTC	ATJ-44C	13 13 0	NH858	8,064	201	16.5	12.2	464.5	70	75	2250	109		9.1	33
19	9.875	HTC	ATJ-55R	13 13 0	NM214	8,550	486	31	15.7	495.5	75	75	2300	109		9.3	33
20	9.875	HTC	ATJ-55R	13 13 0	NM211	8,634	84	5	16.8	500.5	75	75	2350	109		9.3	34
21	9.875	HTC	ATJ-55R	0 13 13	MJ696	9,067	433	35.5	12.2	536	60	75	2300	108		9.3	35
22	9.875	HTC	ATJ-55R	0 13 13	MJ561	9,512	445	39.5	11.3	575.5	75	60	2250	107		9.3	34
23	9.875	HTC	ATJ-55R	0 13 13	JF584	9,834	322	26	12.4	601.5	60	60	2350	103		9.3	35
24	9.875	HTC	ATJ-55R	0 13 13	M637	10,502	668	54	12.4	655.5	65	60	2350	102		9.3	32
25	9.875	HTC	ATJ-55R	13 13 0	MJ501	10,829	327	28	11.7	683.5	65	60	2350		104	9.3	33
26	9.875	SMITH	F5	13 13 0	FC8341	11,024	195	22.5	8.7	706	65	65	2350		104	9.3	34
27	9.875	SMITH	F5	13 13 0	FC8071	11,222	198	27.5	7.2	733.5	60	65	2300	105		9.3	38
28	9.875	SMITH	F5	13 13 0	EW8902	11,548	326	58	5.6	791.5	60	60	2400	105		9.5	36
29	9.875	HTC	ATJ-44C	13 13 0	NH738	11,925	377	54	7.0	845.5	65	60	2350		103	9.4	35
30	9.875	SMITH	F5	13 13 0	BL9974	12,180	255	48.5	5.3	894	55	55	2350		99	10.6	36
31	9.875	SMITH	F5	13 13 0	EK8463	12,455	275	61	4.5	955	55	55	2375	94		11.4	39
32	9.875	SMITH	F5	13 13 0	FC8334	12,766	311	62.5	5.0	1017.5	55	55	2315	94		11.6	38
33	9.875	SEC	M89F	13 13 0	162746	13,000	234	44	5.3	1061.5	55	55	2570	90		11.7	39
34	6.75	HTC	J55	16 16 16	AX480	13,062	62	32.5	1.9	1094	25	45	2600	95		11.6	41
35	6.75	SMITH	DM620	0.30	JQ6140	13,329	267	49	5.4	1143	30	96	3000	87		14.3	40
36	6.75	CHRIS	DP	0.35	114226	14,600	1271	268	4.7	1411	28	100	2960	85		14.5	40

MUD RECORD FOR BOREN 3-11A2

DATE	DEPTH	MUD WEIGHT	VIS.	WATER LOSS	PV	YP	GELS	SOLIDS	OIL/ WATER	pH	Cl	Ca	DAILY COST	CUMULATIVE COST
30-Sep-87	132													
01-Oct-87	258	8.5	29	n/c	4	2	0/1	4.2	0/95.8	10.5	150	20	$628	$628
02-Oct-87	748	8.6	26	n/c	n/c	n/c	n/c	n/c	n/c	7	200	20	$242	$870
03-Oct-87	1,076	8.5	26	n/c	n/c	n/c	n/c	n/c	n/c	7.2	200	20	$198	$1,068
04-Oct-87	1,181	8.4	26	n/c	n/c	n/c	n/c	n/c	n/c	7.4	220	32	$183	$1,251
05-Oct-87	1,482	8.4	26	n/c	n/c	n/c	n/c	n/c	n/c	7.4	230	24	$176	$1,427
06-Oct-87	1,787	8.5	26	n/c	n/c	n/c	n/c	n/c	n/c	7.2	200	32	$86	$1,513
07-Oct-87	1,935	8.5	26	n/c	n/c	n/c	n/c	n/c	n/c	9	400	20	$315	$1,828
08-Oct-87	1,996	8.6	46	n/c	8	10	5/12	2	0/98.0	10.5	310	60	$318	$2,146
09-Oct-87	1,996	8.6	31	n/c	3	4	3/4	3	0/97.0	11.5	380	16	$550	$2,696
10-Oct-87	1,996	8.7	32	n/c	3	5	3/4	3	0/97.0	11.5	370	20	$1,109	$3,805
11-Oct-87	2,036	8.6	32	n/c	5	13	9/4	2	0/98.0	12.5	650	220	$23	$3,828
12-Oct-87	2,170	8.4	26	n/c	n/c	n/c	n/c	n/c	n/c	11	600	200	$894	$4,722
13-Oct-87	2,875	9.5	42	12.4	15	11	4/15	8	1/91.0	11.2	700	20	$2,430	$7,152
14-Oct-87	3,644	9	33	26	8	3	1/3	5	0/95.0	9.6	1900	32	$424	$7,576
15-Oct-87	4,290	9.4	36	30.8	9	6	8/15	8	tr/92.0	8.6	2050	120	$83	$7,659
16-Oct-87	4,560	9.5	35	28	9	5	7/18	8.5	tr/91.5	8.8	2100	100	$75	$7,734
17-Oct-87	4,560	9.1	30	20.4	3	5	1/5	5.3	0/94.7	9.5	1800	20	$365	$8,099
18-Oct-87	4,560	9.2	32	16	6	6	1/6	5.3	0/94.7	9	2300	40	$1,113	$9,212
19-Oct-87	4,560	9.2	33	15.2	5	6	2/7	5.6	0/94.4	9	2350	20	$597	$9,809
20-Oct-87	4,560	9.2	34	16.2	7	7	3/16	5.3	0/94.7	9	2400	80	$822	$10,631
21-Oct-87	4,560	9.5	33	16	7	6	2/13	8	0/92.0	9.8	2500	120	$606	$11,237
22-Oct-87	4,560	8.4	26	n/c	n/c	n/c	n/c	n/c	n/c	12	900	20	$581	$11,818
23-Oct-87	4,560		No Report											
24-Oct-87	4,915		No Report											
25-Oct-87	5,514	8.7	27	n/c	n/c	n/c	n/c	n/c	n/c	11.8	850	180	$1,918	$13,736
26-Oct-87	6,258	8.5	26	n/c	n/c	n/c	n/c	n/c	n/c	11.6	770	200	$1,930	$15,666
27-Oct-87	6,528	8.6	40	12.4	12	6	5/8	2.5	0/97.5	11.9	830	24	$523	$16,189
28-Oct-87	6,567	8.6	38	13.2	10	16	8/16	2.5	0/97.5	11.2	800	12	$327	$16,516
29-Oct-87	6,588	8.7	37	11.2	12	11	4/11	2.7	0/97.3	9.8	800	20	$215	$16,731
30-Oct-87	6,620	8.7	38	12.8	11	14	5/15	2.7	0/97.3	9.6	750	16	$76	$16,807
31-Oct-87	6,620	8.8	40	8.8	13	11	5/18	3.4	0/96.6	9.4	730	28	$1,076	$17,883
01-Nov-87	6,620	8.8	38	8	16	10	2/5	3.4	0/96.6	9	750	41	$561	$18,444
02-Nov-87	6,737	8.9	38	8.8	16	9	4/14	4.5	0/95.5	10.2	780	80	$675	$19,119
03-Nov-87	6,745	9.1	38	8	20	11	3/5	5.5	0/94.5	8.6	730	44	$9,890	$29,009
04-Nov-87	6,761	9.1	38	8.4	16	10	4/8	5.5	0/94.5	10	700	68	$179	$29,188
05-Nov-87	6,761	9.1	37	8.8	15	9	3/8	5.8	0/94.2	9.9	710	60	$133	$29,321
06-Nov-87	6,831	9.2	38	8.4	18	10	2/20	6.5	0/93.5	10.9	780	40	$434	$29,755
07-Nov-87	6,970	9.2	38	8.8	15	10	4/13	6.3	0/93.7	10.6	710	60	$152	$29,907
08-Nov-87	6,978	9.1	36	8	13	7	2/11	5.6	0/94.4	10.5	750	60	$147	$30,054
09-Nov-87	7,000	9.1	34	8	11	5	2/8	5	tr/95.0	10.5	720	60	$284	$30,338
10-Nov-87	7,085	9.1	37	8.4	14	11	2/17	5.6	tr/94.4	10.6	710	60	$172	$30,510
11-Nov-87	7,126	9.1	34	8.8	10	7	3/15	6	tr/94.0	10.6	700	56	$1,149	$31,659
12-Nov-87	7,135	9.1	35	8.4	12	8	3/12	6	tr/94.0	10.4	700	80	$256	$31,915
13-Nov-87	7,135	9.1	37	8.6	12	9	4/13	6	tr/94.0	10.4	700	80	$76	$31,991
14-Nov-87	7,205	9.1	38	8.8	12	11	3/11	6	tr/94.0	10.8	750	60	$116	$32,107
15-Nov-87	7,405	9.2	38	8.8	12	9	2/13	6.4	tr/93.6	10.8	800	60	$203	$32,310
16-Nov-87	7,405	9.2	36	8.8	13	7	2/11	6.4	tr/93.6	10.4	750	60	$0	$32,310
17-Nov-87	7,804	9.2	35	10	12	8	2/10	6.5	tr/93.5	10.2	750	60	$536	$32,846
18-Nov-87	7,863	9.2	37	8	13	9	3/12	6.3	tr/93.7	10	750	80	$531	$33,377

MUD RECORD FOR BOREN 3-11A2

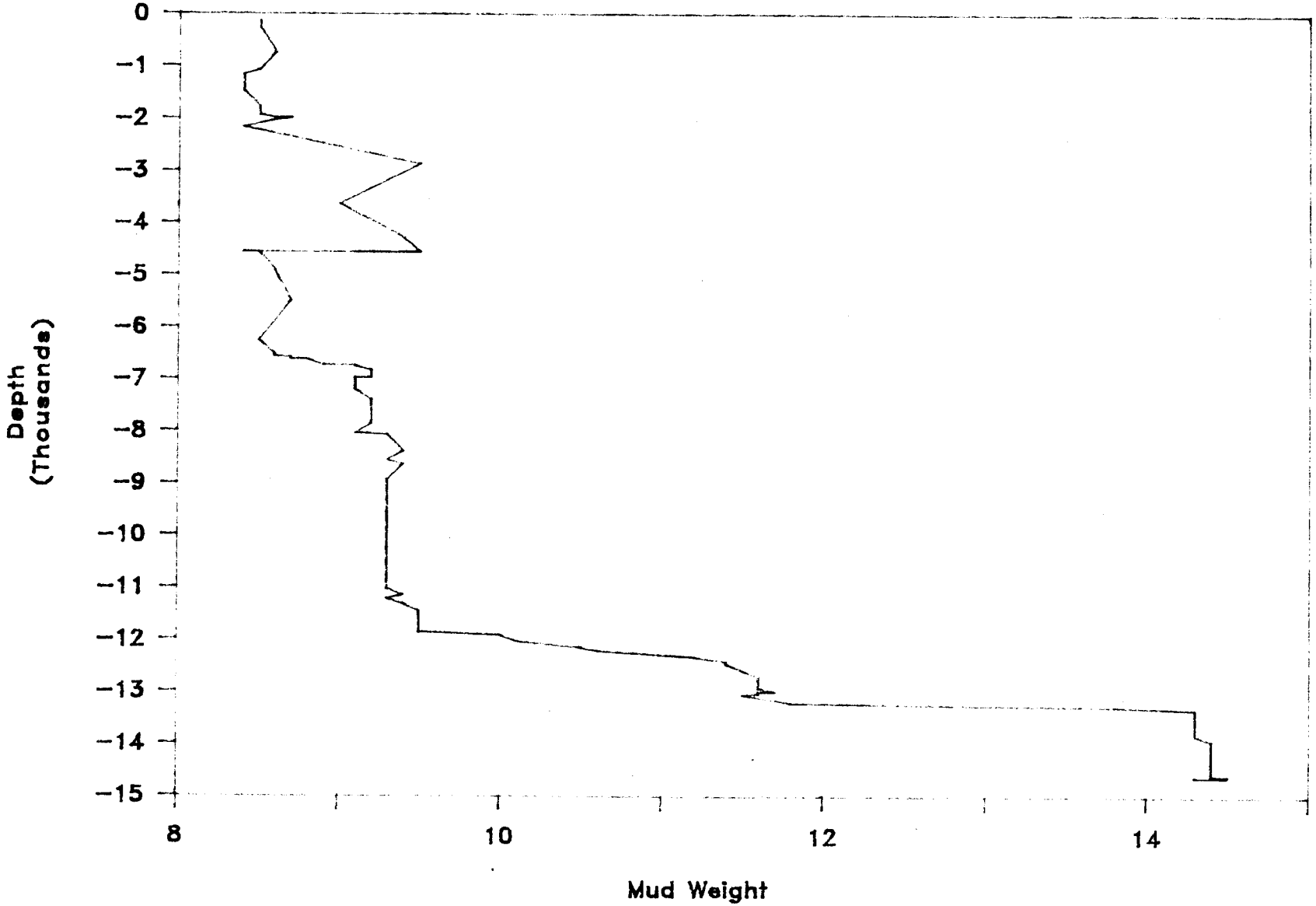
DATE	DEPTH	MUD WEIGHT	VIS.	WATER LOSS	PV	YP	GELS	SOLIDS	OIL/ WATER	pH	Cl	Ca	DAILY COST	CUMULATIVE COST
19-Nov-87	8,037	9.1	34	10.4	9	6	3/11	5.6	tr/94.4	10.2	750	80	$111	$33,488
20-Nov-87	8,064	9.3	35	10.4	11	6	1/9	5	1/94.0	10	720	100	$844	$34,332
21-Nov-87	8,395	9.4	38	8.8	12	6	2/6	6	1/93.0	9.5	750	100	$3,472	$37,804
22-Nov-87	8,550	9.3	36	9.2	11	5	1/6	5	1/94.0	9.4	790	100	$876	$38,680
23-Nov-87	8,634	9.4	39	8.4	18	10	2/12	5.5	1/93.5	9.8	750	100	$381	$39,061
24-Nov-87	8,640	9.4	39	8.8	19	10	3/14	5.5	1/93.5	9.8	730	100	$51	$39,112
25-Nov-87	8,936	9.3	34	9.2	14	9	2/6	5	1/94.0	10	920	88	$306	$39,418
26-Nov-87	9,067	9.3	36	9.2	14	8	3/7	5	1/94.0	10.6	810	60	$363	$39,781
27-Nov-87	9,067	9.3	33	9.6	11	5	1/6	4.5	1/94.5	10.2	800	88	$232	$40,013
28-Nov-87	9,271	9.3	38	10	15	9	4/10	5	1/95.0	11	810	88	$715	$40,728
29-Nov-87	9,512	9.3	36	10.8	12	8	2/8	5	1/94.0	10.6	880	88	$808	$41,536
30-Nov-87	9,567	9.3	34	10	11	6	4/7	5	2/93.0	11	890	100	$301	$41,837
01-Dec-87	9,685	9.3	38	10.4	11	9	4/9	5	1/94.0	11.4	880	116	$345	$42,182
02-Dec-87	9,834	9.3	35	10.8	11	7	3/7	5	1/94.0	10.6	850	100	$1,108	$43,290
03-Dec-87	9,972	9.3	36	10	13	5	4/8	5	1/94.0	11.2	850	80	$0	$43,290
04-Dec-87	10,250	9.3	33	10.2	7	6	3/7	5	1/94.0	11.2	900	80	$830	$44,120
05-Dec-87	10,502	9.3	34	10.8	7	4	2/5	6	2/92.0	10.8	900	120	$2,769	$46,889
06-Dec-87	10,762	9.3	33	11.8	8	4	4/10	4	2/94.0	11.2	900	100	$998	$47,887
07-Dec-87	10,855	9.3	36	12.2	9	5	3/12	4	2/94.0	10.5	1200	200	$2,589	$50,476
08-Dec-87	11,029	9.3	34	11.8	8	4	1/6	3	2/95.0	12	1600	240	$7,416	$57,892
09-Dec-87	11,148	9.4	33	9.6	9	2	1/2	3	1/96.0	11.8	4100	160	$1,628	$59,520
10-Dec-87	11,222	9.3	35	8.8	5	5	0/2	3	1/96.0	12	5300	188	$926	$60,446
11-Dec-87	11,324	9.4	36	11.2	12	4	1/2	3	1/96.0	12	5400	160	$297	$60,743
12-Dec-87	11,463	9.5	40	10.8	18	7	2/5	6	1/93.0	11.9	5450	128	$550	$61,293
13-Dec-87	11,548	9.5	38	10.4	13	6	1/5	4	1/95.0	12	5650	160	$876	$62,169
14-Dec-87	11,706	9.5	43	11.8	20	10	3/7	5	1/94.0	11.9	5250	160	$716	$62,885
15-Dec-87	11,855	9.5	38	10.8	15	8	2/4	4	1/95.0	12	5300	168	$3,867	$66,752
16-Dec-87	11,925	10	39	9.6	12	5	1/3	7	1/92.0	11.9	5000	172	$4,346	$71,098
17-Dec-87	12,040	10.1	41	10.4	14	5	2/7	7	2/91.0	11.8	5300	100	$1,333	$72,431
18-Dec-87	12,160	10.5	38	11.6	14	6	2/9	10	2/88.0	11.6	5200	160	$6,650	$79,081
19-Dec-87	12,220	10.6	36	11.6	16	6	2/6	10	2/88.0	11.6	5100	160	$3,449	$82,530
20-Dec-87	12,333	11.2	38	10.8	17	5	2/6	14	4/82.0	11.5	5600	200	$5,622	$88,152
21-Dec-87	12,433	11.4	38	10.6	19	7	2/8	14	4/82.0	11.4	5500	260	$4,250	$92,402
22-Dec-87	12,476	11.4	39	10.6	19	7	3/6	13	3/84.0	11.4	5300	200	$1,670	$94,072
23-Dec-87	12,602	11.5	37	10.2	16	6	2/5	14	3/83.0	11.5	5900	200	$6,362	$100,434
24-Dec-87	12,716	11.6	38	10.2	16	5	2/5	14	4/82.0	11.6	6500	200	$1,062	$101,496
25-Dec-87	12,766	11.6	38	10.4	16	6	2/4	13	4/83.0	11.8	6400	180	$541	$102,037
26-Dec-87	12,796	11.6	43	8.8	24	9	2/7	15	3/82.0	12	6200	220	$153	$102,190
27-Dec-87	12,929	11.6	40	9.8	21	8	2/7	15	2/83.0	11.9	6300	220	$7,181	$109,371
28-Dec-87	13,000	11.7	39	8	15	6	2/8	15	2/83.0	11.8	6400	140	$3,220	$112,591
29-Dec-87	13,000	11.7	36	8.8	13	7	2/6	14	3/83.0	11.8	6450	220	$6,433	$119,024
30-Dec-87	13,000	11.6	40	9.6	18	7	3/9	15	2/83.0	11.6	6300	168	$214	$119,238
31-Dec-87	13,000	11.6	37	9.6	14	6	2/7	15	2/83.0	11.6	6350	172	$525	$119,763
01-Jan-88	13,000	11.7	44	11.2	22	9	3/12	16	2/82.0	11.7	6250	180	$521	$120,284
02-Jan-88	13,000	11.7	37	9.6	15	5	2/7	15	2/83.0	12.1	6000	200	$486	$120,770
03-Jan-88	13,000	11.6	42	10.4	20	6	3/8	15	3/82.0	12.2	6100	200	$251	$121,021
04-Jan-88	13,000	11.6	38	10.8	18	7	2/8	15	2/83.0	12	6150	180	$132	$121,153
05-Jan-88	13,000	11.6	42	11.4	23	9	3/12	15	2/83.0	11.6	6200	180	$383	$121,536
06-Jan-88	13,000	11.6	40	10.8	20	8	3/10	15	3/82.0	12.2	6200	220	$319	$121,855
07-Jan-88	13,000	11.6	40	12.2	17	8	5/12	15	2/83.0	12.2	5700	140	$1,965	$123,820

MUD RECORD FOR BOREN 3-11A2

DATE	DEPTH	MUD WEIGHT	VIS.	WATER LOSS	PV	YP	GELS	SOLIDS	OIL/ WATER	pH	Cl	Ca	DAILY COST	CUMULATIVE COST
08-Jan-88	13,004	11.6	42	12	22	8	2/6	14	2/84.0	12.4	5700	320	$1,220	$125,040
09-Jan-88	13,045	11.6	41	10.8	23	11	2/6	13	1/86.0	12.2	5600	200	$2,351	$127,391
10-Jan-88	13,063	11.5	41	10.4	21	7	2/4	14	1/85.0	12.2	5600	320	$177	$127,568
11-Jan-88	13,220	11.8	38	10.2	19	5	2/4	15	1/84.0	12.2	5400	240	$5,585	$133,153
12-Jan-88	13,289	13.8	52	10	29	11	3/6	20	3/77.0	12	5300	200	$326	$133,479
13-Jan-88	13,315	14.1	48	9.8	33	14	4/6	24	4/72.0	12.2	5300	120	$16,076	$149,555
14-Jan-88	13,342	14.3	46	9.8	33	11	2/5	22	3/75.0	12.4	5200	160	$1,119	$150,674
15-Jan-88	13,436	14.3	46	9	30	8	3/12	22	2/76.0	12.5	4000	160	$2,274	$152,948
16-Jan-88	13,574	14.3	44	9.2	27	11	4/6	22	2/76.0	12.3	3500	200	$6,922	$159,870
17-Jan-88	13,696	14.3	43	9	28	10	2/11	22	3/75.0	12.2	3400	200	$2,450	$162,320
18-Jan-88	13,820	14.3	44	9	29	8	3/8	22	3/75.0	12.2	3300	200	$6,068	$168,388
19-Jan-88	13,940	14.4	46	9	28	8	2/7	21	3/76.0	12.4	3200	160	$441	$168,829
20-Jan-88	14,048	14.4	46	8.6	26	10	2/10	22	2/76.0	12.2	3000	200	$175	$169,004
21-Jan-88	14,156	14.4	48	8.6	26	6	2/8	22	4/74.0	12.6	3000	200	$439	$169,443
22-Jan-88	14,248	14.4	41	8.2	26	10	2/10	23	2/75.0	12.6	2800	160	$2,789	$172,232
23-Jan-88	14,344	14.4	44	7.8	31	14	3/12	24	2/74.0	12.6	2800	160	$439	$172,671
24-Jan-88	14,441	14.4	46	7	31	14	2/12	25	2/73.0	12.5	2450	160	$953	$173,624
25-Jan-88	14,541	14.4	47	8	29	11	4/10	24	3/73.0	12.3	2300	60	$169	$173,793
26-Jan-88	14,600	14.4	44	7.8	26	12	3/9	24	2/74.0	12.2	2230	120	$589	$174,382
27-Jan-88	14,600	14.5	40	7.2	25	11	2/8	23	2/75.0	12.5	2240	120	$1,000	$175,382
28-Jan-88	14,625	14.5	38	8.4	25	7	2/7	24	2/75.0	12.5	2060	120	$339	$175,721
29-Jan-88	14,625	14.5	38	8.2	23	8	2/7	24	2/75.0	12.5	2050	120	$0	$175,721
30-Jan-88	14,625	14.5	39	8.4	25	9	2/7	24	2/75.0	12.5	2050	132	$0	$175,721
31-Jan-88	14,625	14.5	39	8.5	25	8	2/8	24	2/75.0	12.5	2040	140	$0	$175,721
01-Feb-88	14,625	14.5	38	8.6	24	7	2/6	24	2/75.0	12.4	2100	120	$0	$175,721
02-Feb-88	14,625	14.3	37	10.5	24	9	2/7	22	2/75.0	12.5	2650	120	$322	$176,043

BOREN 3-11A2

DEPTH VS MUD WEIGHT



"Dc" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000=	Bit Dia.	Mud Wt.	ECD	"Dc"
2050	28.2	60	50	14.750	8.6	8.60	1.47
2100	29.3	60	50	14.750	8.4	8.60	1.45
2150	56.6	60	45	9.500	8.4	8.40	1.44
2200	51.0	60	45	9.500	8.4	8.40	1.47
2250	58.8	60	45	9.500	8.4	8.40	1.42
2300	75.0	60	45	9.500	8.4	8.40	1.34
2350	103.5	60	45	9.500	8.4	8.40	1.23
2400	61.2	60	45	9.500	8.4	8.40	1.41
2450	54.0	60	45	9.500	9.5	9.50	1.45
2500	41.4	60	50	9.500	9.5	9.50	1.42
2550	59.2	60	50	9.500	9.5	9.50	1.31
2600	25.6	60	50	9.500	9.5	9.50	1.57
2650	43.6	60	50	9.500	9.5	9.50	1.40
2700	45.5	60	50	9.500	9.5	9.50	1.39
2750	52.6	60	50	9.500	9.5	9.50	1.34
2800	50.8	60	50	9.500	9.5	9.50	1.35
2850	44.8	65	55	9.500	9.5	9.96	1.41
2900	42.3	65	55	9.500	9.5	9.96	1.42
2950	56.6	70	55	9.500	9.5	9.96	1.36
3000	56.6	70	55	9.500	9.5	9.96	1.36
3050	36.6	70	55	9.500	9.5	9.96	1.49
3100	41.4	70	55	9.500	9.5	9.96	1.45
3150	36.6	70	55	9.500	9.5	9.96	1.49
3200	37.6	70	55	9.500	9.5	9.96	1.48
3250	35.4	70	55	9.500	9.5	9.96	1.50
3300	45.2	70	65	9.500	9.5	9.96	1.52
3350	55.2	70	65	9.500	9.5	9.96	1.45
3400	51.2	70	65	9.500	9.5	9.96	1.47
3450	62.8	70	65	9.500	9.5	9.96	1.41
3500	50.9	70	65	9.500	9.5	9.96	1.48
3550	48.3	70	65	9.500	9.5	9.96	1.50
3600	43.5	70	65	9.500	9.5	9.96	1.53
3650	44.1	70	65	9.500	9.0	9.23	1.64
3700	40.0	70	65	9.500	9.0	9.23	1.68
3750	41.7	70	65	9.500	9.0	9.23	1.67
3800	36.1	70	65	9.500	9.0	9.23	1.72
3850	34.9	70	65	9.500	9.0	9.23	1.73
3900	29.6	70	65	9.500	9.0	9.23	1.79
3950	31.9	70	65	9.500	9.0	9.23	1.76
4000	29.3	70	65	9.500	9.0	9.23	1.80
4050	30.6	70	65	9.500	9.0	9.23	1.78
4100	30.4	70	65	9.500	9.0	9.23	1.78
4150	29.1	70	65	9.500	9.0	9.23	1.80
4200	30.0	70	65	9.500	9.0	9.23	1.79
4250	26.6	70	65	9.500	9.0	9.23	1.83
4300	31.3	70	65	9.500	9.4	9.70	1.69
4350	28.0	70	65	9.500	9.4	9.70	1.72
4400	28.0	70	65	9.500	9.4	9.70	1.72
4450	27.8	70	65	9.500	9.4	9.70	1.73

"Dc" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000=	Bit Dia.	Mud Wt.	ECD	'Dc'
4500	26.8	70	65	9.500	9.4	9.70	1.74
4550	27.6	70	65	9.500	9.4	9.70	1.73
4600	24.0	54	37	9.875	8.4	8.40	1.57
4650	30.9	55	50	9.875	8.4	8.40	1.66
4700	34.5	65	65	9.875	8.4	8.40	1.85
4750	35.7	65	65	9.875	8.4	8.40	1.84
4800	38.0	75	75	9.875	8.4	8.40	1.98
4850	44.1	75	75	9.875	8.4	8.40	1.92
4900	47.6	75	75	9.875	8.4	8.40	1.89
4950	40.5	75	75	9.875	8.4	8.40	1.96
5000	38.5	75	75	9.875	8.4	8.40	1.98
5050	44.1	75	75	9.875	8.4	8.40	1.92
5100	41.1	75	75	9.875	8.4	8.40	1.95
5150	41.3	75	75	9.875	8.4	8.40	1.95
5200	37.5	75	75	9.875	8.4	8.40	1.99
5250	37.5	75	75	9.875	8.4	8.40	1.99
5300	32.6	75	75	9.875	8.4	8.40	2.05
5350	34.9	75	75	9.875	8.4	8.40	2.02
5400	30.8	75	75	9.875	8.4	8.40	2.07
5450	31.2	75	75	9.875	8.4	8.40	2.07
5500	30.2	75	75	9.875	8.6	8.60	2.03
5550	30.8	75	75	9.875	8.6	8.60	2.02
5600	29.4	75	75	9.875	8.6	8.60	2.04
5650	28.5	75	75	9.875	8.6	8.60	2.05
5700	33.0	75	75	9.875	8.6	8.60	1.99
5750	38.5	75	75	9.875	8.6	8.60	1.93
5800	41.0	75	75	9.875	8.6	8.60	1.90
5850	41.7	75	75	9.875	8.6	8.60	1.89
5900	39.0	75	75	9.875	8.6	8.60	1.92
5950	42.2	75	75	9.875	8.6	8.60	1.89
6000	38.5	75	75	9.875	8.6	8.60	1.93
6050	39.0	75	75	9.875	8.6	8.60	1.92
6100	40.0	75	75	9.875	8.6	8.60	1.91
6150	36.4	75	75	9.875	8.6	8.60	1.95
6200	37.8	75	75	9.875	8.6	8.60	1.94
6250	36.2	75	75	9.875	8.5	8.50	1.97
6300	41.6	75	75	9.875	8.5	8.50	1.92
6350	39.4	75	75	9.875	8.5	8.50	1.94
6400	39.6	75	75	9.875	8.5	8.50	1.94
6450	41.0	75	75	9.875	8.5	8.50	1.92
6500	25.7	70	40	9.875	8.5	8.50	1.66
6550	4.0	60	20	9.875	8.6	8.80	1.79
6600	4.8	60	20	9.875	8.6	8.95	1.71
6650	26.8	75	75	9.875	8.7	8.96	1.99
6700	20.0	75	75	9.875	8.7	8.96	2.14
6750	6.0	60	22	9.875	9.1	9.24	1.65
6800	9.3	75	55	9.875	9.2	9.37	2.03
6850	13.3	75	55	9.875	9.2	9.37	1.91
6900	15.4	75	55	9.875	9.2	9.37	1.87

"Dc" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000=	Bit Dia.	Mud Wt.	ECD	"Dc"
6950	14.8	75	55	9.875	9.2	9.37	1.88
7000	13.2	75	55	9.875	9.2	9.37	1.92
7050	19.3	75	75	9.875	9.1	9.22	2.06
7100	18.6	75	75	9.875	9.1	9.22	2.07
7150	18.1	75	75	9.875	9.1	9.29	2.06
7200	16.1	75	75	9.875	9.1	9.29	2.10
7250	16.4	75	75	9.875	9.1	9.29	2.10
7300	17.1	75	75	9.875	9.1	9.29	2.09
7350	17.5	75	75	9.875	9.1	9.29	2.08
7400	22.4	75	75	9.875	9.1	9.29	1.98
7450	30.7	75	75	9.875	9.2	9.32	1.86
7500	29.9	75	75	9.875	9.2	9.32	1.87
7550	23.8	75	75	9.875	9.2	9.32	1.95
7600	19.4	75	75	9.875	9.2	9.32	2.03
7650	24.0	75	75	9.875	9.2	9.32	1.95
7700	20.4	75	75	9.875	9.2	9.32	2.01
7750	18.0	75	75	9.875	9.2	9.32	2.05
7800	18.8	75	75	9.875	9.2	9.39	2.03
7850	11.7	75	55	9.875	9.2	9.39	1.95
7900	16.2	75	60	9.875	9.1	9.20	1.94
7950	19.4	75	60	9.875	9.1	9.20	1.88
8000	15.3	75	60	9.875	9.1	9.20	1.96
8050	12.2	75	65	9.875	9.1	9.20	2.11
8100	8.7	70	60	9.875	9.3	9.46	2.08
8150	17.4	70	60	9.875	9.3	9.46	1.85
8200	19.9	70	60	9.875	9.3	9.46	1.80
8250	19.2	70	60	9.875	9.3	9.46	1.82
8300	22.4	70	70	9.875	9.3	9.46	1.87
8350	20.8	75	75	9.875	9.4	9.51	1.97
8400	19.6	75	75	9.875	9.4	9.51	1.99
8450	20.0	75	75	9.875	9.4	9.51	1.98
8500	19.5	75	75	9.875	9.4	9.51	1.99
8550	8.9	75	75	9.875	9.4	9.51	2.28
8600	18.9	75	75	9.875	9.4	9.50	2.00
8650	13.0	72	70	9.875	9.4	9.60	2.04
8700	13.4	75	60	9.875	9.4	9.60	1.93
8750	14.1	75	60	9.875	9.4	9.60	1.91
8800	14.9	75	60	9.875	9.4	9.60	1.89
8850	14.7	75	60	9.875	9.4	9.60	1.90
8900	12.2	75	60	9.875	9.4	9.60	1.96
8950	11.2	75	60	9.875	9.3	9.48	2.01
9000	11.0	75	60	9.875	9.3	9.48	2.02
9050	13.9	75	65	9.875	9.3	9.48	2.01
9100	12.8	60	64	9.875	9.3	9.46	1.95
9150	12.3	65	64	9.875	9.3	9.46	1.99
9200	11.6	65	60	9.875	9.3	9.46	1.96
9250	11.4	65	60	9.875	9.3	9.46	1.96
9300	9.3	68	60	9.875	9.3	9.47	2.04
9350	13.6	75	60	9.875	9.3	9.47	1.95

"De" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000=	Bit Dia.	Mud Wt.	ECD	"De"
9400	14.6	60	75	9.875	9.3	9.47	2.03
9450	11.6	60	75	9.875	9.3	9.47	2.11
9500	14.8	60	75	9.875	9.3	9.47	2.02
9550	12.0	60	55	9.875	9.3	9.46	1.86
9600	16.7	60	60	9.875	9.3	9.44	1.81
9650	12.8	60	60	9.875	9.3	9.44	1.89
9700	13.0	60	60	9.875	9.3	9.47	1.89
9750	13.9	60	60	9.875	9.3	9.47	1.86
9800	13.1	60	60	9.875	9.3	9.47	1.88
9850	11.1	60	60	9.875	9.3	9.47	1.91
9900	12.7	60	60	9.875	9.3	9.47	1.90
9950	10.0	60	60	9.875	9.3	9.41	1.99
10000	8.8	60	60	9.875	9.3	9.41	2.03
10050	13.7	60	65	9.875	9.3	9.41	1.95
10100	12.7	60	65	9.875	9.3	9.41	1.98
10150	13.7	60	65	9.875	9.3	9.41	1.94
10200	15.7	60	65	9.875	9.3	9.41	1.89
10250	13.0	60	65	9.875	9.3	9.43	1.96
10300	15.6	65	65	9.875	9.3	9.43	1.92
10350	14.9	65	65	9.875	9.3	9.43	1.93
10400	15.7	65	65	9.875	9.3	9.43	1.92
10450	15.2	65	65	9.875	9.3	9.43	1.94
10500	13.0	65	65	9.875	9.3	9.43	1.99
10550	14.3	60	60	9.875	9.3	9.42	1.87
10600	15.9	60	60	9.875	9.3	9.42	1.83
10650	13.1	60	60	9.875	9.3	9.42	1.90
10700	13.2	60	60	9.875	9.3	9.42	1.89
10750	13.4	60	65	9.875	9.3	9.42	1.94
10800	12.1	60	65	9.875	9.3	9.42	1.98
10850	7.9	65	65	9.875	9.3	9.42	2.16
10900	9.6	65	60	9.875	9.3	9.42	2.02
10950	9.7	65	60	9.875	9.3	9.42	2.03
11000	11.0	65	60	9.875	9.3	9.42	1.98
11050	7.0	65	70	9.875	9.3	9.42	2.28
11100	6.4	65	55	9.875	9.3	9.42	2.10
11150	8.4	65	60	9.875	9.4	9.48	2.06
11200	8.4	65	60	9.875	9.4	9.48	2.06
11250	7.5	63	60	9.875	9.4	9.48	2.09
11300	7.5	60	55	9.875	9.4	9.48	2.00
11350	6.2	60	55	9.875	9.4	9.48	2.06
11400	6.4	60	55	9.875	9.4	9.48	2.06
11450	6.9	60	55	9.875	9.5	9.61	2.00
11500	5.0	60	60	9.875	9.5	9.61	2.17
11550	4.7	60	60	9.875	9.5	9.61	2.20
11600	9.7	55	55	9.875	9.5	9.59	1.87
11650	10.0	55	55	9.875	9.5	9.59	1.86
11700	8.2	55	55	9.875	9.5	9.68	1.91
11750	9.7	55	55	9.875	9.5	9.68	1.85
11800	8.6	55	55	9.875	9.5	9.68	1.90

"Dc" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000#	Bit Dia.	Mud Wt.	ECD	"Dc"
11850	5.1	55	60	9.875	9.5	9.60	2.14
11900	6.5	55	65	9.875	10.0	10.13	2.02
11950	5.8	55	55	9.875	10.0	10.13	1.93
12000	6.2	55	55	9.875	10.0	10.13	1.91
12050	5.4	55	55	9.875	10.1	10.23	1.93
12100	5.0	55	55	9.875	10.4	10.50	1.91
12150	4.9	55	55	9.875	10.4	10.55	1.91
12200	6.9	55	55	9.875	10.6	10.74	1.77
12250	5.1	55	55	9.875	11.0	11.20	1.78
12300	4.5	55	55	9.875	11.0	11.20	1.82
12350	4.5	55	55	9.875	11.2	11.38	1.78
12400	4.2	55	60	9.875	11.2	11.38	1.87
12450	4.6	55	60	9.875	11.4	11.59	1.81
12500	5.0	55	55	9.875	11.5	11.60	1.73
12550	5.2	55	55	9.875	11.6	11.70	1.70
12600	7.6	55	55	9.875	11.6	11.70	1.59
12650	4.8	55	55	9.875	11.6	11.78	1.71
12700	4.6	55	60	9.875	11.6	11.79	1.77
12750	4.7	55	60	9.875	11.6	11.79	1.77
12800	4.7	55	55	9.875	11.6	11.72	1.72
12850	5.2	55	55	9.875	11.7	11.85	1.68
12900	5.0	55	55	9.875	11.7	11.85	1.69
12950	5.8	55	55	9.875	11.7	11.80	1.66
13000	5.6	55	55	9.875	11.7	11.80	1.67
13050	2.3	47	28	6.750	11.7	11.83	1.67
13100	6.2	97	28	6.750	11.6	11.72	1.62
13150	6.9	96	27	6.750	11.8	11.94	1.55
13200	7.1	97	29	6.750	11.8	11.94	1.58
13250	5.5	96	29	6.750	11.9	12.09	1.61
13300	5.4	96	29	6.750	11.9	12.09	1.62
13350	4.1	92	22	6.750	14.3	14.60	1.27
13400	7.2	92	22	6.750	14.3	14.60	1.17
13450	6.5	97	22	6.750	14.3	14.59	1.20
13500	5.9	97	22	6.750	14.3	14.59	1.22
13550	5.9	96	22	6.750	14.3	14.59	1.21
13600	6.2	97	22	6.750	14.3	14.60	1.20
13650	5.6	97	22	6.750	14.3	14.60	1.22
13700	5.4	97	22	6.750	14.3	14.60	1.23
13750	5.9	105	22	6.750	14.3	14.60	1.23
13800	5.2	100	22	6.750	14.3	14.60	1.24
13850	5.8	103	22	6.750	14.3	14.56	1.23
13900	5.2	105	22	6.750	14.3	14.56	1.25
13950	4.9	105	22	6.750	14.3	14.56	1.27
14000	5.0	105	25	6.750	14.3	14.60	1.30
14050	4.7	105	25	6.750	14.3	14.60	1.32
14100	4.9	110	25	6.750	14.4	14.63	1.32
14150	5.1	110	25	6.750	14.4	14.57	1.31
14200	4.1	105	24	6.750	14.4	14.57	1.33
14250	3.8	100	22	6.750	14.4	14.64	1.29

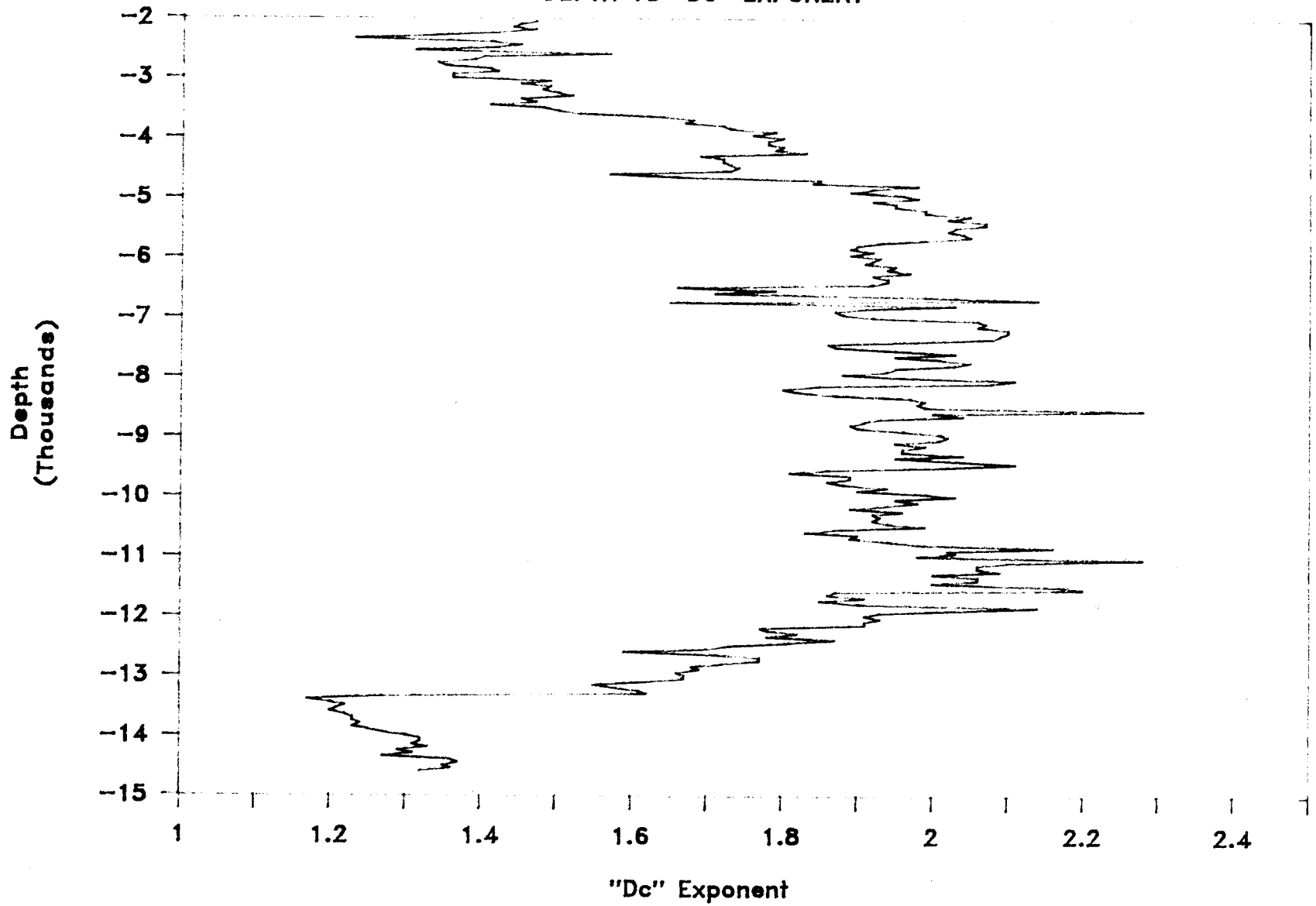
"Dc" EXPONENT WORKSHEET

Boren 3-11A2

DEPTH	ROP	RPM	WOB 1000#	Bit Dia.	Mud Wt.	ECD	"Dc"
14300	4.3	100	24	6.750	14.4	14.64	1.31
14350	4.3	100	22	6.750	14.4	14.69	1.27
14400	4.5	101	28	6.750	14.4	14.69	1.36
14450	4.3	101	28	6.750	14.4	14.74	1.37
14500	4.5	100	28	6.750	14.4	14.74	1.35
14550	4.3	100	28	6.750	14.4	14.75	1.36
14600	5.2	100	28	6.750	14.4	14.75	1.32

BOREN 3-11A2

DEPTH VS "Dc" EXPONENT



EDWARD ENGINEERING

Petroleum Consultants
Warr-Penn Building
213 3rd Avenue
P.O. Box 964
Warren, Pennsylvania 16365
(814) 726-2130

February 2, 1988

To: Gary Kornegay
28th Floor Pennzoil Place
P. O. Box 2967
Houston, TX 77252-2967

From: Margie Pierce
EDWARD ENGINEERING
888 South Lipan
Denver, CO 80223

Re: Boren 3-11A2
Section 11, T1S, R2W
Duchesne Co., Utah

The recommended intervals for perforation in the lower portion of the Boren 3-11A2, located in the SW/4 of Section 11, T1S, R2W, Duchesne County, Utah have been plotted on the log panel which is being transmitted to the Houston office by Federal Express. The perforation intervals correspond to the Gamma Ray on the Dual Induction Guard Log logged by Schlumberger on January 26, 1988.

Perforations for Stage I (13,000'-14,625'), which includes everything from the base of intermediate casing to T.D., were selected on the basis of electric log shows (GR 60 API & Rt 30 ohms), fracturing, and mud log shows. You may wish to select additional zones or to omit or shorten some of the intervals. Pete Hagist has suggested that fewer perforations on the initial completion attempts could improve results. The Boren 3-11A2 appears to be very highly fractured from the base of intermediate casing at 13,000' to 13,750', this interval is expected to be the primary producing interval within Stage I in the Boren 3-11A2. The first three intervals selected for perforation in Stage I are actually part of the 1st Red Wedge of the Wasatch and all the remaining intervals are part of the Wasatch Lacustrine facies. A list of the recommended perforations for the Boren 3-11A2 is attached.

Boren 3-11A2

STAGE I:

Wasatch

Lacustrine, normal & overpressured

DEPTH	NET FEET
13,010 - 20	10
13,042 - 47	5
13,062 - 65	3
13,132 - 38	6
13,173 - 76	3
13,190 - 201	11
13,257 - 64	7
13,285 - 310	25
13,330 - 36	6
13,376 - 80	4
13,385 - 98	13
13,428 - 31	3
13,500 - 22	22
13,574 - 82	8
13,645 - 50	5
13,663 - 68	5
13,676 - 86	10
13,721 - 23	2
13,870 - 73	3
13,904 - 9	5
13,958 - 70	12
14,012 - 26	14
14,162 - 66	4
14,238 - 64	26
14,279 - 82	3
14,296 - 300	4
14,321 - 23	2
14,358 - 61	3
14,380 - 86	6
14,394 - 402	8
14,538 - 42	4
14,572 - 75	3

Gross Interval 13,000 - 14,625

Net Feet Total	245
Average Interval ft	7.7
Minimum Thickness ft	2
Maximum Thickness ft	26

EDWARD ENGINEERING

PETROLEUM CONSULTANTS
888 SOUTH LIPAN, SUITE C
DENVER, COLORADO 80223
(303) 936-0161

March 3, 1988

To: Gary Kornegay
28th Floor Pennzoil Place
P. O. Box 2967
Houston, TX 77252-2967

From: Margie Pierce
EDWARD ENGINEERING
888 South Lipan
Denver, CO 80223

Re: Boren 3-11A2
Section 11, T1S, R2W
Duchesne Co., Utah

This memo is a continuation of the memo dated February 2, 1988 regarding the recommended perforations for Stage I in the Boren 3-11A2, located in the SW/4 of Section 11, T1S, R2W, Duchesne County, Utah. After Stage I has been perforated and the productive zones are depleted, Stages II, III, IV and V which remain behind pipe above intermediate casing (set at 13,000 feet), should be tested. Stages II, III, IV, and V are all normally pressured. Stage II is in the 1st Red Wedge of the Wasatch formation; Stage III is the lacustrine facies of the Green River formation which includes the "H" and "HI" carbonate facies; Stage IV is the Upper Green River interval below the Trona I; and Stage V is the Upper Green River littoral facies above the Trona I.

The following intervals are recommended for perforation above the intermediate casing point at 13,000 feet in the Boren 3-11A2. The perforation intervals correspond to the Gamma Ray on the Dual Laterolog logged by Schlumberger 12-28-87 and have been plotted on the log panels which accompany this memo. The perforations were selected on the basis of electric log shows (GR<60 API & Rt>30 ohms) and mud log shows.

Boren 3-11A2

STAGE II:

Wasatch

1st Red Wedge, normal pressured

DEPTH	NET FEET
11,128 - 40	12
11,240 - 44	4
11,297 - 300	3
11,336 - 42	6
11,426 - 36	10
11,446 - 50	4
11,590 - 94	4
11,606 - 20	14
11,718 - 24	6
11,740 - 44	4
11,810 - 14	4
11,855 - 72	17
11,890 - 900	10
11,908 - 18	10
11,990 - 98	8
12,000 - 6	6
12,186 - 94	8
12,205 - 12	7
12,228 - 32	4
12,244 - 50	6
12,306 - 10	4
12,314 - 18	4
12,332 - 35	3
12,370 - 76	6
12,384 - 92	8
12,410 - 16	6
12,420 - 24	4
12,432 - 35	3
12,444 - 48	4
12,530 - 34	4
12,542 - 47	5
12,600 - 8	8
12,612 - 20	8
12,636 - 40	4
12,654 - 60	6
12,770 - 82	12
12,794 - 800	6
12,802 - 6	4
12,824 - 28	4
12,860 - 75	15
12,902 - 10	8
12,923 - 26	3
12,928 - 30	2
12,944 - 50	6

Gross Interval 11,000 - 13,000

Net Feet Total	284
Average Interval ft	6.5
Minimum Thickness ft	2
Maximum Thickness ft	17

Boren 3-11A2

STAGE III:

Green River

Lacustrine, normal pressured

DEPTH	NET FEET
9,758 - 68	10
9,772 - 82	10
9,784 - 96	12
9,877 - 900	23
9,906 - 14	8
9,922 - 30	8
9,950 - 62	12
10,004 - 14	10
10,034 - 48	14
10,074 - 79	5
10,098 - 102	4
10,120 - 26	6
10,128 - 32	4
10,162 - 76	14
10,184 - 90	6
10,192 - 202	10
10,252 - 56	4
10,290 - 306	16
10,314 - 30	16
10,346 - 50	4
10,364 - 74	10
10,390 - 410	20
10,448 - 58	10
10,480 - 86	6
10,518 - 26	8
10,532 - 46	14
10,560 - 82	22
10,590 - 98	8
10,667 - 70	3
10,672 - 78	6
10,742 - 46	4
10,752 - 66	14
10,770 - 80	10
10,837 - 42	5
10,848 - 54	6
10,856 - 62	6
10,868 - 70	2
10,886 - 89	3
10,916 - 26	10
10,954 - 86	32
10,990 - 94	4
10,998 - 4	6

Gross Interval 9,650 - 11,004

Net Feet Total	405
Average Interval ft	9.6
Minimum Thickness ft	2
Maximum Thickness ft	32

Boren 3-11A2

STAGE IV:

Upper Green River

below Trona I, normal pressured

DEPTH	NET FEET
7,870 - 74	4
7,878 - 84	6
7,934 - 54	20
8,016 - 50	34
8,224 - 30	6
8,256 - 62	6
8,266 - 74	8
8,302 - 8	6
8,380 - 90	10
8,564 - 72	8
8,588 - 620	32
8,630 - 40	10
8,664 - 67	3
8,794 - 808	14
8,832 - 42	10
8,882 - 88	6
8,892 - 94	2
8,902 - 10	8
8,966 - 82	16
9,018 - 34	16
9,038 - 42	4
9,068 - 94	26
9,106 - 20	14
9,128 - 30	2
9,134 - 38	4
9,158 - 64	6
9,172 - 74	2
9,176 - 98	12
9,202 - 10	8
9,232 - 52	20
9,318 - 33	15
9,346 - 54	8
9,364 - 70	6
9,374 - 94	20
9,400 - 24	24
9,470 - 88	18
9,522 - 30	8
9,560 - 66	6
9,570 - 76	6
9,628 - 32	4

Gross Interval 7,750 - 9,650

Net Feet Total	438
Average Interval ft	11.0
Minimum Thickness ft	2
Maximum Thickness ft	34

Boren 3-11A2

STAGE V:

Upper Green River

littoral, normal pressured

DEPTH	NET FEET
6,493 - 506	13
6,510 - 16	6
6,532 - 34	2
6,550 - 98	48
6,606 - 48	42
6,656 - 62	6
6,680 - 83	3
6,706 - 12	6
6,716 - 38	22
6,744 - 54	10
6,814 - 24	10
6,850 - 68	18
6,896 - 908	12
6,910 - 18	8
6,928 - 34	6
6,936 - 38	2
6,948 - 62	14
6,984 - 98	14
7,010 - 26	16
7,032 - 46	14
7,056 - 64	8
7,068 - 72	4
7,076 - 80	4
7,090 - 108	18
7,118 - 28	10
7,184 - 204	20
7,216 - 20	4
7,230 - 44	14
7,275 - 79	4
7,330 - 36	6
7,352 - 64	12
7,388 - 414	26
7,432 - 36	4
7,440 - 56	12
7,497 - 500	3
7,510 - 16	6
7,640 - 58	18
7,686 - 91	5
7,694 - 98	4
7,710 - 16	6
7,728 - 46	18

Gross Interval 6,400 - 7,750

Net Feet Total	478
Average Interval ft	11.7
Minimum Thickness ft	2
Maximum Thickness ft	48

FORM 25-700

NOTIFICATION AND INFORMATION REQUIREMENTS

Pennzoil Company
3-11A2 Boren
SW SW 11-T1S-R2W
Duchesne Co., Utah

LETTERS
Pennzoil Company
P.O. Box 2967
Houston, TX
77252-2967

LARGE PACKAGES
Pennzoil Company
700 Milam
Houston, TX
77002

	AFE & Well Prognosis	State Permits, Reports, Survey, etc.	Daily Drilling Reports - Phone	Daily Drilling Reports - Mail	Electric Logs - Field Prints	Electric Logs - Final Prints	Electric Logs - Sepia Prints	Log Telecopies as needed	Notice prior to & results of DTS's, Cores, Logging, Plugging, etc.	Reports - DST, Geological, Completion, Fluid Analysis, etc.	Drillers Log, Drilling Time	Daily Mud Log & Final Mud Log	No. of samples
Pennzoil Company P.O. Box 2967 - 28th Floor Houston, TX 77252-2967 Attn: Gary L. Kornegay Office: (713) 546-8935	1	2	1	1	2	2	1	1	1	2	2	1+2	1
Pennzoil Company P.O. Box 290 Neola, UT 84053 Attn: Jess Bullnig	2	1	0	0	1	0	0	0	0	0	1	0&1	0
Proven Properties, Inc. 700 Milam, 8th Floor Houston, TX 77002 Attn: Rick Carter	1	1	0	1	1	2	0	1	1	2	2	1+2	0
Exxon Corporation ← JOINT INTEREST GROUP P.O. Box ~~1600~~ 1700 Midland, TX 79702	1	1	1	1	2	2	0	0	0	2	2	1+2	0
ANR Limited, Inc. ← ATTN. ANNE BURGIN - DAILY REPORT P.O. Box 749 ← ATTN R.D. WIESLING - LOGS Denver, CO 80201	1	2	1	1	3	3	0	0	0	2	1	1+2	
CSX Oil and Gas Corp 410 17th Street Suite 340 Denver, CO 80202	1	1	1	1	1	1	0	0	0	1	1	1+1	0
Convest Energy Corp. 2401 Fountainview Dr. Suite 700 Houston, TX 77057	1	1	1	1	1	1	0	0	0	1	1	1+1	0
Lehndorff/LGB Minerals, Inc. 2501 Cedar Springs Suite 340 Dallas, TX 75201	1	1	1	1	1	1	0	0	0	1	1	1+1	0
GID Energy Development Co. 16801 Greenspoint Park Dr. Suite 110 Houston, TX 77060	1	1	1	1	1	1	0	0	0	1	1	1+1	0
Utex Oil Company 445 East 4500 South Suite 220 Salt Lake City, UT 84106	1	1	1	1	1	1	0	0	0	1	1	1+1	0
Forcenergy, Inc. 740 Sunset Circle Key Biscayne, FL 33149	1	1	1	1	1	1	0	0	0	1	1	1+1	0
L.B. Petroleum, Inc. 370 17th Street Suite 3200 Denver, CO 80202	1	1	1	1	1	1	0	0	0	1	1	1+1	0

MICROFICHE

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

GEOCHEMICAL STUDY OF CRUDE OILS AND SEDIMENTS FROM THE BLUEBELL-ALTAMONT FIELD, UTAH

Prepared for

PENNZOIL EXPLORATION AND PRODUCTION COMPANY

BOREN 3-11A2

(PENNZOIL)

SEC. 11, T. 1S, R. 2W

by

Core Laboratories

March 1988

Western Atlas International
A Litton/Dresser Company

CORE LABORATORIES

Job Number:	87221
Dated Completed:	March 23, 1988
Primary Author:	R. A. Noble
Requested by:	G. Kornegay and D. Schumacher

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APPENDIX

Vitrinite Reflectance Histograms

Gas Chromatograms

Mass Fragmentograms

INTRODUCTION

Five core samples and thirteen crude oils from the Bluebell-Altamont Field, Utah, were submitted by Pennzoil Exploration and Production Company for detailed geochemical characterization. Table 1 provides a list of samples, their well names and depths, and Figure 1 shows the well locations. The samples referred to as "oils" include produced fluids, DST fluids, and hydrocarbon shows recovered from the drilling mud system. The core samples include siltstones and shales from the Green River Formation. The objectives of the study were:

(1) to evaluate the source potential and thermal maturity of the Green River sediments;
(2) to determine whether the oils were all generated at similar depths from the same source facies;
(3) to examine relationships between the oils and potential source rocks.

RESULTS AND DISCUSSION

Source Rock Analysis

Analytical data for the five Green River core samples are presented in Tables 2 to 5. The two shallowest samples from the 3-11A2 Boren well have poor source rock characteristics, based on total organic carbon (TOC) values and Rock-Eval pyrolysis results. The isolated kerogen was microscopically characterized as predominatly vitrinitic (woody), terrigenous debris, corresponding to a Type III, gas prone, source facies. In contrast, the two samples from the 2-10A2 Springfield Marine well, previously analyzed by Dow (1987; DGSI Report 87/430), demonstrated very good potential for crude oil generation owing to an abundance of hydrogen-rich amorphous kerogen derived from algal remains. The 3-12C5 Walker sample, previously analyzed by Core Laboratories (1986; Job No. 86173), also showed good

potential for crude oil generation. A modified van Krevelen plot (Figure 2) clearly illustrates the differences in kerogen type between the shallower gas prone facies (Type II/II kerogen) and the deeper oil prone facies (Type I/II kerogen).

Several maturity parameters were obtained for the sediments, using both microscopic measurements (vitrinite reflectance and TAI), and molecular ratios of soluble components from gas chromatography (GC) and gas chromatography-mass spectrometry (GC-MS). A general agreement of parameters indicated that the shallowest samples (6558' and 6580') were at the threshold of thermal maturity, whereas the samples at 7935' and 7962' had attained a maturity level corresponding to the onset of crude oil generation. The deepest sample at 10,583' was of higher maturity, but still had not reached peak oil generation. It is therefore probable that some crude oil generation had occurred from source rocks at 7935', 7962' and 10,583', whereas little or no hydrocarbon generation was likely from the shallower, gas prone facies at 6558-80'.

Crude Oil Characterization

Analytical data for the thirteen crude oils are presented in Tables 6 to 12. The samples displayed a wide range of physical properties, ranging from a medium gravity black oil (3-11 Boren 6970-7135' sample) to a solid, tar-like substance (2-27 Shaw 14700'). Carbon isotope values for whole oils and sub-fractions showed little variation between samples, whereas hydrogen and sulfur isotope ratios showed an increasing abundance, with depth, of each respective heavy isotope. GC and GC/MS data also showed some pronounced variations with depth, the shallower oils having a distictly less mature profile than the deeper samples. Variations in organic facies were also clearly apparent, most of the deeper samples below 8900' displaying higher amounts of paraffin waxes of land plant origin. It was therefore concluded that the oils were not all of genearated from the same source.

The shallower samples appeared to have been generated from a relatively low maturity source, and certainly prior to the peak of oil generation. Based on the biological marker distribution from GC/MS, the source facies contained abundant algal remains and some higher plant input, probably reflecting a lacustrine source environment. The deeper samples were generated at greater levels of thermal maturity, from source rocks that contained a higher abundance of land plant detritus mixed with the algal debris.

Oil-Source Relationships

A ternary plot showing the distribution of acyclic isoprenoids (C18-C20) for two oil-prone Green River source rocks and the thirteen crude oils is shown in Figure 3. The samples all plot in the same region of the diagram, suggesting that the oils and sediments were derived from broadly similar depositional settings. However, the spread of data points clearly indicates some facies variations, as noted above. Carbon isotope measurements were insufficently sensitive to differentiate between the samples, but hydrogen isotope values showed that the source rocks at 7935' and 7962' had values that were more similar to the oils of equivalent (or shallower) depth, than those occurring deeper in the section. Detailed biomarker fingerprints also showed a good correlation between these source rocks and the shallow oils, particularly the 2-11 Boren oil and the 3-11 Boren 6970-7135' oil. It was therefore concluded that the source rock facies represented in the two cores from the 2-10 Springfield Marine well probably generated the crude oils reservoird at equivalent or shallower depths. The oils reservoired deeper in the section were sufficently different to indicate that they were not generated from a more mature eqivalent of the same source facies.

Figure 4 shows the maturity depth relationship for the oils and potential source rocks. With the exception of the anomalous

sample from the 2-27 Shaw well (14700', Wasatch Formation), a general trend of increasing maturity with depth is apparent for both the oils and source rocks. Based on these results, and all available geochemical data, the following conclusions on oil-source relationships are proposed:

1. The shallow oil accumulations from about 6900 to 7400' were probably all sourced from underlying sediments of similar depth; for example, from source rocks similar to those characterized at 7935' and 7962' in the 2-10 Springfield Marine well.

2. The oils at 8984-9067' (3-11 Boren well) were sourced at slightly higher maturity from a different source facies to that of the shallower oils. A source rock similar to that encountered at 10,583' in the 3-12 Walker well is suggested.

3. The deeper oils from the 2-20 Lamicq well (11356-359'and 13285') and those from the 3-11 Boren well (11854' to 14600') were sourced from thermally mature sediments that contained significant amounts of plant debris. The source facies are different from those represented in the shallower Green River sediments, and a representative sample of this deeper source was not encountered in this study.

4. The 2-27 Shaw 14700' sample has many characteristics that are similar to the deep oils discussed in point 3 above. However, there are also several anomalies associated with this sample, paticularly the low maturity value based on the 20S/20R sterane isomerization ratios. Since this sample was reportedly recovered from the mud system as an isolated piece of solid hydrocarbon, more information on its method of collection may provide some insight into its anomalous characteristics.

RECOMMENDATIONS

Based on the available geochemical evidence, there appears to be at least three stratigraphically distinct source facies for the oils and oil shows of the Bluebell-Altamont field. However, only the shallowest of these has been well characterized in the present study. Further studies of deeper rock units is recommended to evaluate and quantify their source potential. Additional characterization of oil shows from the Wasatch Formation is also required to resolve some unusual properties reported herein for the 2-27 Shaw 14700' sample.

Table 1

Sample Identification

Sample ID	Type	Well Name	Depth (ft)	Remarks
3-11 Boren 6558	Core	3-11 A2 Boren	6558	Green River Formation
3-11 Boren 6580	Core	3-11 A2 Boren	6580	Green River Formation
2-10 SPMAR 7935	Core	2-10 A2 Springfield Marine	7935	Green River Formation
2-10 SPMAR 7962	Core	2-10 A2 Springfield Marine	7962	Green River Formation
3-12 WALKR 10583	Core	3-12 C5 Walker	10583	Green River Formation
2-11 Boren Oil	Oil	2-11 A2 Boren	-	Produced Oil
3-11 Boren 6970	Oil	3-11 A2 Boren	6970-7135	Sample Chamber
3-11 Boren 7375	Oil	3-11 A2 Boren	7375-7405	DST #6
3-11 Boren 8984T	Oil	3-11 A2 Boren	8984-9067	DST #8;Top fluid
3-11 Boren 8984M	Oil	3-11 A2 Boren	8984-9067	DST #8; Middle fluid
3-11 Boren 8984S	Oil	3-11 A2 Boren	8984-9067	DST #8; Sample Chamber
3-11 Boren 11854	Oil	3-11 A2 Boren	11854	-
3-11 Boren 13285	Oil	3-11 A2 Boren	13285	-
3-11 Boren 14004	Oil	3-11 A2 Boren	14004	-
3-11 Boren 14600	Oil	3-11 A2 Boren	14600	-
2-20 LMICQ 11356	Oil	2-20 A2 Lamicq	11356-11359	Show #8; Oil-Shaker
2-20 LMICQ 13529	Oil	2-20 A2 Lamicq	13529	-
2-27 SHAW 14700	Oil	2-27 A2 Shaw	14700	Wasatch Formation

Table 2

Lithology and Total Organic Carbon (TOC)

PENNZOIL PETROLEUM COMPANY

Depth (ft)	Sample Type	Lithology	TOC (wt%)
3-11 BOREN 6558	core	100% SILTSTONE- dk gry, abd clay, calctc, wl cmt, suc tex	0.36
3-11 BOREN 6580	core	100% SILTSTONE- dk gry, abd clay, calctc, hd, wl cmt, suc tex	0.63
2-10 SPMAR 7935	core	100% SILTSTONE- dk brn, mod sft, abd clay, sli calctc, suc tex, v carb, strm cut fluor	1.51
2-10 SPMAR 7962	core	100% SILTSTONE- dk brn, mod sft, abd clay, sli calctc, suc tex, v carb, strm cut fluor	2.10
3-12 WALKR 10583	core	100% SHALE- blk, mod hd, brit, slty-suc tex, sli calctc, v carb	2.13

Table 3

Rock-Eval Pyrolysis

PENNZOIL PETROLEUM COMPANY

Depth (ft)	TOC	S1	mg/g rock S2	S3	Hydrogen Index	Oxygen Index	Oil Shows	or Gas Potential	Trans Ratio	Tmax (deg C)
3-11 BOREN 6558	0.36	0.06	0.13	0.27	36	75	0.06	0.19	0.32	431
3-11 BOREN 6580	0.63	0.16	0.89	0.16	141	25	0.16	1.05	0.15	434
2-10 SPMAR 7935	1.51	2.95	12.36	0.71	819	47	2.95	15.31	0.19	434
2-10 SPMAR 7962	2.10	4.17	22.68	0.83	1080	40	4.17	26.85	0.16	434
3-12 WALKR 10583	2.13	0.93	9.95	0.43	467	20	0.93	10.88	0.09	442

TOC = Total Organic Carbon
Hydrogen Index = (S2/TOC) x 100

Oxygen Index = (S3/TOC) x 100
Oil or Gas Shows = S1

Oil or Gas Potential = S1+S2
Transformation Ratio = S1/(S1+S2)

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Table 4

Kerogen Data
Pennzoil Oil Company 3-11 A2 Boren

Depth (feet)	% Amorphinite FL	% Amorphinite NFL	% Exinite	% Vitrinite	% Inertinite	Recovery of Organic Matter	Quality of Preservation	Thermal Alteration Index	Mean Indigenous Vitrinite Reflectance	Remarks
3-11 Boren 6558	20	5	5	70		fair	fair	2+/3	0.50	
3-11 Boren 6580	15	5	10	70		fair	fair	2+/3	0.58	

Amorphinite - includes non-structured amorphous debris + amorphous sapropels, FL = fluorescing amorphous, NFL = non-fluorescing amorphous;
Exinite - waxy and resinous materials generally having a characteristic form, i.e., plant cuticle, pollen, spores, resins, etc.;
Vitrinite - includes woody, coaly and vitrinitic material; Inertinite - charcoal, highly oxidized or reworked material of any origin.

Table 5

Results of C15+ Extractable Organic Matter (EOM) Analysis

PENNZOIL PETROLEUM COMPANY

Depth (ft)	TOC (wt%)	EOM (ppm)	HC (ppm)	Composition of C15+ Extractable Organic Matter (Normalized Percent)				Percent			
				Sat	Aro	NSO	Asph	EOM/TOC	HC/TOC	HC/EOM	Sat/Aro
2-10 SPMAR 7935	1.51	7459	3677	32.4	16.9	48.1	2.6	49.4	24.4	49.3	1.92
2-10 SPMAR 7962	2.10	12341	4850	23.7	15.6	57.3	3.4	58.8	23.1	39.3	1.52

TOC = Total Organic Carbon; EOM = Extractable Organic Matter (C15+); HC = C15+ Hydrocarbons (saturates + aromatics); Sat = Saturates; Aro = Aromatics; NSO = Resins; Asph = Asphaltenes

Table 6

Crude Oil Physical Properties

Sample Name	API Gravity (@ 60 F)	Pour Point (deg F)	Sulfur (wt%)	Nitrogen (wt%)	Ni (ppm)	V (ppm)
2-11 Boren Oil	20.1	72	0.16	1.22	15	0.7
3-11 Boren 6970	31.6	80	0.14	0.40	36	1.4
3-11 Boren 8984S	16.9	83	0.07	0.12	7	0.6
2-27 Shaw 14700	ND	ND	2.13	0.23	15	31

ND: Indeterminate

Table 7

C15+ Oil Composition
(All values expressed in wt.%)

PENNZOIL PETROLEUM COMPANY

Sample Name	Saturates	Aromatics	Resins	Asphaltenes	Saturates / Aromatics	C15- fraction	C15+ fraction
2-11 BOREN OIL	43.1	15.4	37.8	3.7	2.80	30.5	69.5
3-11 BOREN 6970	26.6	17.3	52.3	3.8	1.54	13.9	86.1
3-11 BOREN 7375	22.1	17.1	45.1	15.7	1.29	27.0	73.0
3-11 BOREN 8984T	54.9	20.6	20.2	4.3	2.67	12.8	87.2
3-11 BOREN 8984M	53.0	19.0	23.5	4.5	2.79	44.2	55.8
3-11 BOREN 8984S	52.9	19.9	21.4	5.8	2.66	45.8	54.2
3-11 BOREN 11854	85.0	9.4	4.1	1.5	9.04		
3-11 BOREN 13285	78.4	9.4	11.7	0.5	8.34		
3-11 BOREN 14004	83.3	8.1	7.4	1.2	10.28		
3-11 BOREN 14600	88.4	8.3	3.3		10.65		
2-20 LMICQ 11356	67.0	10.8	17.2	5.0	6.20	24.1	75.9
2-20 LMICQ 13589	88.7	6.3	5.0		14.08		
2-27 SHAW 14700	54.1	4.8	9.9	31.2	11.27	10.0	90.0

Table 8
Stable Isotope Ratios

Sample ID	Fraction	del C-13	del H-2	del S-34
3-11 Boren 7935	Total Extract	-30.6	-160	*
	Saturates	-31.0	-164	
	Aromatics	-30.8	*	
	NSO	-29.3		
	Asphaltenes	-28.8		
3-11 Boren 7962	Total Extract	-28.5	-160	*
	Saturates	-29.3	-161	
	Aromatics	-28.9	-155	
	NSO	-28.0		
	Asphaltenes	-27.7		
2-11 Boren Oil	Whole Oil	-30.7	-163	17.3
	Saturates	-31.2	-164	
	Aromatics	-29.8	-138	
	NSO	-29.1		
	Asphaltenes	-29.0		
3 ~~2~~-11 Boren 6970	Whole Oil	-29.4	-168	21.2
	Saturates	-30.3	-181	
	Aromatics	-29.5	-152	
	NSO	-28.9		
	Asphaltenes	-28.2		
3-11 Boren 8984T	Whole Oil	-30.7	-127	12.2
	Saturates	-31.5	-135	
	Aromatics	-30.0	*	
	NSO	-29.2		
	Asphaltenes	-29.1		
2-20 LMICQ 11356	Whole Oil	-30.6	-129	*
	Saturates	-30.8	-120	
	Aromatics	-28.9	-115	
	NSO	-29.0		
	Asphaltenes	-30.0		
2-27 SHAW 14700	Whole Oil	-30.8	-115	7.3
	Saturates	-31.3	*	
	Aromatics	-29.1	*	
	NSO	-27.6		
	Asphaltenes	-28.9		

* Insufficent sample for isotope measurement

Table 9a

Normalized Percent Distribution
C4-C7 Gasoline Range Hydrocarbons

PENNZOIL PETROLEUM COMPANY

Sample Name

		2-11 BOREN OIL	3-11 BOREN 6970	3-11 BOREN 8984S
iso-Butane	(iC4)	3.69	21.81	0.34
normal-Butane	(nC4)	2.90	11.80	0.35
iso-Pentane	(iC5)	6.19	20.03	2.69
normal-Pentane	(nC5)	2.56	5.60	2.24
2,2-Dimethylbutane	(22DMB)	0.03	0.02	0.54
Cyclopentane	(CP)	0.61	1.56	1.62
2,3-Dimethylbutane	(23DMB)	0.79	1.49	0.51
2-Methylpentane	(2MP)	5.03	6.27	4.91
3-Methylpentane	(3MP)	1.68	1.78	2.35
normal-Hexane	(nC6)	3.29	2.74	7.54
Methylcyclopentane	(MCP)	6.68	6.32	9.94
2,2-Dimethylpentane	(22DMP)		0.15	0.32
Benzene	(Bz)	0.27	0.09	0.14
2,4-Dimethylpentane	(24DMP)	0.37		
2,2,3-Trimethylbutane	(223TMB)			
Cyclohexane	(CH)	2.47	2.24	8.34
3,3-Dimethylpentane	(33DMP)			
1,1-Dimethylcyclopentane	(11DMCP)	1.98	0.80	2.29
2-Methylhexane	(2MH)	4.12	1.23	3.41
2,3-Dimethylpentane	(23DMP)			
1c3-Dimethycyclopentane	(1c3DMCP)	4.15	1.20	3.52
3-Methylhexane	(3MH)	4.24	1.08	4.51
1t3-Dimethylcyclopentane	(1t3DMCP)	3.90	1.13	3.42
1t2-Dimethylcyclopentane	(1t2DMCP)	13.54	5.78	9.47
3-Ethylpentane	(3EP)	0.40	0.07	0.43
normal-Heptane	(nC7)	9.97	1.96	14.66
1c2-Dimethylcyclopentane	(1c2DMCP)	0.82	0.15	1.02
Methylcyclohexane	(MCH)	15.81	3.88	13.55
Ethylcyclopentane	(ECP)	0.98	0.47	1.30
Toluene	(TOL)	4.51	0.82	1.89

Table 9b

C4-C7 Hydrocarbon Component Ratios

PENNZOIL PETROLEUM COMPANY

Components	Ratios		
	2-11 BOREN OIL	3-11 BOREN 6970	3-11 BOREN 8984S
nC4 / iC4	0.79	0.54	1.03
nC5 / iC5	0.41	0.28	0.83
CP / 23DMB	0.77	1.05	3.18
2MP / 3MP	2.99	3.52	2.09
nC6 / (MCP + 22DMP)	0.49	0.42	0.73
2MH / 23DMP			
3MH / (11DMCP + 1c3DMCP)	0.69	0.54	0.78
1t3DMCP / 1t2DMCP	0.29	0.20	0.36
nC7 / MCH	0.63	0.51	1.08
Paraffin Index 1*	0.38	0.28	0.47
Paraffin Index 2*	16.46	10.12	23.05
	Normalized Percent C7 Hydrocarbons		
Normals	16.81	11.24	25.90
Branched	15.40	14.52	15.32
Cyclics	67.79	74.24	58.78

* from K.F.M. Thompson (1979)

Table 10

Normalized Percent Distribution
Normal Paraffins & Isoprenoids

PENNZOIL PETROLEUM COMPANY

Sample Name

	2-10 SPMAR 7935	2-10 SPMAR 7962	2-11 BOREN OIL	3-11 BOREN 6970
nC15	4.9	5.8	7.5	5.0
nC16	4.0	4.7	4.8	4.0
nC17	20.3	30.7	16.8	27.7
Pristane	24.3	22.7	10.7	11.6
nC18	3.1	2.7	3.4	2.7
Phytane	15.5	13.2	5.1	9.3
nC19	4.1	4.1	3.6	2.9
nC20	1.8	1.4	3.4	1.8
nC21	2.4	1.7	3.8	2.4
nC22	1.9	1.6	4.0	2.1
nC23	2.8	2.0	4.4	3.0
nC24	2.1	1.6	4.2	2.4
nC25	2.9	1.7	4.6	3.4
nC26	2.5	1.8	4.3	2.8
nC27	4.6	2.5	4.6	4.3
nC28	2.8	1.8	3.8	2.8
nC29			4.0	4.5
nC30			2.5	1.7
nC31			2.3	3.4
nC32			1.0	0.8
nC33			0.8	1.1
nC34			0.4	0.3
CPI	1.21	0.99	1.19	1.79

Isoprenoids

ip13	6.1	6.5	15.9	6.0
ip14	5.7	6.1	12.4	4.8
ip15	7.9	8.2	11.6	6.7
ip16	17.7	19.0	22.7	17.6
ip18	14.1	14.5	10.8	16.8
Pristane	29.6	29.0	18.0	26.7
Phytane	18.9	16.7	8.6	21.4
Pris/Phy	1.57	1.74	2.09	1.25
nC17/Pris	0.84	1.35	1.57	2.39
nC18/Phy	0.20	0.20	0.67	0.29

Table 10

Normalized Percent Distribution
Normal Paraffins & Isoprenoids

PENNZOIL PETROLEUM COMPANY

Sample Name

	3-11 BOREN 7375	3-11 BOREN 8984T	3-11 BOREN 8984M	3-11 BOREN 8984S
nC15	4.9	3.3	3.4	3.6
nC16	4.1	3.6	3.7	3.9
nC17	28.6	4.2	4.3	4.6
Pristane	23.7	3.5	3.5	3.6
nC18	2.7	4.3	4.5	4.7
Phytane	14.4	2.8	2.8	2.9
nC19	3.0	4.9	5.0	5.2
nC20	1.7	5.4	5.4	5.6
nC21	1.8	5.9	5.9	5.9
nC22	1.8	6.3	6.3	6.2
nC23	2.2	6.7	6.6	6.5
nC24	1.6	6.5	6.5	6.5
nC25	2.1	6.8	7.2	6.6
nC26	2.0	6.7	6.7	6.5
nC27	3.2	6.7	6.7	6.5
nC28	2.2	5.9	5.8	5.6
nC29		5.8	5.6	5.4
nC30		4.0	3.8	3.8
nC31		3.1	2.9	2.9
nC32		1.7	1.6	1.6
nC33		1.2	1.2	1.2
nC34		0.7	0.6	0.7
CPI	1.09	1.10	1.12	1.09

Isoprenoids

ip13	6.9	9.5	9.3	9.2
ip14	5.8	9.9	9.7	9.7
ip15	7.5	10.2	10.4	10.4
ip16	17.5	17.9	18.0	18.2
ip18	15.6	14.3	14.5	14.4
Pristane	29.0	21.2	21.0	21.1
Phytane	17.7	17.0	17.1	17.0
Pris/Phy	1.64	1.25	1.23	1.24
nC17/Pris	1.21	1.20	1.23	1.28
nC18/Phy	0.19	1.54	1.61	1.62

Table 10

Normalized Percent Distribution
Normal Paraffins & Isoprenoids

PENNZOIL PETROLEUM COMPANY

Sample Name

	3-11 BOREN 11854	3-11 BOREN 13285	3-11 BOREN 14004	3-11 BOREN 14600
nC15	6.2	7.0	6.7	7.3
nC16	6.5	7.2	6.9	6.9
nC17	6.7	7.6	7.1	6.9
Pristane	1.6	1.8	1.3	1.4
nC18	6.6	7.1	7.1	6.9
Phytane	0.7	0.6	0.5	0.5
nC19	6.6	7.0	6.9	6.7
nC20	6.5	6.7	7.1	6.6
nC21	6.4	6.6	6.9	6.3
nC22	6.2	6.4	6.4	6.1
nC23	6.1	6.3	6.3	5.9
nC24	5.7	5.8	5.7	5.6
nC25	5.4	5.4	5.3	5.5
nC26	5.1	5.0	4.9	5.0
nC27	5.0	4.6	4.7	5.0
nC28	4.6	4.0	4.0	4.3
nC29	4.1	3.6	4.0	4.2
nC30	3.3	2.7	2.8	3.0
nC31	2.8	2.0	2.2	2.3
nC32	1.8	1.3	1.4	1.6
nC33	1.3	0.8	1.1	1.2
nC34	0.8	0.5	0.7	0.8
CPI	1.05	1.04	1.09	1.09

Isoprenoids

ip13	5.5	6.2	7.5	8.3
ip14	9.4	10.4	11.9	13.2
ip15	10.3	9.7	10.4	10.7
ip16	20.2	20.7	21.2	21.1
ip18	14.8	14.7	13.7	13.2
Pristane	28.2	28.9	25.7	24.5
Phytane	11.6	9.4	9.6	9.0
Pris/Phy	2.43	3.07	2.68	2.72
nC17/Pris	4.19	4.22	5.46	4.93
nC18/Phy	9.43	11.83	14.20	13.80

Table 10

Normalized Percent Distribution
Normal Paraffins & Isoprenoids

PENNZOIL PETROLEUM COMPANY

Sample Name

	2-20 LMICQ 11356	2-20 LMICQ 13589	2-27 SHAW 14700
nC15	5.5	7.0	6.4
nC16	5.4	7.1	7.1
nC17	5.7	7.4	7.6
Pristane	2.1	0.9	1.6
nC18	5.7	7.2	7.2
Phytane	1.6	0.5	0.9
nC19	5.9	7.3	6.9
nC20	6.1	7.3	6.8
nC21	6.0	7.0	6.5
nC22	6.0	6.7	6.1
nC23	6.0	6.7	5.8
nC24	5.8	5.9	5.4
nC25	5.6	5.4	5.2
nC26	5.4	5.0	4.9
nC27	5.4	4.7	4.9
nC28	5.5	4.0	4.3
nC29	4.7	3.3	4.0
nC30	4.2	2.4	3.0
nC31	2.9	1.8	2.3
nC32	2.1	1.1	1.5
nC33	1.4	0.8	1.0
nC34	1.0	0.5	0.6
CPI	0.98	1.05	1.06

Isoprenoids

ip13	10.4	7.7	
ip14	11.4	11.4	
ip15	12.1	11.1	
ip16	15.5	20.4	26.6
ip18	12.8	14.9	19.6
Pristane	21.1	22.3	34.9
Phytane	16.7	12.2	18.9
Pris/Phy	1.26	1.83	1.85
nC17/Pris	2.71	8.22	4.75
nC18/Phy	3.56	14.40	8.00

Table 11

Aromatic Hydrocarbon Maturity Parameters

PENNZOIL PETROLEUM COMPANY

		Sample Name			
		2-11 BOREN OIL	3-11 BOREN 6970	3-11 BOREN 8984S	2-20 LMICQ 11356
DNR-1	$\frac{\text{2,6-DMN + 2,7-DMN}}{\text{1,5-DMN}}$	4.26	9.58	5.11	4.09
DNR-6	$\frac{\text{2,6-DMN + 2,7-DMN}}{\text{1,4-DMN + 2,3-DMN}}$	2.60	1.84	2.73	2.54
TNR-1	$\frac{\text{2,3,6-TMN}}{\text{1,4,6-TMN + 1,3,5-TMN}}$	0.85	2.44	0.71	0.95
MPI-1	$\frac{\text{1.5*(2-MP + 3-MP)}}{\text{P + 9-MP + 1-MP}}$	0.74		0.75	0.64
MPI-2	$\frac{\text{3*(2-MP)}}{\text{P + 9-MP + 1-MP}}$	0.86		0.85	0.67
Rc(a)	0.6*(MPI-1) + 0.4	0.84		0.85	0.78
Rc(b)	-0.6*(MPI-1) + 2.3	1.86		1.85	1.92

DMN - Dimethylnaphthalene ; TMN - Trimethylnaphthalene
P - Phenanthrene ; MP - Methylphenanthrene

Table 11

Aromatic Hydrocarbon Maturity Parameters

PENNZOIL PETROLEUM COMPANY

Sample Name

2-27 SHAW 14700

DNR-1	$\frac{2,6\text{-DMN} + 2,7\text{-DMN}}{1,5\text{-DMN}}$	3.29
DNR-6	$\frac{2,6\text{-DMN} + 2,7\text{-DMN}}{1,4\text{-DMN} + 2,3\text{-DMN}}$	1.58
TNR-1	$\frac{2,3,6\text{-TMN}}{1,4,6\text{-TMN} + 1,3,5\text{-TMN}}$	1.12
MPI-1	$\frac{1.5*(2\text{-MP} + 3\text{-MP})}{P + 9\text{-MP} + 1\text{-MP}}$	0.95
MPI-2	$\frac{3*(2\text{-MP})}{P + 9\text{-MP} + 1\text{-MP}}$	0.96
Rc(a)	0.6*(MPI-1) + 0.4	0.97
Rc(b)	-0.6*(MPI-1) + 2.3	1.73

DMN - Dimethylnaphthalene ; TMN - Trimethylnaphthalene
P - Phenanthrene ; MP - Methylphenanthrene

Table 12a
Triterpane and Bicyclane Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

Group I (m/z 191)	2-10 SPMAR 7935	2-10 SPMAR 7962	2-11 BOREN OIL	3-11 BOREN 6970
% Tricyclics (C19-C30)	3.16	2.35	36.55	8.45
% 17a-Hopanes (C27-C35)	70.10	77.33	74.80	64.22
Tricyclics / 17a-Hopanes	0.05	0.03	0.49	0.13
(Gammacerane / C30 Hopane) x 100	45.25	22.77	44.25	41.03
Tm / Ts	30.17	19.01	4.81	9.16
C30 Moretane / C30 Hopane	0.43	0.31	0.28	0.38
C31 Homohopane 22S/22R	1.44	1.68	1.45	1.54
C32 Bishomohopane 22S/22R	1.54	1.85	2.13	2.03
(C29 + C30) / (C27) 17a-Hopanes	4.28	4.61	5.83	5.75
C29 / C30 17a-Hopanes	0.66	0.73	0.67	0.71
C28 / C30 17a-Hopanes				
C35 / C34 17a-Hopanes (22S)				
Group II (m/z 123)				
Drimane / Homodrimane	1.22	1.32	0.69	1.94
C15 Rearranged bicyclics/Drimane	0.17	0.21	1.36	0.22

a=alpha ; b=beta

Table 12a
Triterpane and Bicyclane Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

Group I (m/z 191)	3-11 BOREN 8984S	3-11 BOREN 14600	2-20 LMICQ 11356	2-27 SHAW 14700
% Tricyclics (C19-C30)	35.38	65.60	67.79	54.88
% 17a-Hopanes (C27-C35)	58.78	20.18	13.80	31.44
Tricyclics / 17a-Hopanes	0.60	3.25	4.91	1.75
(Gammacerane / C30 Hopane) x 100	40.64		173.27	47.18
Tm / Ts	2.17	0.29	0.20	2.21
C30 Moretane / C30 Hopane	0.24		0.39	0.33
C31 Homohopane 22S/22R	1.67		1.42	1.71
C32 Bishomohopane 22S/22R	1.93		2.43	1.56
(C29 + C30) / (C27) 17a-Hopanes	6.70	3.89	6.47	5.42
C29 / C30 17a-Hopanes	0.69	0.84	0.44	0.60
C28 / C30 17a-Hopanes				
C35 / C34 17a-Hopanes (22S)				
Group II (m/z 123)				
Drimane / Homodrimane	0.96		0.76	0.82
C15 Rearranged bicyclics/Drimane	1.34		4.34	7.81

a=alpha ; b=beta

Table 12b
Sterane Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

(m/z 217)	2-10 SPMAR 7935	2-10 SPMAR 7962	2-11 BOREN OIL	3-11 BOREN 6970
% C27 5a,14a,17a (20R)	6.66		27.36	30.33
% C28 5a,14a,17a (20R)	58.62	71.11	40.29	40.33
% C29 5a,14a,17a (20R)	34.72	28.89	32.35	29.34
(C27/C29) 5a,14a,17a (20R)	0.19		0.85	1.03
(C28/C29) 5a,14a,17a (20R)	1.69	2.46	1.25	1.37
C29 13b,17a(20R)/C29 5a,14a,17a(20R)	0.16		0.13	0.10
C27 13b,17a(20S)/C27 13b,17a(20R)				
C29 5a,14a,17a(20S)/5a,14a,17a(20R)	0.52	0.43	0.54	0.38
% C29 5a,14b,17b	18.56	16.06	24.10	15.53

Sterane/Hopane Data

(m/z 217 and m/z 191)				
C29 5a,14a,17a (20R)-Sterane / C30 17a,21b-Hopane	0.47	0.35	0.36	0.76
C27+C28+C29 5a,14a,17a(20R)-Steranes / C29+C30 17a,21b-Hopanes	0.81	0.71	0.67	1.51

a=alpha ; b=beta

Table 12b
Sterane Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

(m/z 217)	3-11 BOREN 8984S	3-11 BOREN 14600	2-20 LMICQ 11356	2-27 SHAW 14700
% C27 5a,14a,17a (20R)	31.42		41.41	16.19
% C28 5a,14a,17a (20R)	24.50		20.20	50.31
% C29 5a,14a,17a (20R)	44.08		38.38	33.49
(C27/C29) 5a,14a,17a (20R)	0.71		1.08	0.48
(C28/C29) 5a,14a,17a (20R)	0.56		0.53	1.50
C29 13b,17a(20R)/C29 5a,14a,17a(20R)	0.15		2.55	0.14
C27 13b,17a(20S)/C27 13b,17a(20R)	1.33	1.50	2.01	1.59
C29 5a,14a,17a(20S)/5a,14a,17a(20R)	0.84		1.29	0.41
% C29 5a,14b,17b	36.42		58.77	24.81

Sterane/Hopane Data

(m/z 217 and m/z 191)				
C29 5a,14a,17a (20R)-Sterane / C30 17a,21b-Hopane	0.17		0.19	0.86
C27+C28+C29 5a,14a,17a(20R)-Steranes / C29+C30 17a,21b-Hopanes	0.22		0.34	1.61

a=alpha ; b=beta

Table 12c
Aromatic Hydrocarbon Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

Phenanthrenes	2-10 SPMAR 7935	2-10 SPMAR 7962	2-11 BOREN OIL	3-11 BOREN 6970
Methylphenanthrene Index-1 (MPI-1)			0.75	0.73
Methylphenanthrene Index-1 (MPI-2)			0.89	0.76
Calc. mean reflectance(a) (Rc(a))			0.85	0.84
Calc. mean reflectance(b) (Rc(b))			1.85	1.86

Aromatic Steroids (m/z 231 & m/z 253)

% C28 tri-Ar / (C28 tri-Ar + C29 mono-Ar)	67.95	45.37	43.72	13.21
% C20 tri-Ar / (C20 tri-Ar + C28 tri-Ar)	12.58	11.65	11.90	7.95

$$\text{MPI-1} = \frac{1.5*(\text{2-MP} + \text{3-MP})}{\text{P} + \text{1-MP} + \text{9-MP}}$$

$$\text{MPI-2} = \frac{3*(\text{2-MP})}{\text{P} + \text{1-MP} + \text{9-MP}}$$

$$\text{Rc(a)} = 0.6*\text{MPI-1} + 0.4$$
$$\text{Rc(b)} = -0.6*\text{MPI-1} + 2.3$$

Table 12c
Aromatic Hydrocarbon Calculations

PENNZOIL PETROLEUM COMPANY

Sample Name

Phenanthrenes	3-11 BOREN 8984S	3-11 BOREN 14600	2-20 LMICQ 11356	2-27 SHAW 14700
Methylphenanthrene Index-1 (MPI-1)	0.73		0.63	0.91
Methylphenanthrene Index-1 (MPI-2)	0.72		0.66	1.01
Calc. mean reflectance(a) (Rc(a))	0.84		0.78	0.95
Calc. mean reflectance(b) (Rc(b))	1.86		1.92	1.75

Aromatic Steroids (m/z 231 & m/z 253)

% C28 tri-Ar / (C28 tri-Ar + C29 mono-Ar)	62.92			100.00
% C20 tri-Ar / (C20 tri-Ar + C28 tri-Ar)	23.29			61.54

$$\text{MPI-1} = \frac{1.5*(\text{2-MP} + \text{3-MP})}{\text{P} + \text{1-MP} + \text{9-MP}}$$

$$\text{MPI-2} = \frac{3*(\text{2-MP})}{\text{P} + \text{1-MP} + \text{9-MP}}$$

$$\text{Rc(a)} = 0.6*\text{MPI-1} + 0.4$$
$$\text{Rc(b)} = -0.6*\text{MPI-1} + 2.3$$

Table 13a

Triterpane Peak Assignments

Peak Label	Carbon No.	Compound
19T-30T	19-30	Tricyclic terpanes (cheilanthanes)
Ts	27	18a(H),22,29,30-trisnorneohopane
Tm	27	17a(H),22,29,30-trisnorhopane
27H	27	17a(H),21b(H)-25,28,30-trisnorhopane
28H	28	17a(H),21b(H)-28,30-bisnorhopane
29DH	29	17a(H),21b(H)-25-norhopane
29H	29	17a(H),21b(H)-30-norhopane
29M	29	17b(H),21a(H)-30-normoretane
30H	30	17a(H),21b(H)-hopane
30M	30	17b(H),21a(H)-moretane
OL	30	18a(H)-Oleanane
31H S	31	17a(H),21b(H)-homohopane (22S)
31H R	31	17a(H),21b(H)-homohopane (22R)
Gm	30	Gammacerane
31M	31	17b(H),21a(H)-homomoretane
32H S	32	17a(H),21b(H)-bishomohopane (22S)
32H R	32	17a(H),21b(H)-bishomohopane (22R)
33H S	33	17a(H),21b(H)-trishomohopane (22S)
33H R	33	17a(H),21b(H)-trishomohopane (22R)
34H S	34	17a(H),21b(H)-tetrakishomohopane (22S)
34H R	34	17a(H),21b(H)-tetrakishomohopane (22R)
35H S	35	17a(H),21b(H)-pentakishomohopane (22S)
35H R	35	17a(H),21b(H)-pentakishomohopane (22R)

a=alpha ; b=beta

Table 13b

Sterane Peak Assignments

Peak Label	Carbon No.	Compound
A	27	13b(H),17a(H)-Diacholestane (20S)
B	27	13b(H),17a(H)-Diacholestane (20R)
C	27	5a(H),14a(H),17a(H)-Cholestane (20S)
D	27	5a(H),14b(H),17b(H)-Cholestane (20R)
E	29	24-Ethyl-13b(H),17a(H)-Diacholestane (20S)
F	27	5a(H),14b(H),17b(H)-Cholestane (20S)
G	27	5a(H),14a(H),17a(H)-Cholestane (20R)
H	29	24-Ethyl-13b(H),17a(H)-Diacholestane (20R)
I	28	24-Methyl-5a(H),14a(H),17a(H)-Cholestane (20S)
J	28	24-Methyl-5a(H),14b(H),17b(H)-Cholestane (20R)
K	28	24-Methyl-5a(H),14b(H),17b(H)-Cholestane (20S)
L	28	24-Methyl-5a(H),14a(H),17a(H)-Cholestane (20R)
M	29	24-Ethyl-5a(H),14a(H),17a(H)-Cholestane (20S)
N	29	24-Ethyl-5a(H),14b(H),17b(H)-Cholestane (20R)
O	29	24-Ethyl-5a(H),14b(H),17b(H)-Cholestane (20S)
P	29	24-Ethyl-5a(H),14a(H),17a(H)-Cholestane (20R)
Q	29	24-Ethyl-5b(H),14a(H),17a(H)-Cholestane (20R)

a=alpha ; b=beta

Table 13c

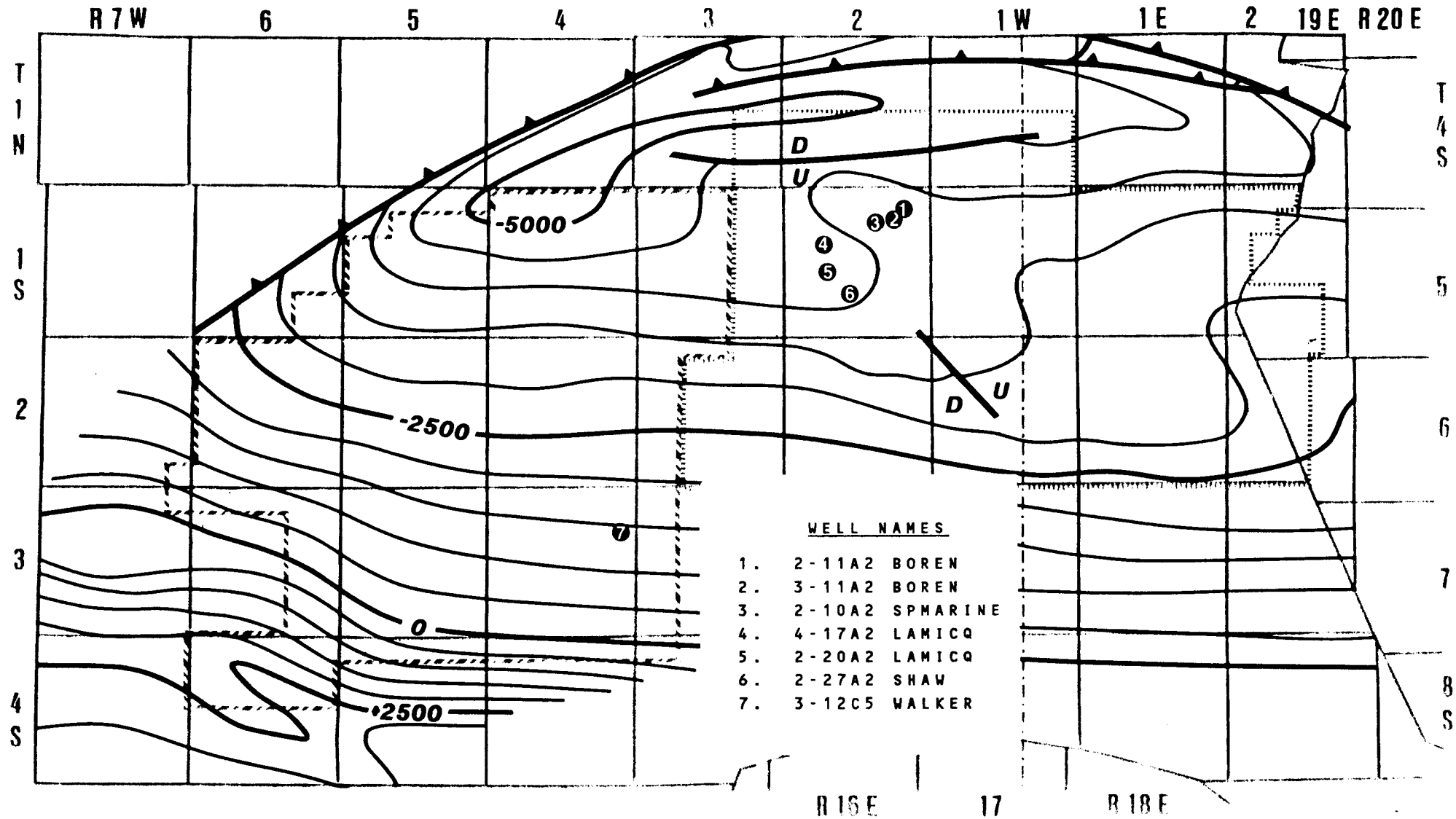
Bicyclane and Aromatic Peak Assignments

Peak Label	Carbon No.	Compound
R1	15	1,1,5,6,6-pentamethyldecahydronaphthalene
R2	15	1,1,5,5,6-pentamethyldecahydronaphthalene
15D	15	8b(H)-Drimane
16D	16	8b(H)-Homodrimane
19N	19	4b(H)-19-norisopimarane
20N	20	Isopimarane
20P	20	16b(H)-Phyllocladane
AROMATICS		

DMN	12	Dimethlynaphthalene
TMN	13	Trimethylnaphthalene
P	14	Phenanthrene
MP	15	Methylphenanthrene
20TA	20	C20-Triaromatic steroid
28TA	28	C28-Triaromatic steroid
29MA	29	C29-Monoaromatic steroid

b=beta

BLUEBELL - ALTAMONT



Structure Top Tgr_3 Marker

Figure 1 Location Map

C.I. 100 ft

Figure 2

MODIFIED VAN KREVELEN DIAGRAM

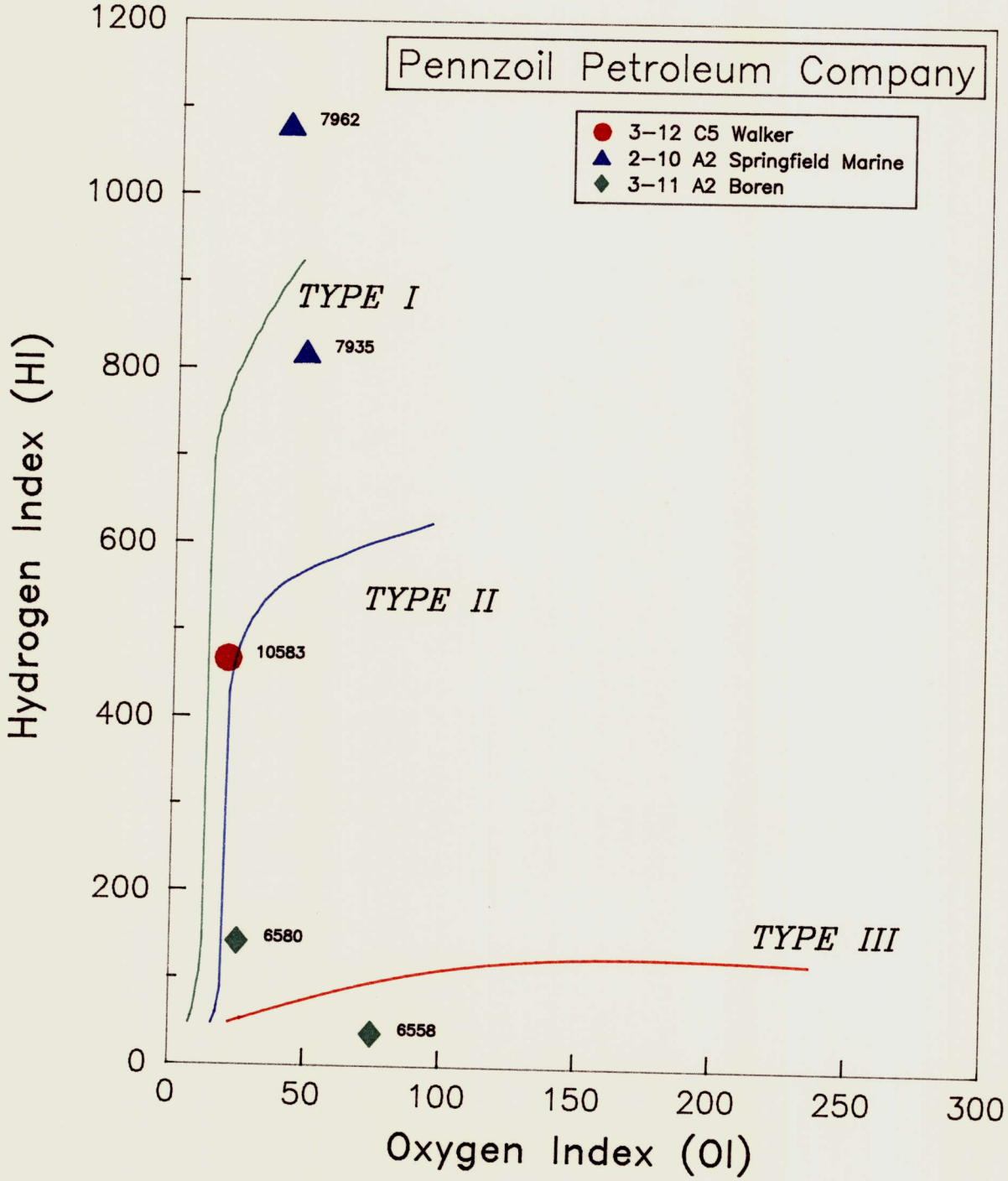
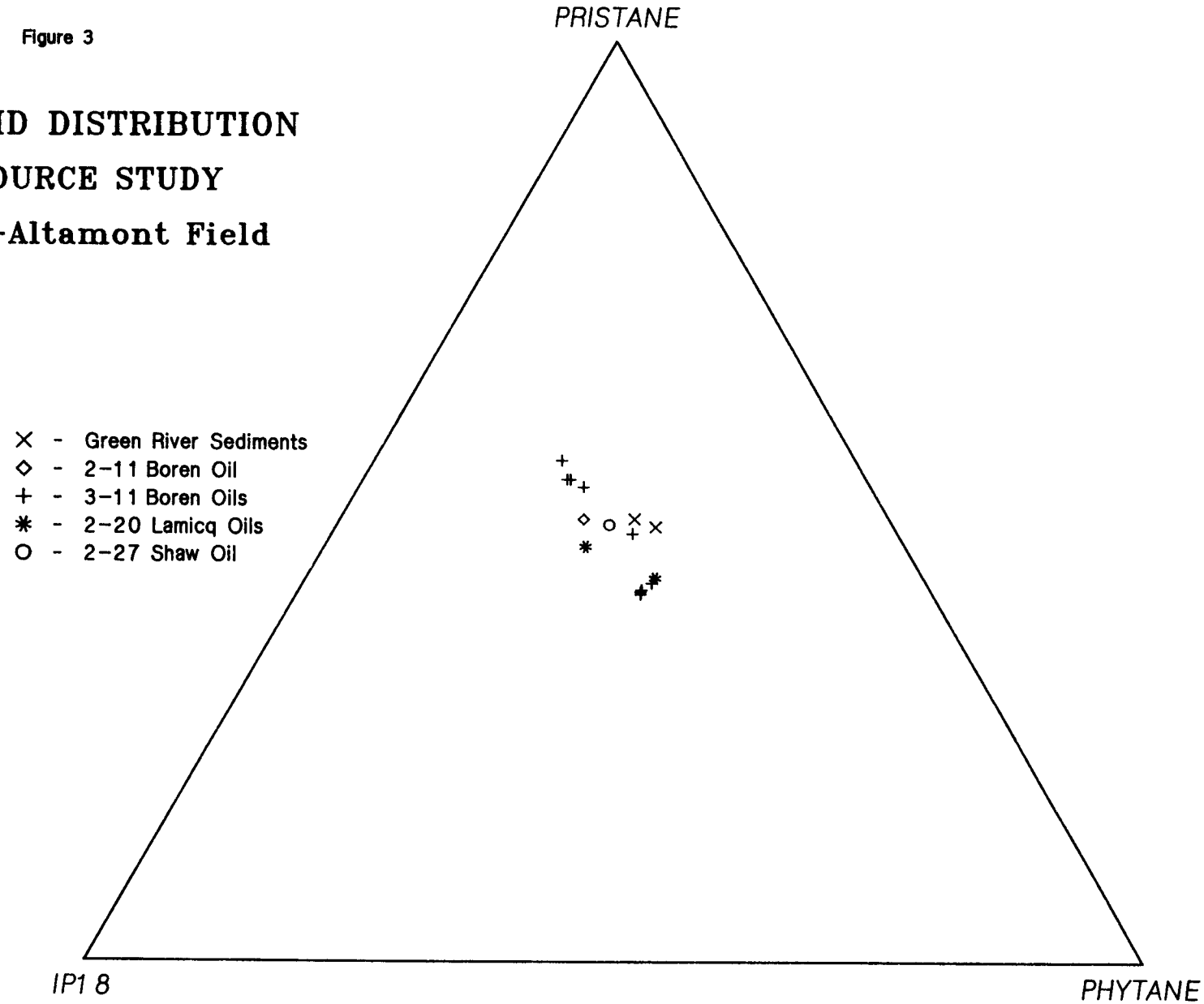


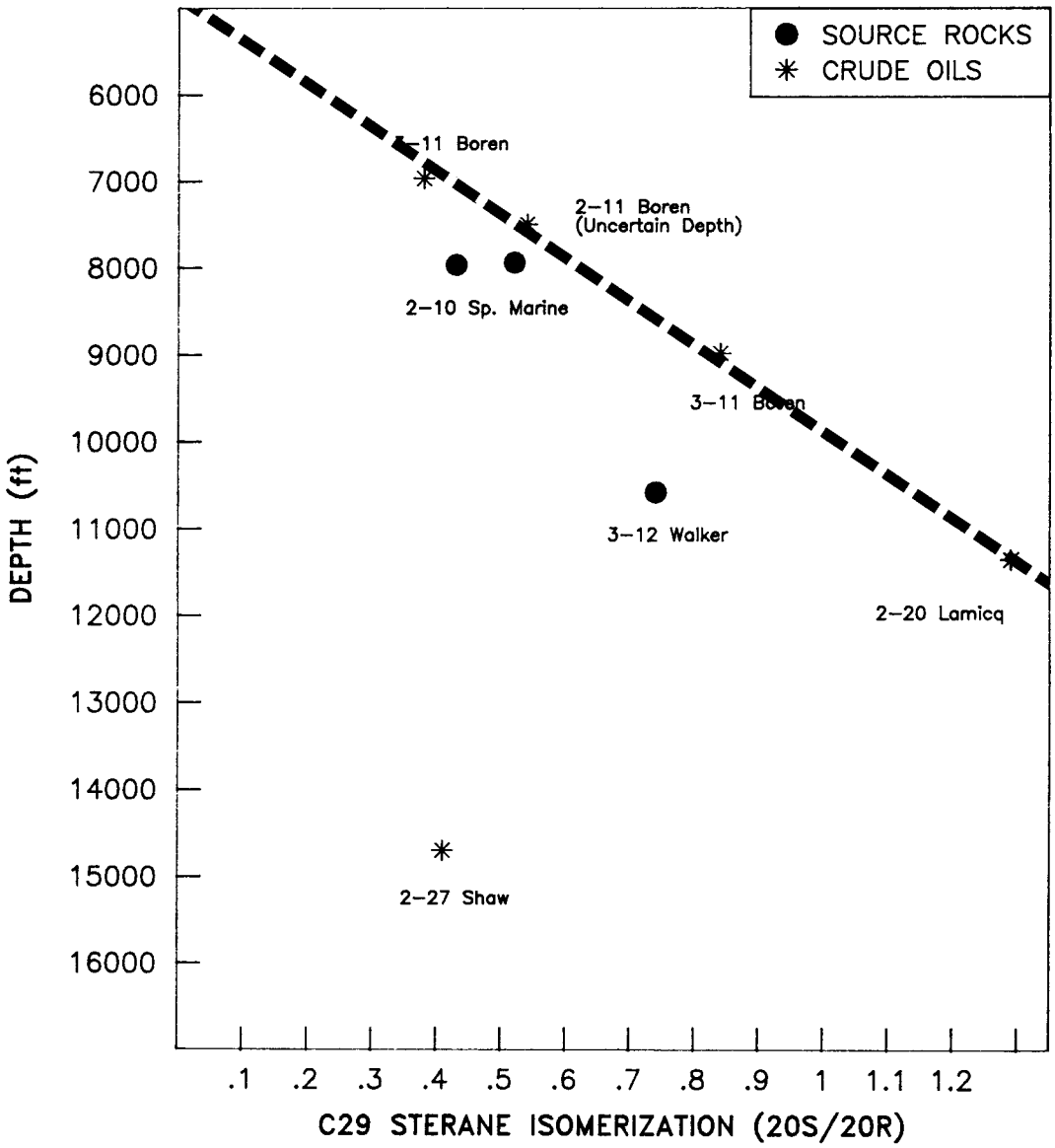
Figure 3

ISOPRENOID DISTRIBUTION
OIL–SOURCE STUDY
Bluebell–Altamont Field



STERANE ISOMERIZATION vs. DEPTH
Bluebell–Altamont Oils and Sediments

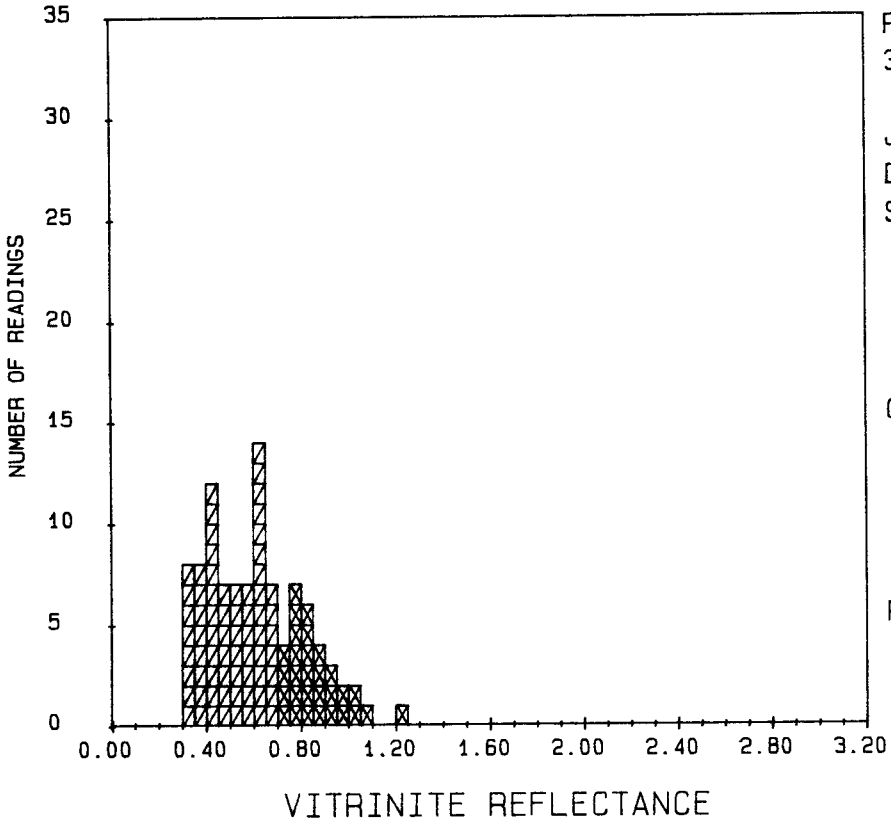
Figure 4



APPENDIX

1. Vitrinite Reflectance Histograms
2. Gas Chromatograms
3. Mass Fragmentograms

TOTAL VITRINITE REFLECTANCE HISTOGRAM



PENNZOIL
3-11 A2 BOREN

JOB # : 87221
DEPTH : 6558 FEET
SAMPLE: CORE

CAVE OR CONTAMINANT

INDIGENOUS

RECYCLED - OXIDIZED

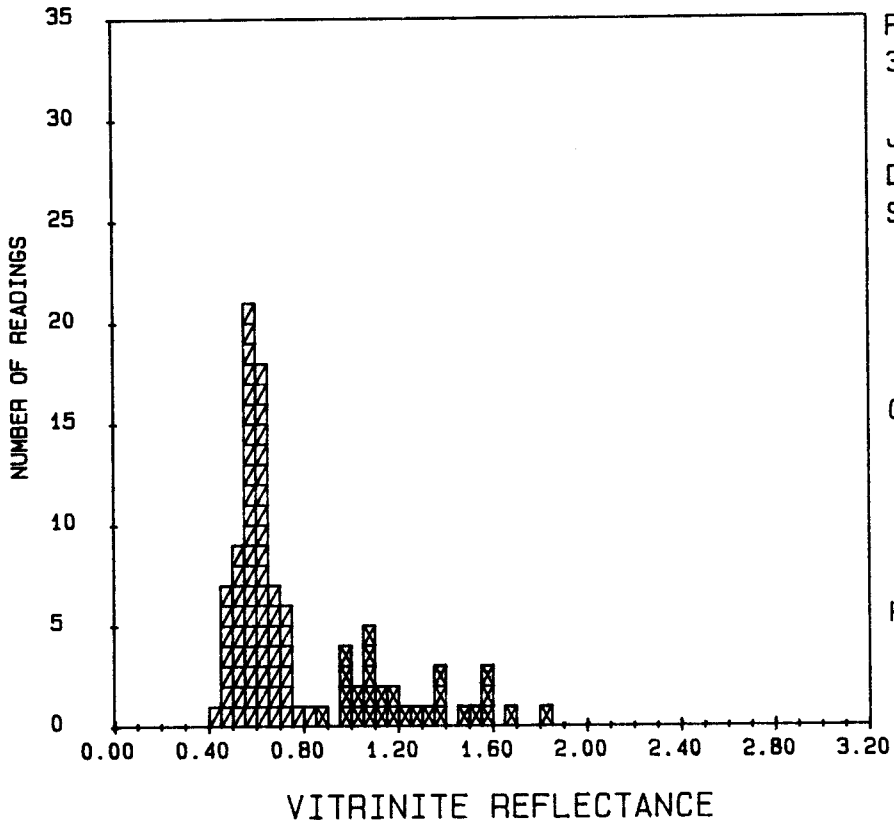
STATISTICS FOR THE INDIGENOUS POPULATION

NUMBER OF READINGS	70	STANDARD DEVIATION	0.12
MEAN REF.	0.50 %	MEDIAN	0.49
MIN. REF.	0.30 %	MODE	0.43
MAX. REF.	0.69 %	SKEWNESS	0.26

STATISTICS FOR THE TOTAL POPULATION

READINGS		PERCENT OF POPULATION	
CAVE OR CONTAMINANT	0	CAVE OR CONTAMINANT	0.0 %
INDIGENOUS	70	INDIGENOUS	70.0 %
RECYCLED - OXIDIZED	30	RECYCLED - OXIDIZED	30.0 %
TOTAL	100	TOTAL	100.0 %

TOTAL VITRINITE REFLECTANCE HISTOGRAM



PENNZOIL
3-11 A2 BOREN

JOB # : 87221
DEPTH : 6580 FEET
SAMPLE: CORE

CAVE OR CONTAMINANT

INDIGENOUS

RECYCLED - OXIDIZED

STATISTICS FOR THE INDIGENOUS POPULATION

NUMBER OF READINGS	71	STANDARD DEVIATION	0.08
MEAN REF.	0.58 %	MEDIAN	0.58
MIN. REF.	0.44 %	MODE	0.56
MAX. REF.	0.80 %	SKEWNESS	0.00

STATISTICS FOR THE TOTAL POPULATION

READINGS		PERCENT OF POPULATION	
CAVE OR CONTAMINANT	0	CAVE OR CONTAMINANT	0.0 %
INDIGENOUS	71	INDIGENOUS	71.0 %
RECYCLED - OXIDIZED	29	RECYCLED - OXIDIZED	29.0 %
TOTAL	100	TOTAL	100.0 %

PENNZOIL
3-11 A2 BOREN

DEPTH RANGE 6558 FEET

SAMPLE TYPE CORE

RO VALUE	COUNT	RO VALUE	COUNT	RO VALUE	COUNT
.30	2	.50	1	.73	1
.31	1	.51	2	.75	2
.32	2	.52	2	.76	1
.33	1	.53	1	.77	3
.34	2	.54	1	.79	1
.35	1	.56	4	.80	2
.36	2	.58	1	.81	2
.37	1	.59	2	.82	1
.38	2	.60	2	.83	1
.39	2	.61	3	.86	2
.40	2	.62	3	.87	2
.41	2	.63	3	.90	1
.42	2	.64	3	.92	1
.43	5	.67	2	.93	1
.44	1	.68	3	.95	1
.45	1	.69	2	.96	1
.46	1	.70	1	1.04	2
.48	4	.71	1	1.06	1
.49	1	.72	1	1.21	1

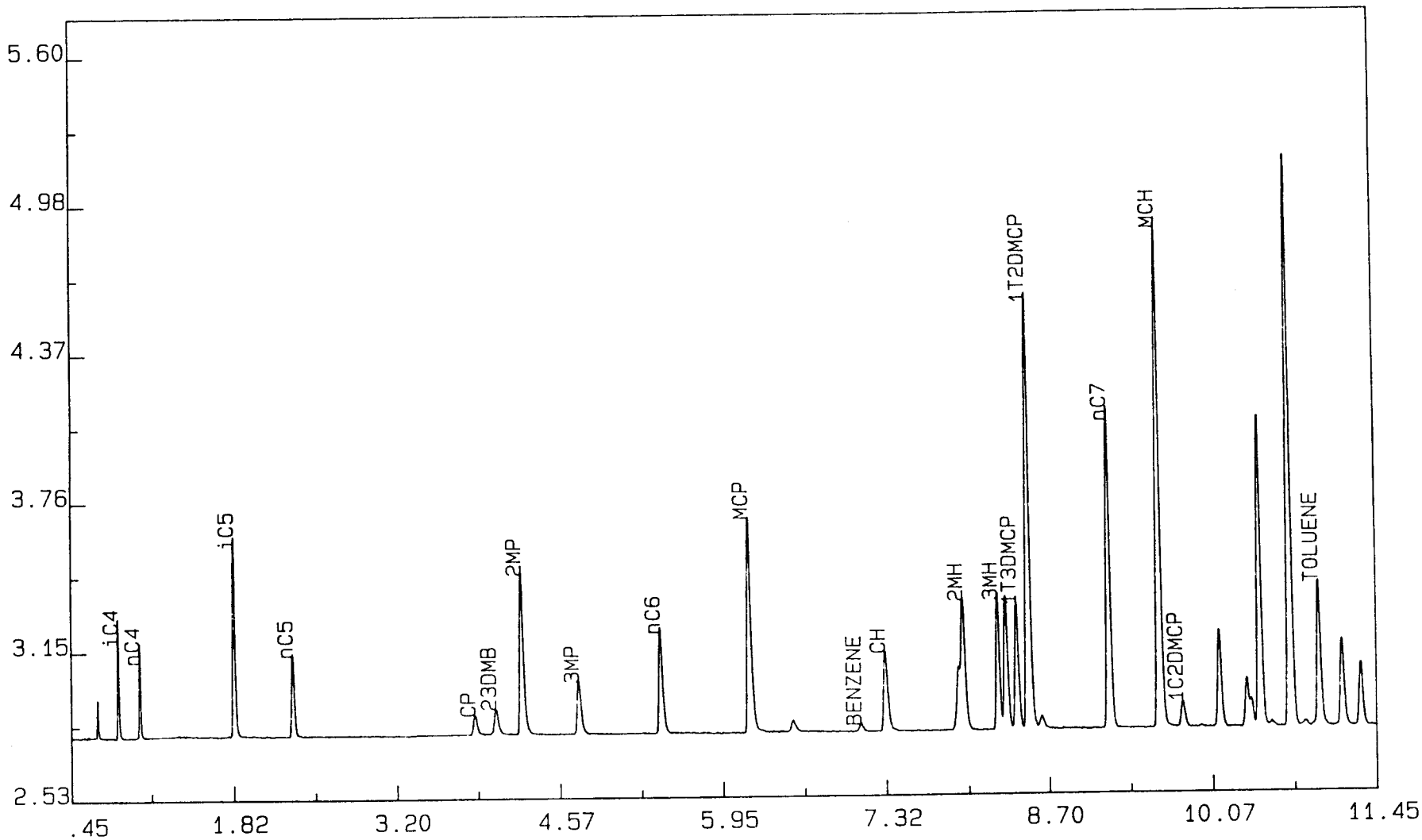
PENNZOIL
3-11 A2 BOREN

DEPTH RANGE 6580 FEET

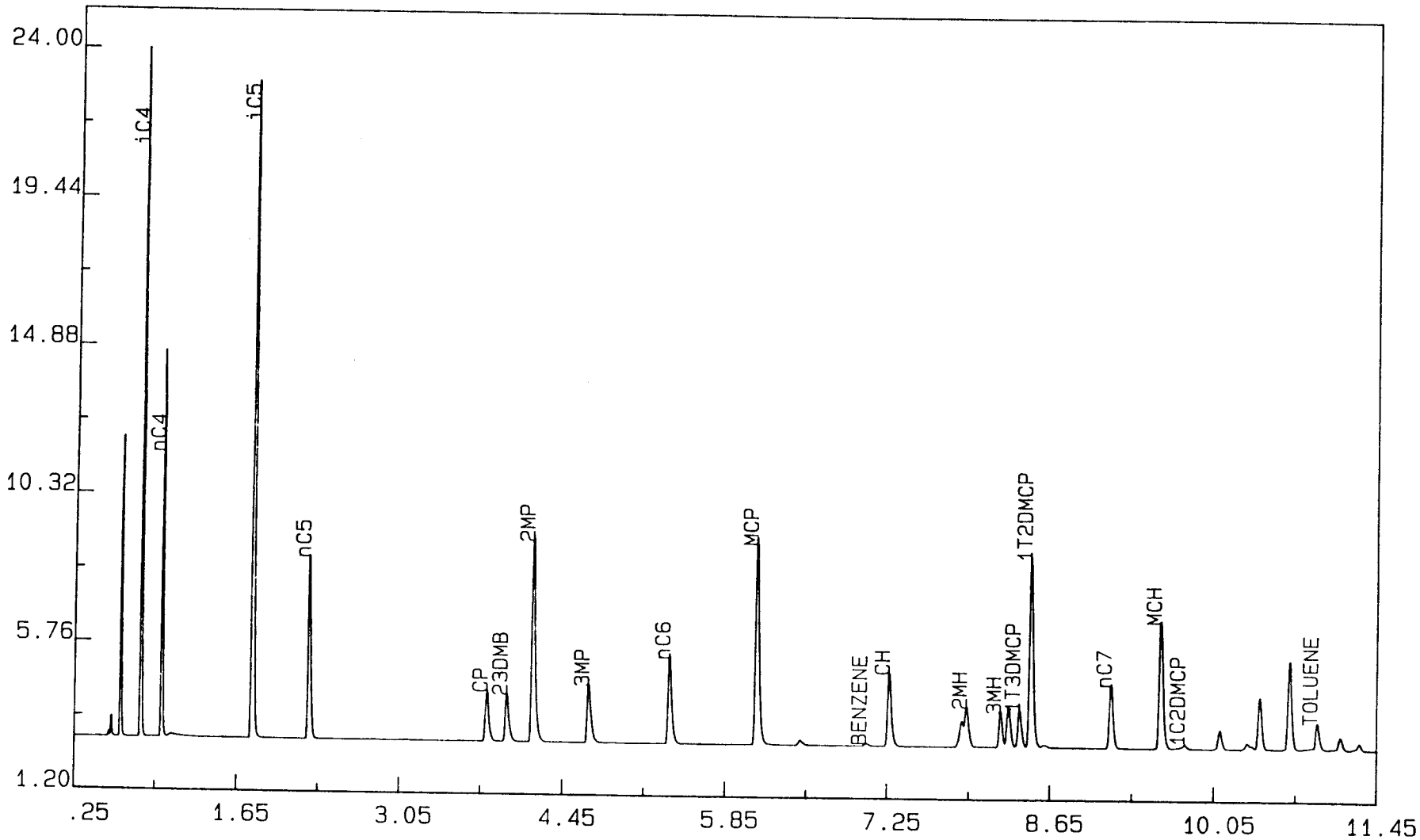
SAMPLE TYPE CORE

RO VALUE	COUNT	RO VALUE	COUNT	RO VALUE	COUNT
.44	1	.65	1	1.11	1
.46	2	.66	2	1.12	1
.47	4	.67	1	1.16	1
.49	1	.68	1	1.17	1
.50	2	.69	2	1.23	1
.51	3	.70	5	1.29	1
.52	2	.71	1	1.34	1
.53	2	.75	1	1.35	1
.55	5	.80	1	1.37	1
.56	6	.87	1	1.38	1
.57	3	.95	1	1.49	1
.58	3	.97	3	1.54	1
.59	4	1.01	1	1.55	1
.60	6	1.02	1	1.57	1
.61	1	1.06	2	1.58	1
.62	4	1.07	2	1.69	1
.63	3	1.09	1	1.83	1
.64	4				

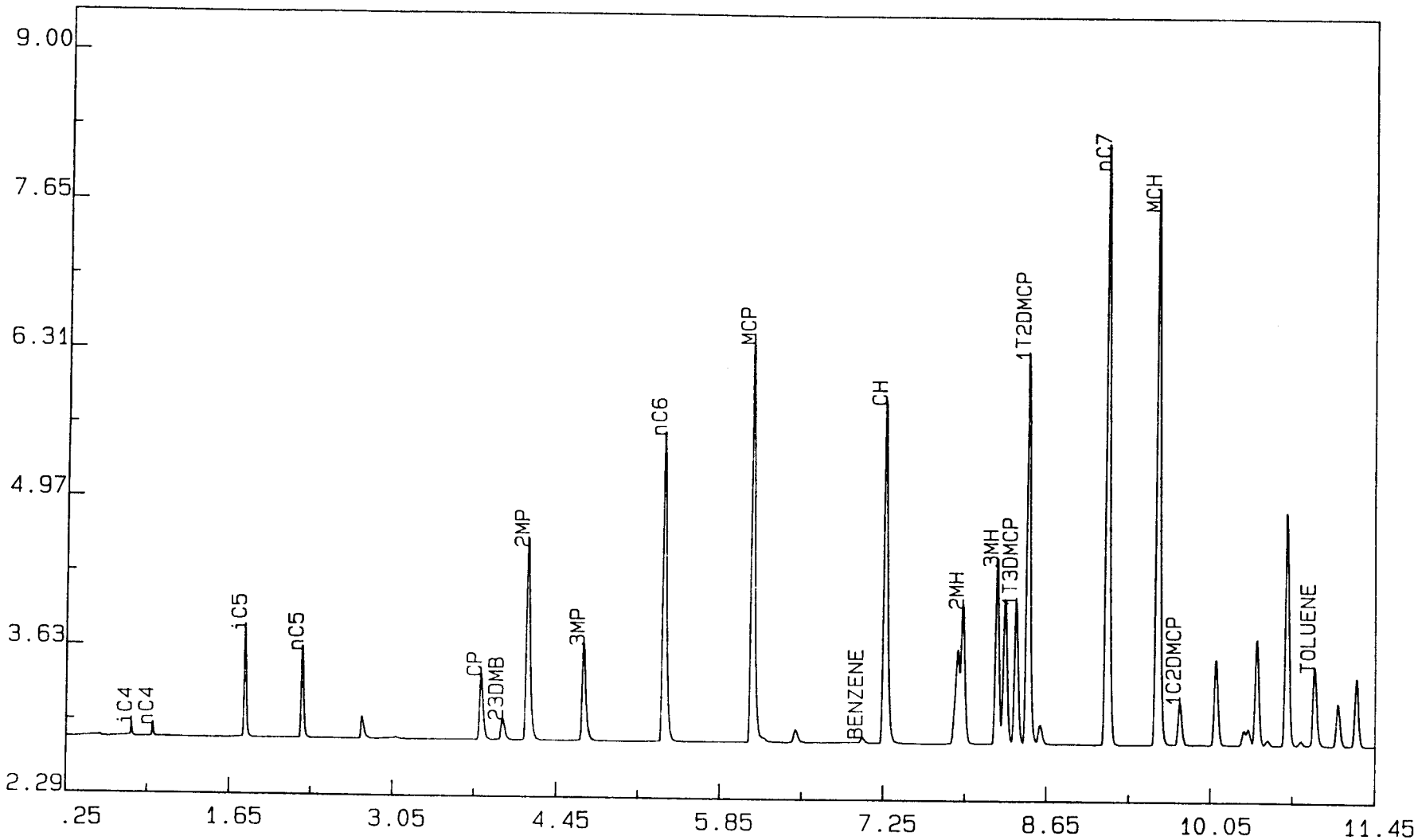
C4-TOLUENE GASOLINE RANGE HYDROCARBONS
PENNZOIL 2-11 BOREN OIL



C4-TOLUENE GASOLINE RANGE HYDROCARBONS
PENNZOIL 3-11 BOREN 6970

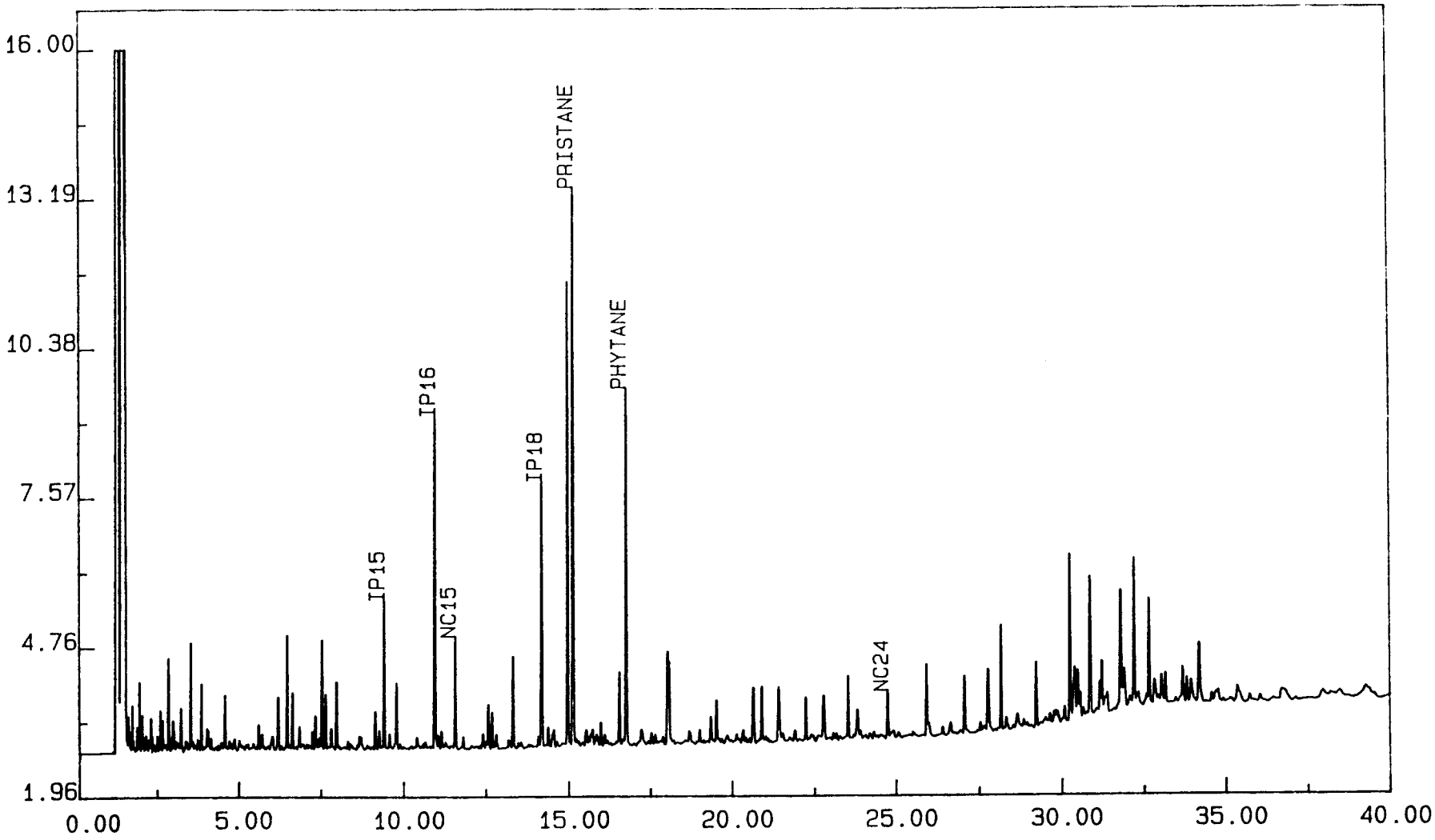


C4-TOLUENE GASOLINE RANGE HYDROCARBONS
PENNZOIL 3-11 BOREN 8984S

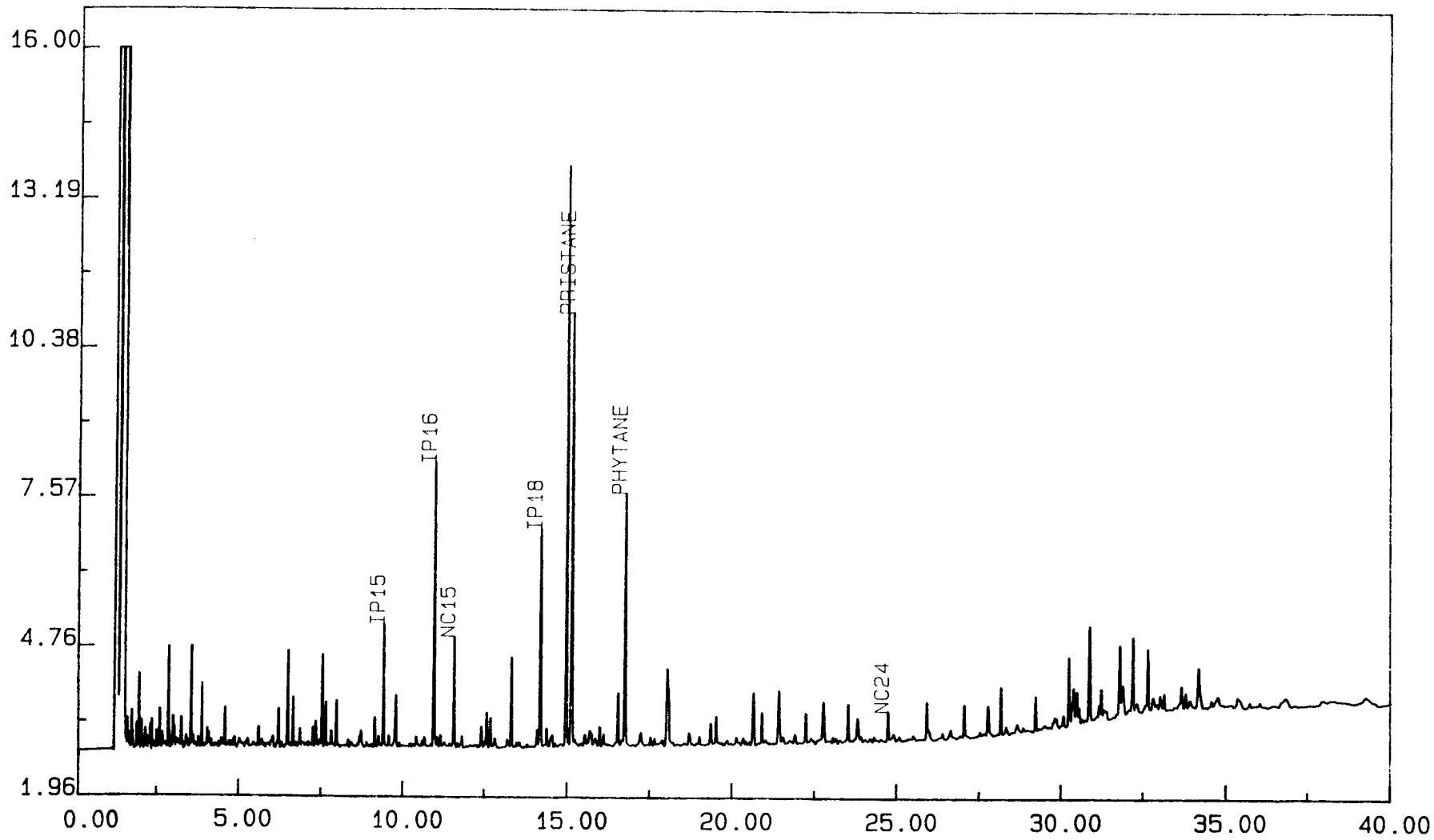


C10+ SATURATED HYDROCARBON FRACTION

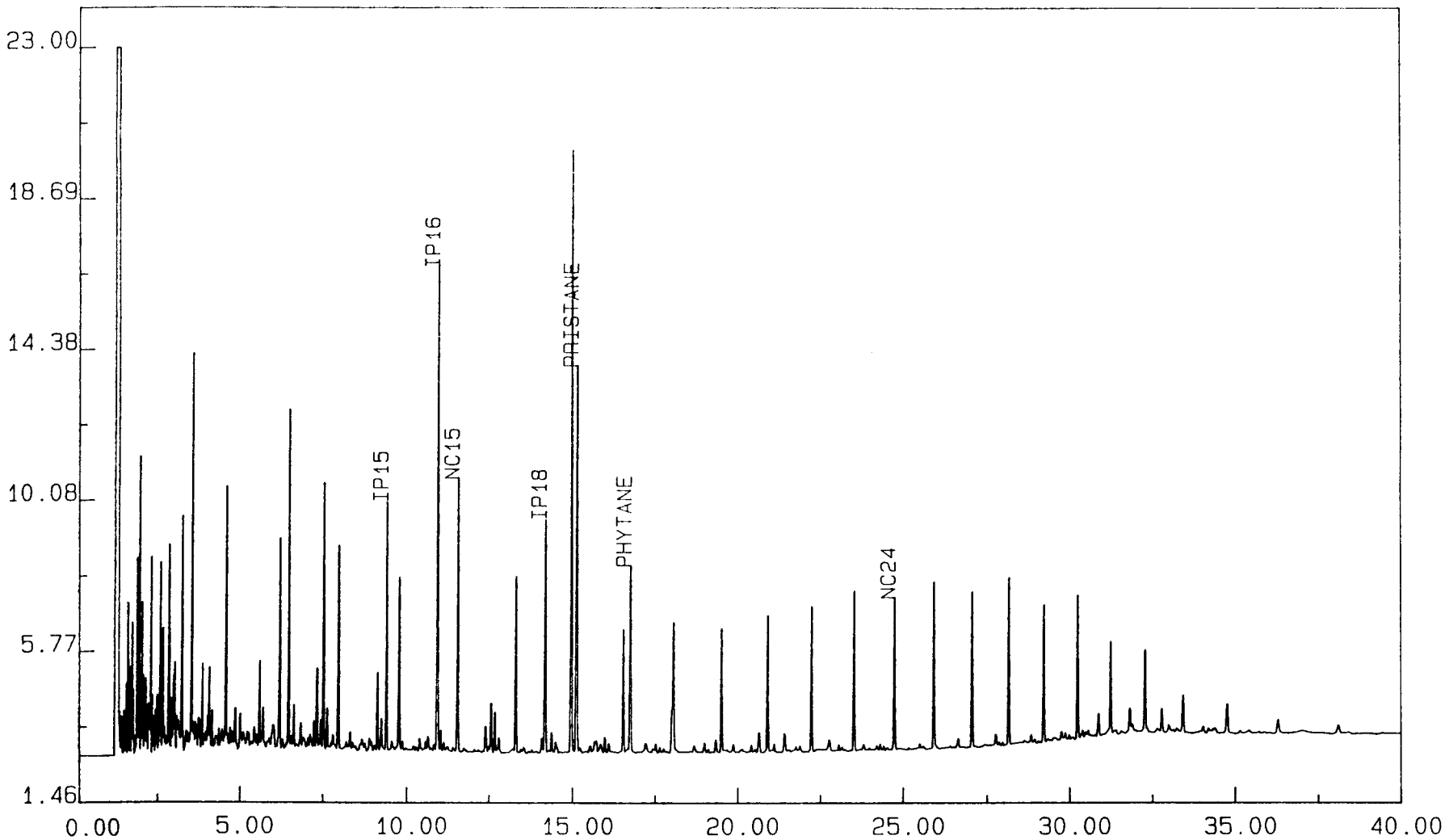
2-10 A2 Springfield Mar. 7935' Core



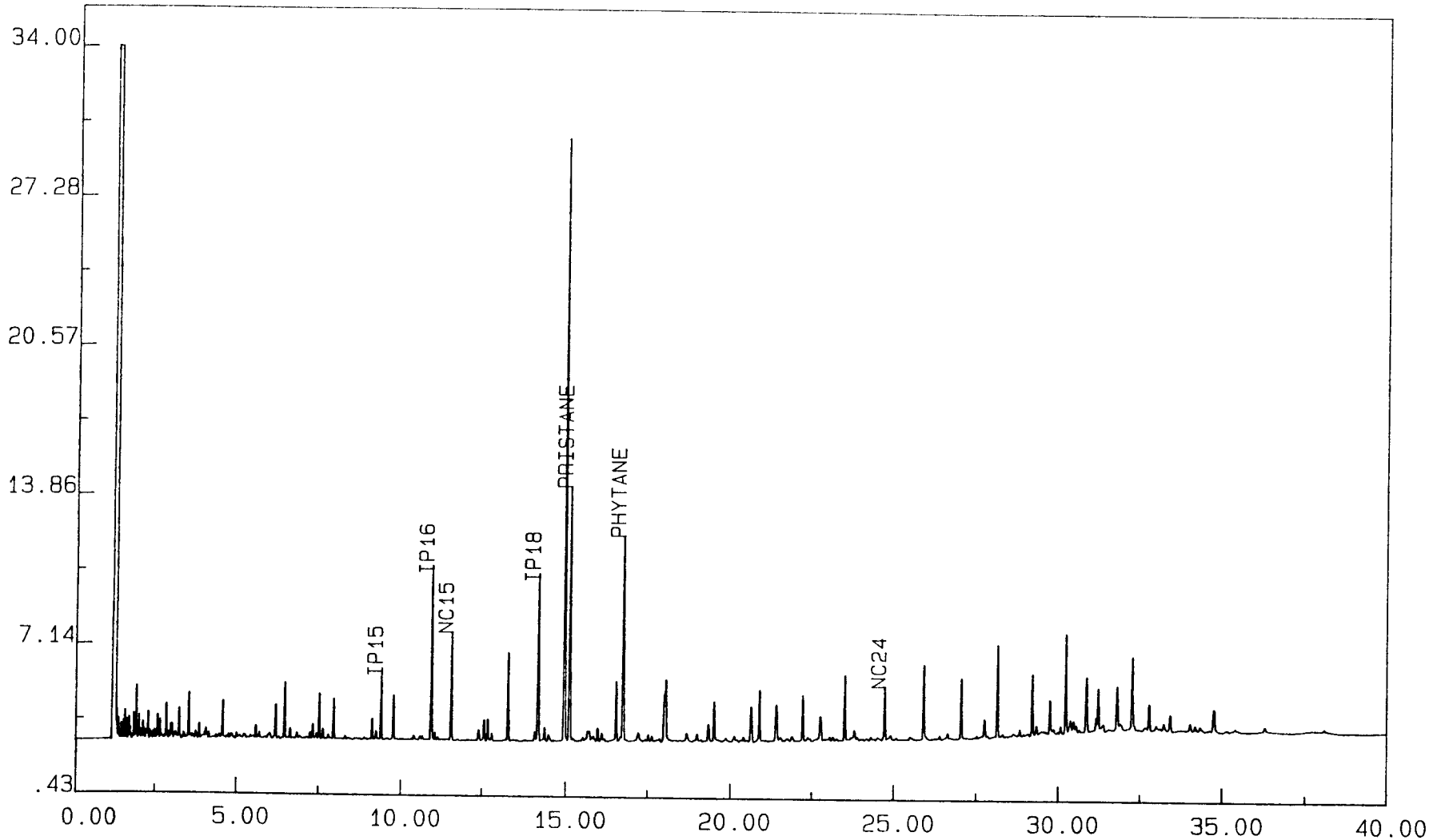
C10+ SATURATED HYDROCARBON FRACTION
2-10 A2 Springfield Mar. 7962' Core



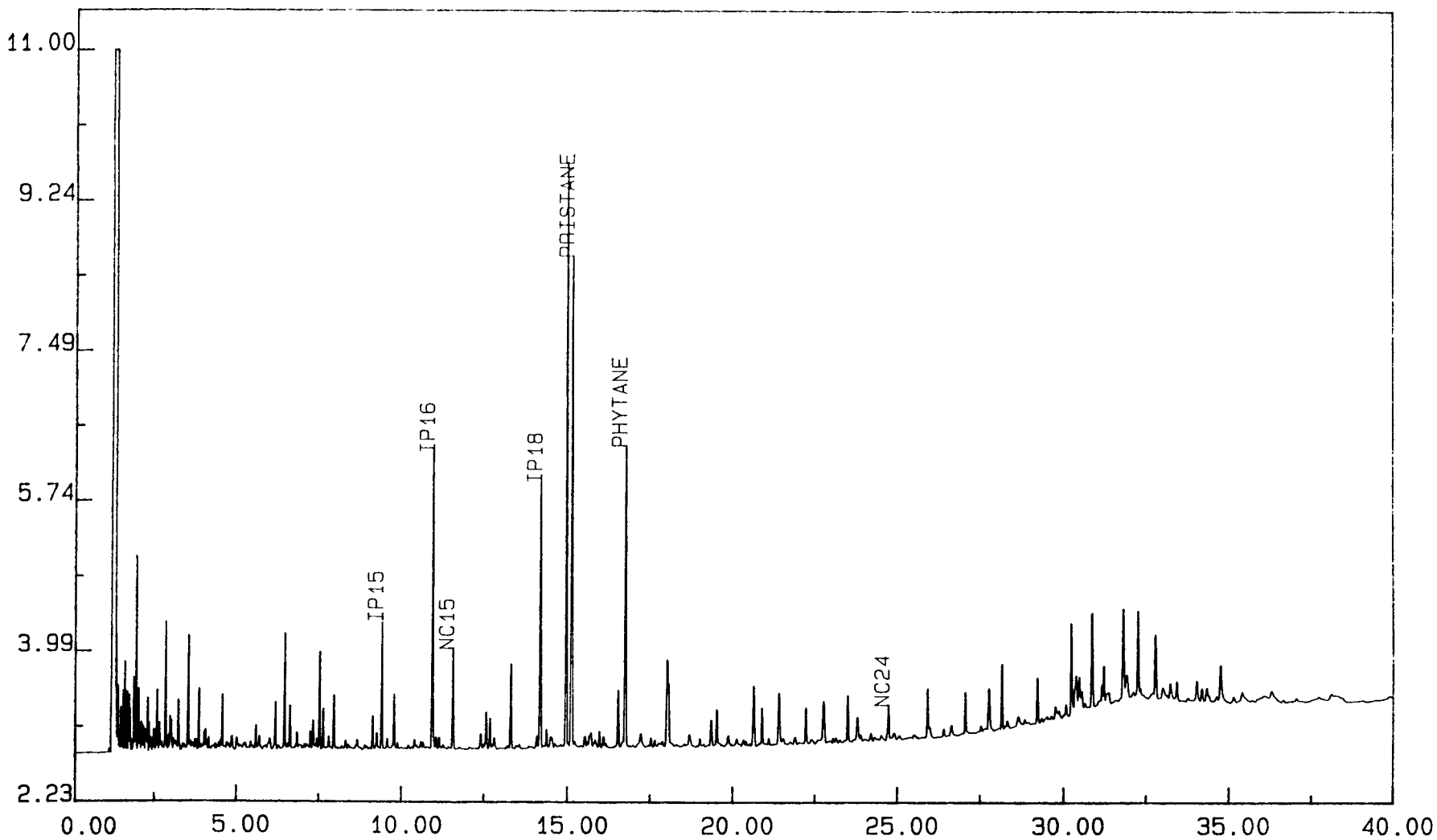
C10+ SATURATED HYDROCARBON FRACTION
2-11 A2 Boren Produced Oil



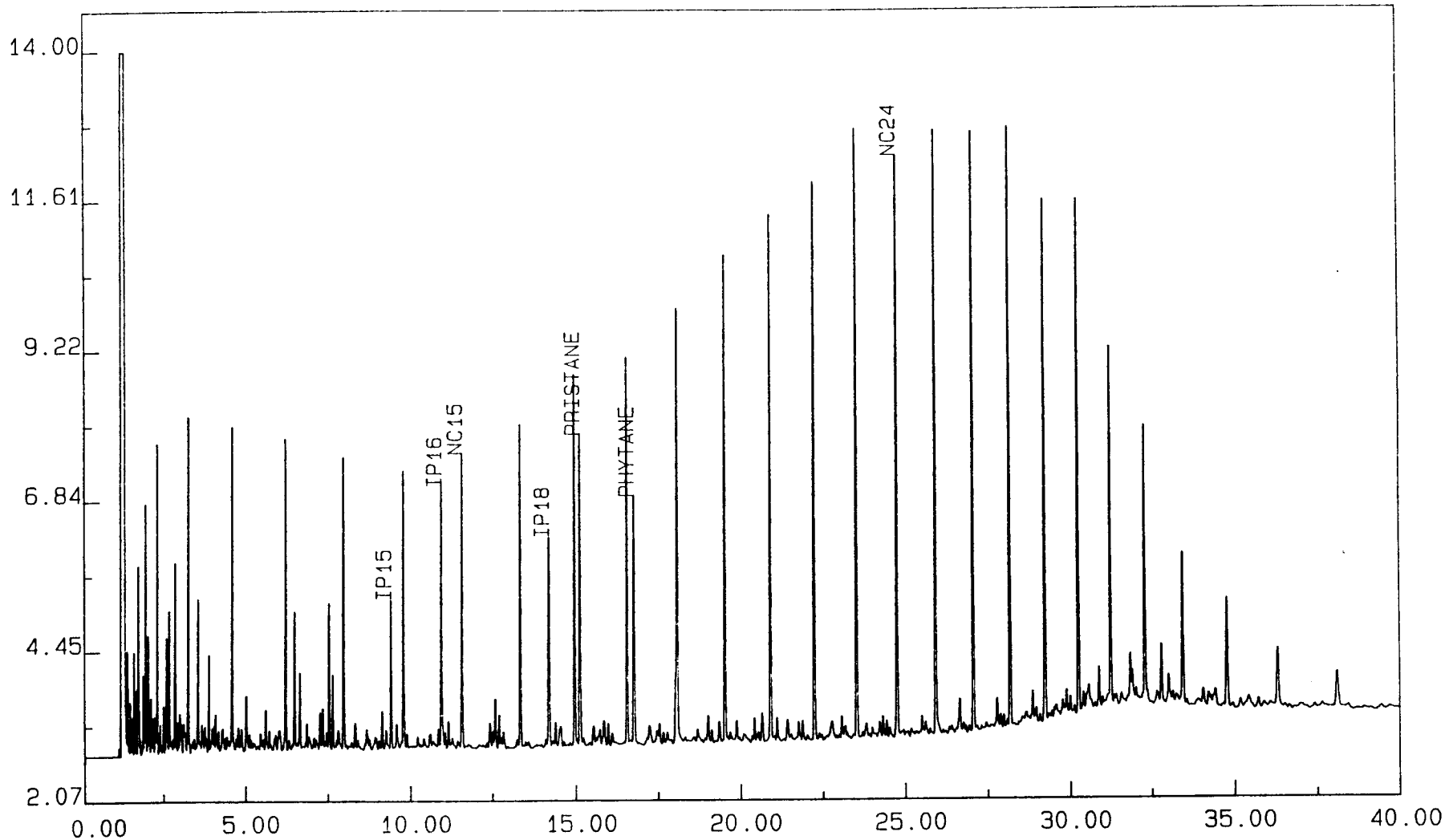
C10+ SATURATED HYDROCARBON FRACTION
3-11 A2 Boren 6970-7135' Crude Oil



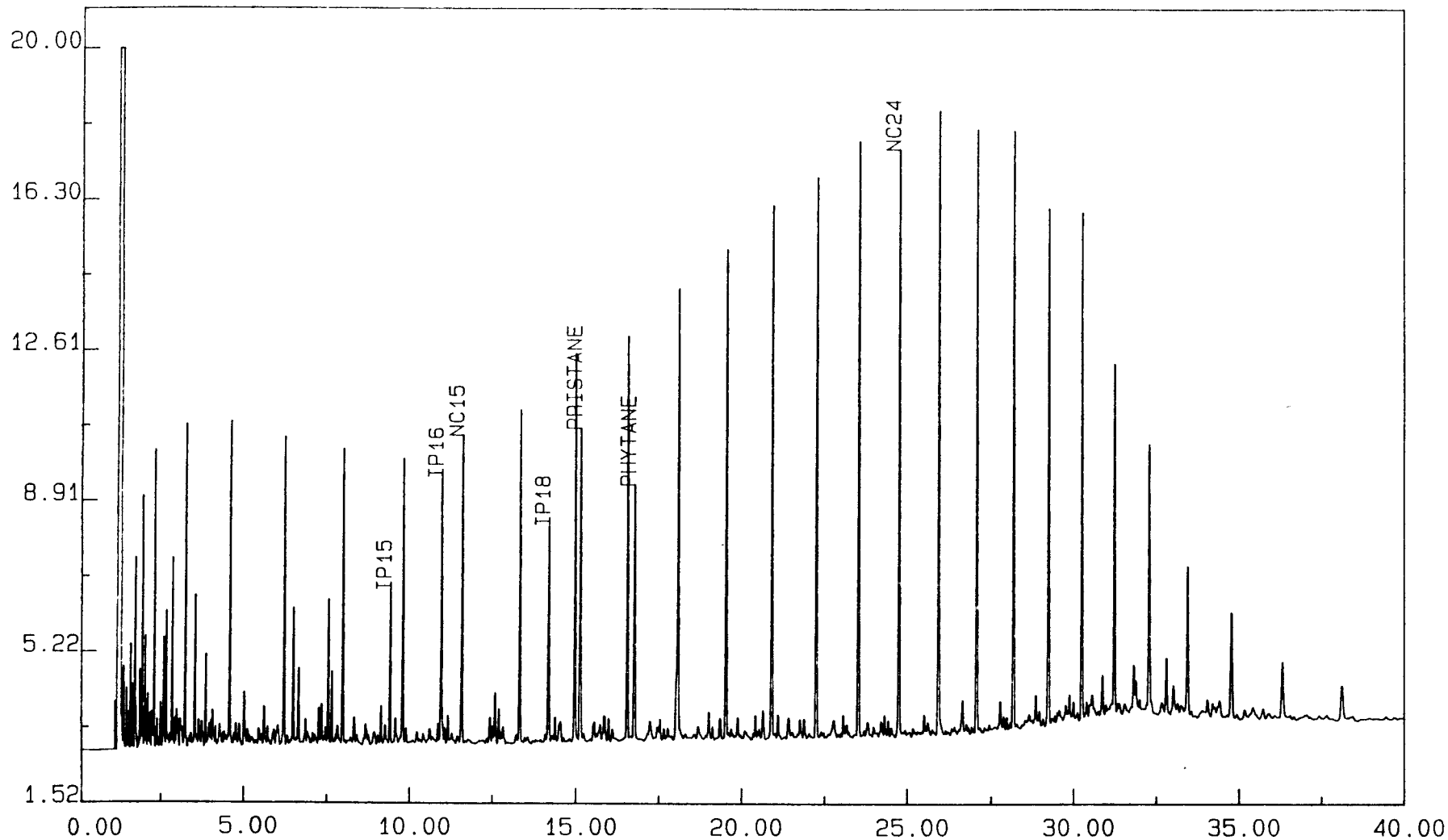
C10+ SATURATED HYDROCARBON FRACTION
3-11 A2 Boren 7375-7405' Crude Oil



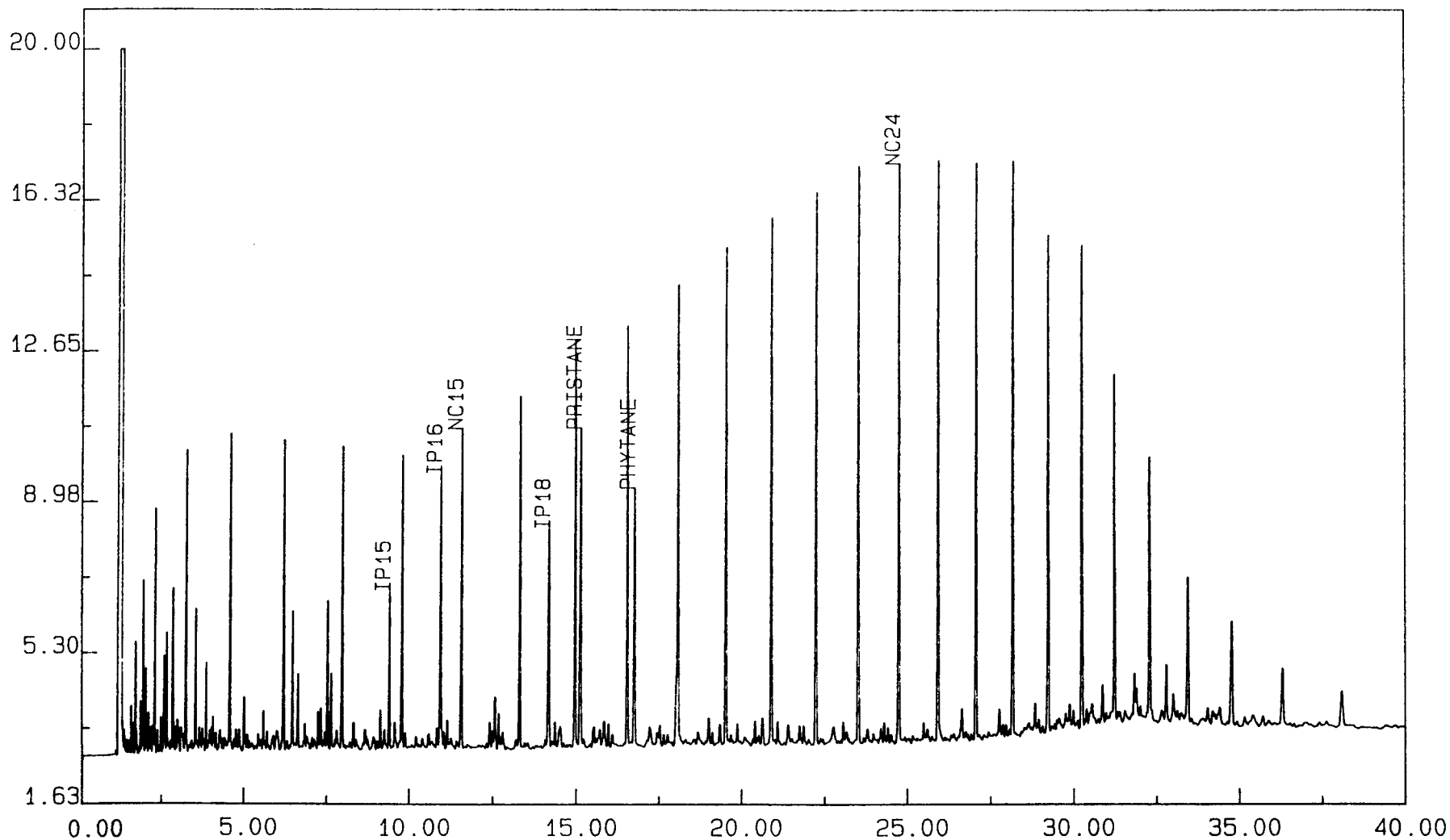
C10+ SATURATED HYDROCARBON FRACTION
3-11 A2 Boren 8984-9067' Top Oil



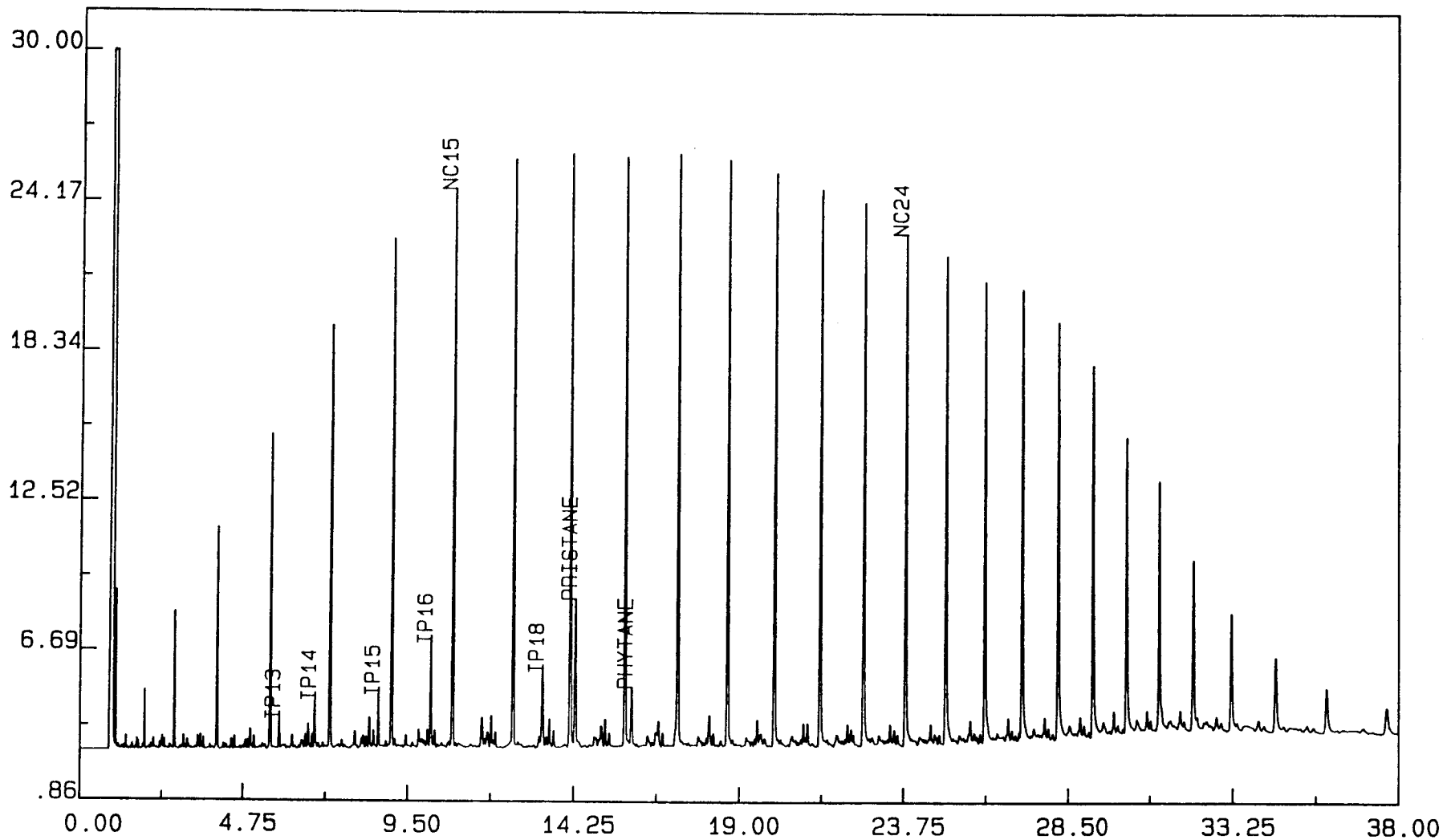
C10+ SATURATED HYDROCARBON FRACTION
3-11 A2 Boren 8984-9067' Middle Oil



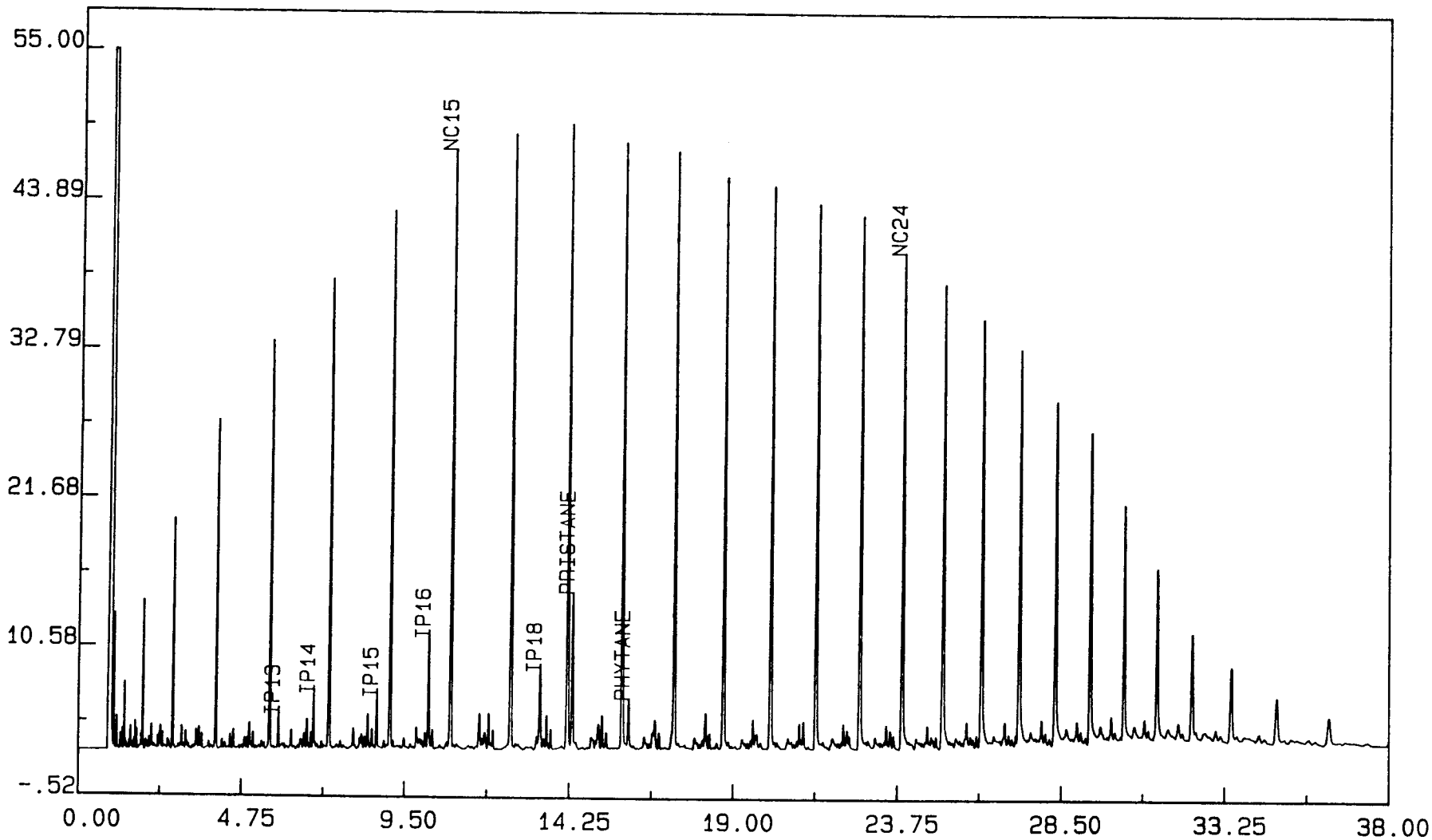
C10+ SATURATED HYDROCARBON FRACTION
3-11 A2 Boren 8984-9067' Chamber Oil



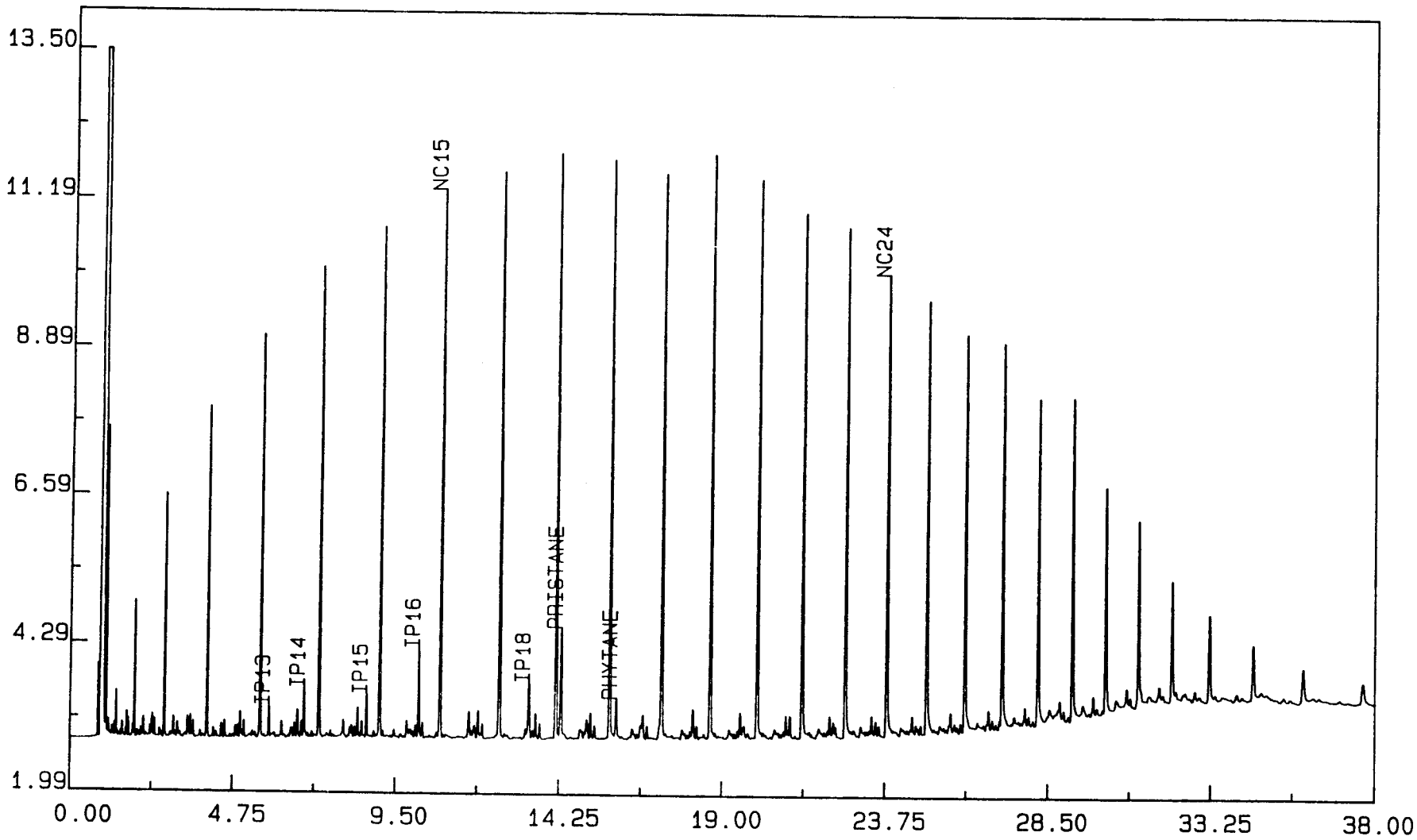
C10+ SATURATED HYDROCARBON FRACTION
PENNZOIL 3-11 BOREN 11854ft



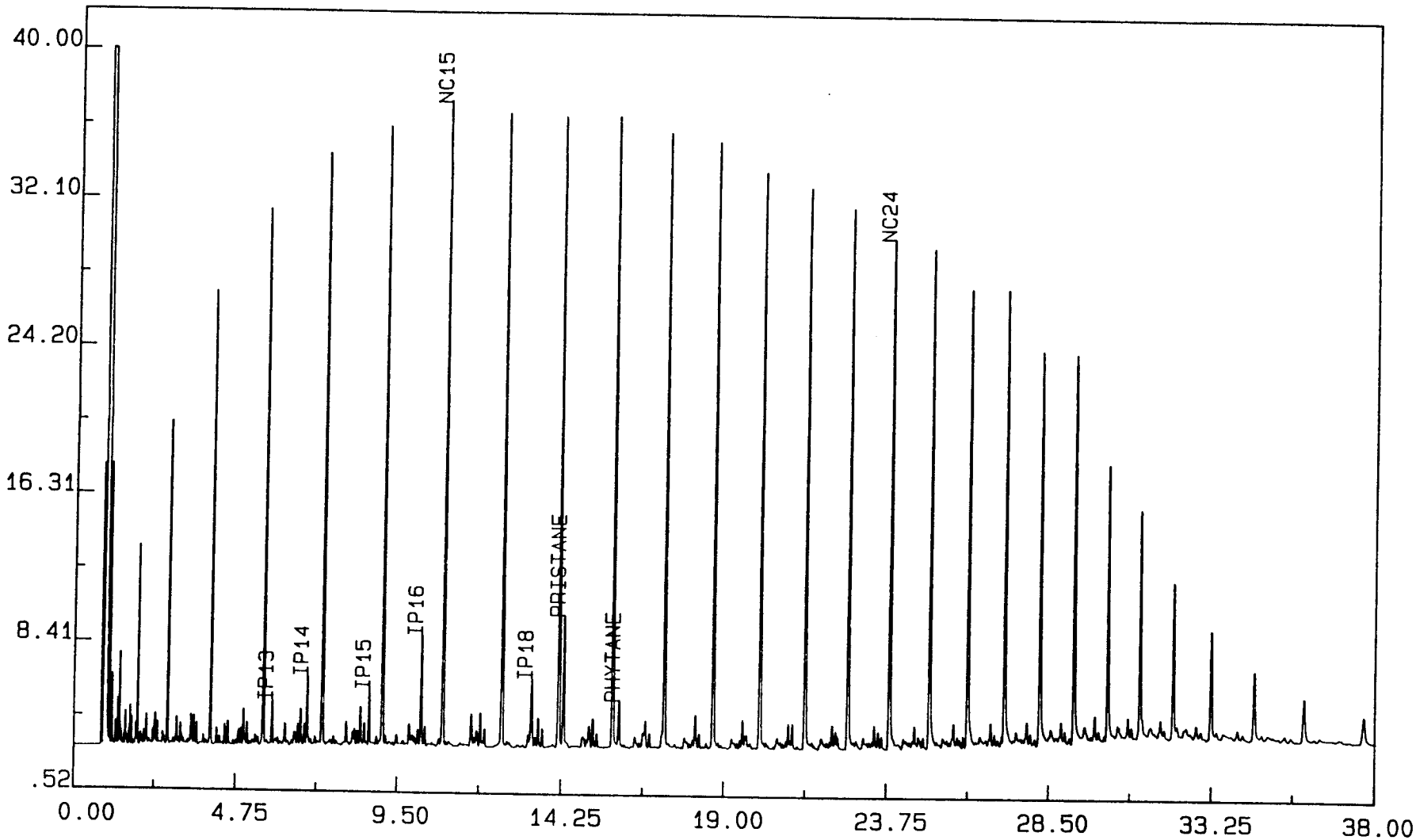
C10+ SATURATED HYDROCARBON FRACTION
PENNZOIL 3-11 BOREN 13285ft



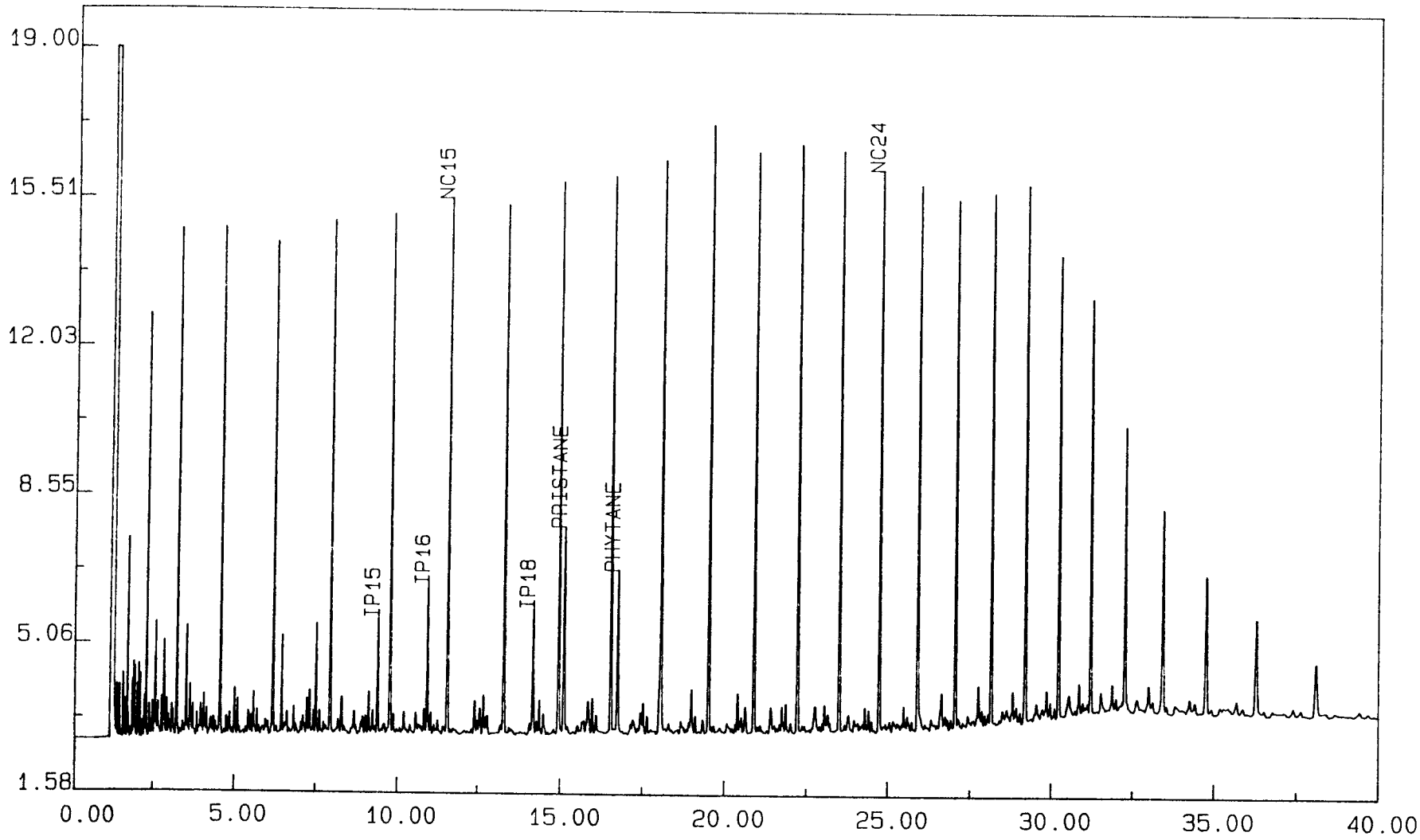
C10+ SATURATED HYDROCARBON FRACTION
PENNZOIL 3-11 BOREN 14004ft



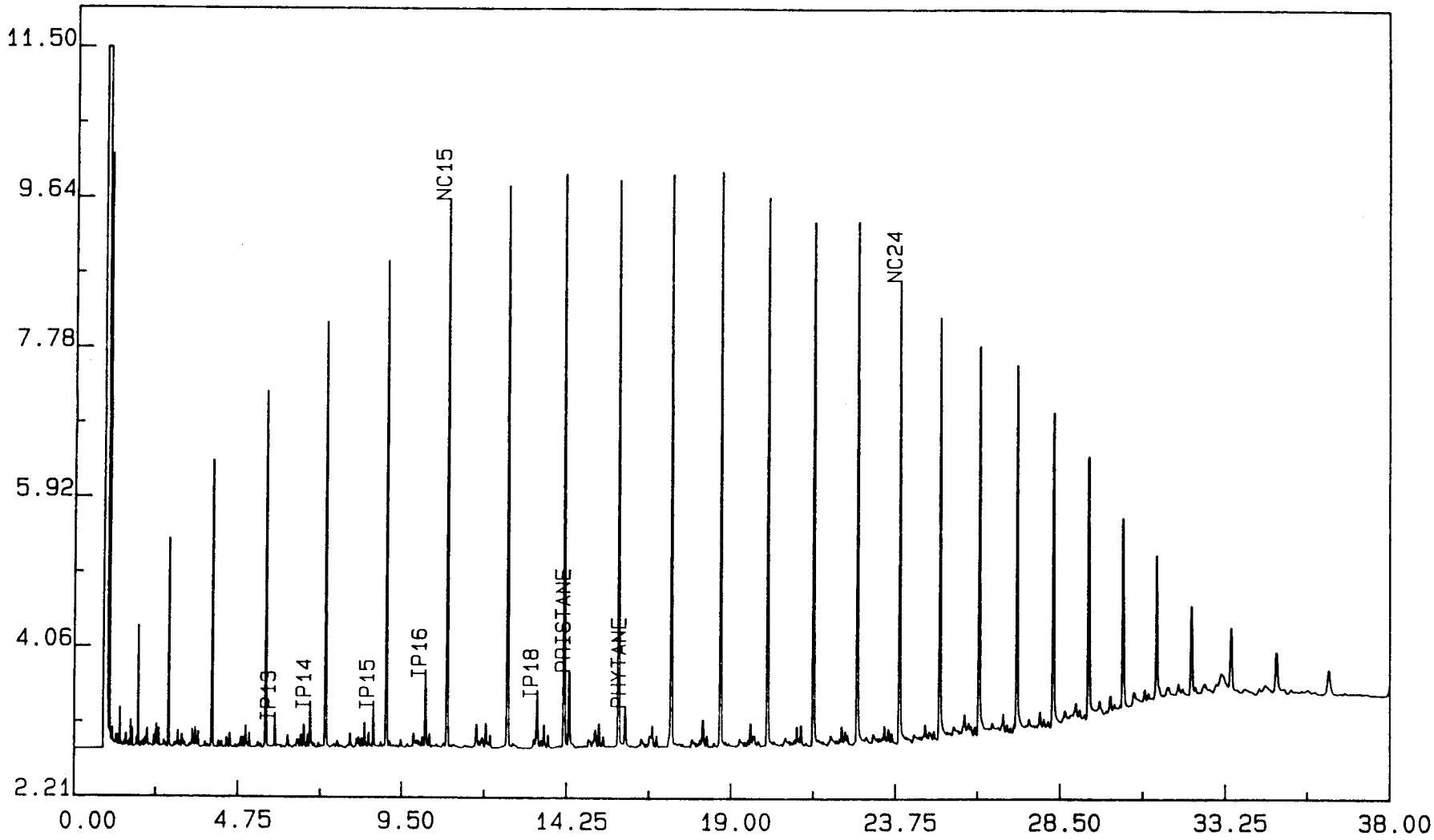
C10+ SATURATED HYDROCARBON FRACTION
PENNZOIL 3-11 BOREN 14600ft



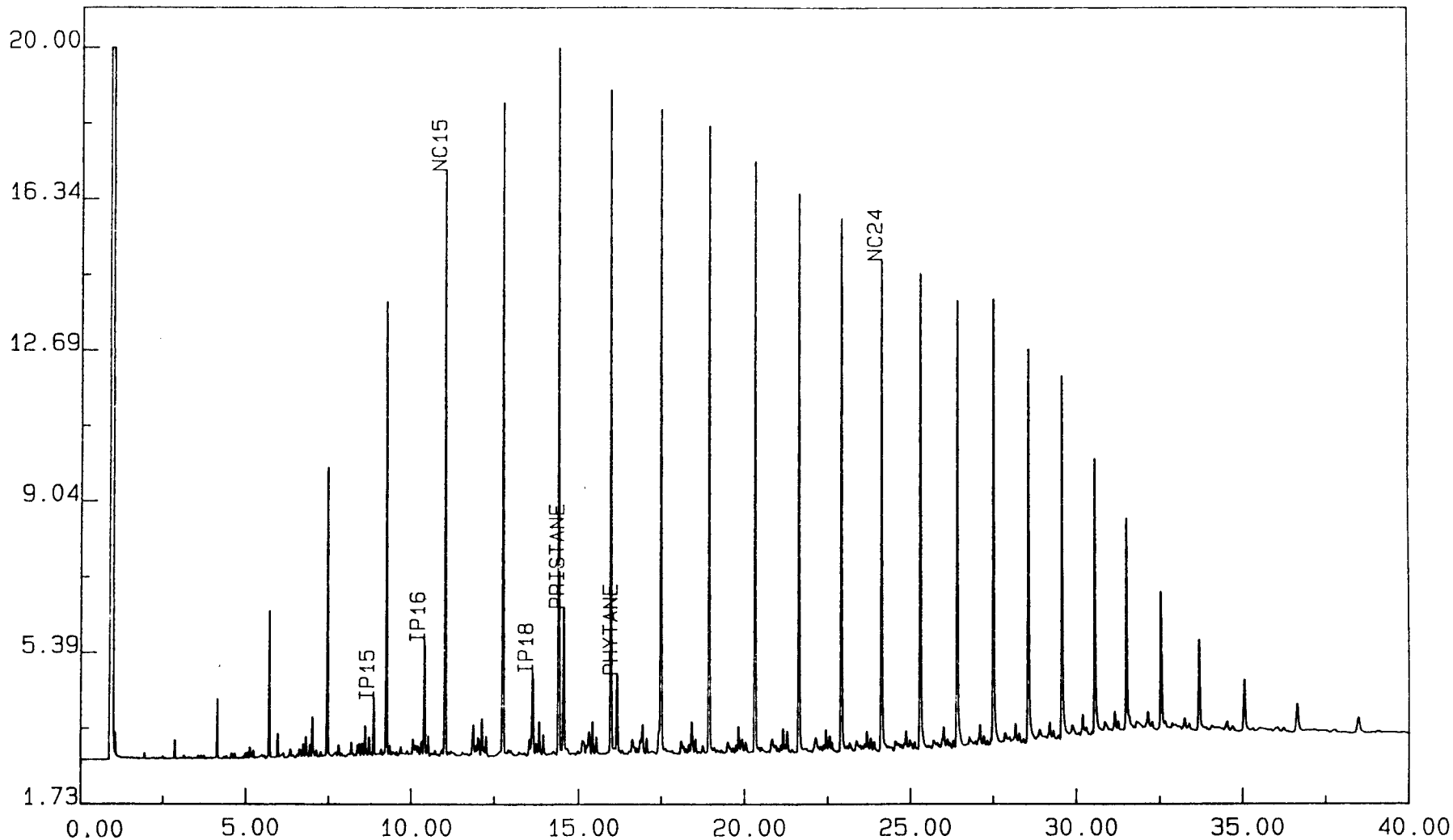
C10+ SATURATED HYDROCARBON FRACTION
2-20 A2 Lamicq 11356-11359 Oil Show #8



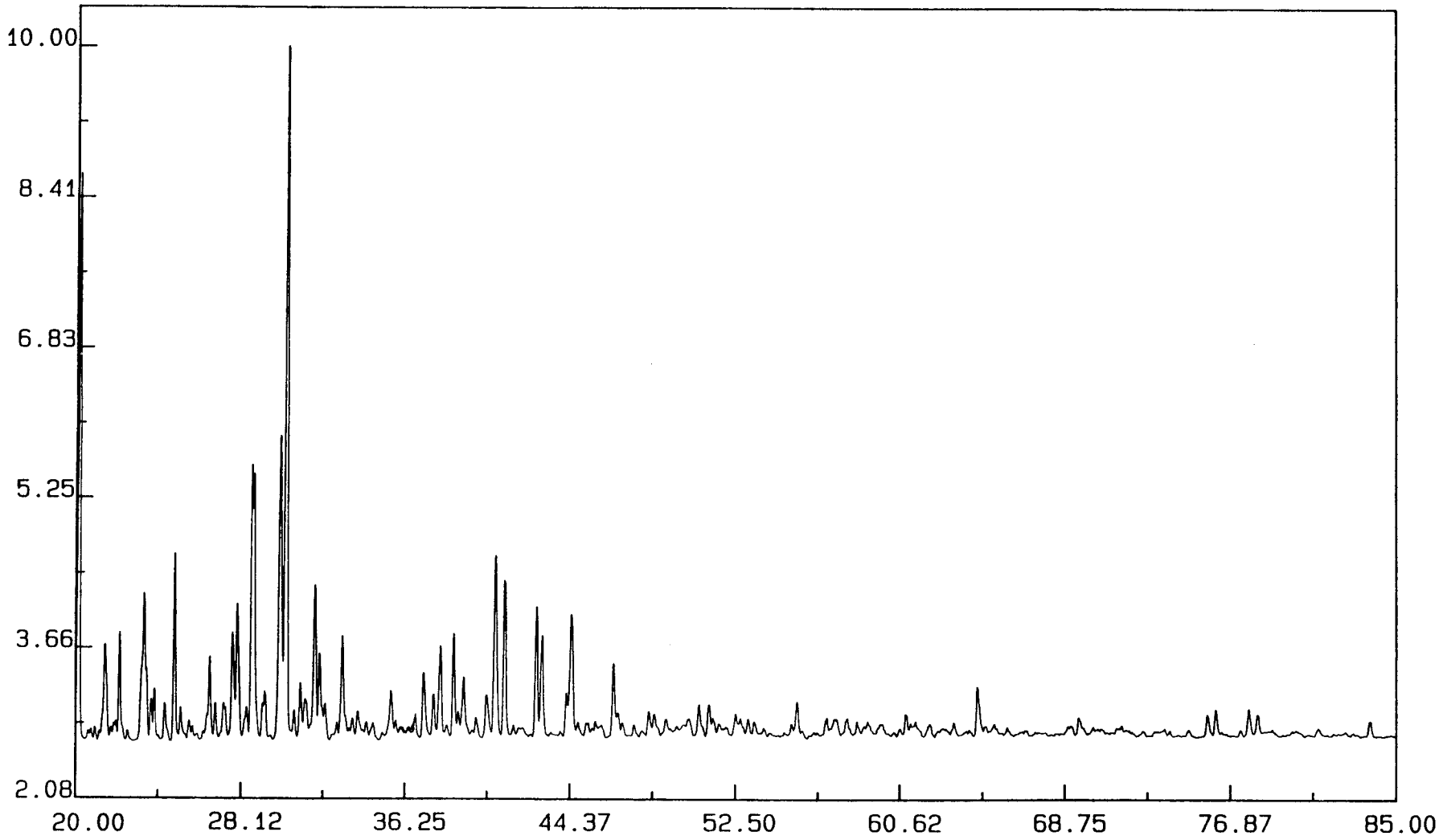
C10+ SATURATED HYDROCARBON FRACTION
PENNZOIL 2-20 LMICQ 13589ft



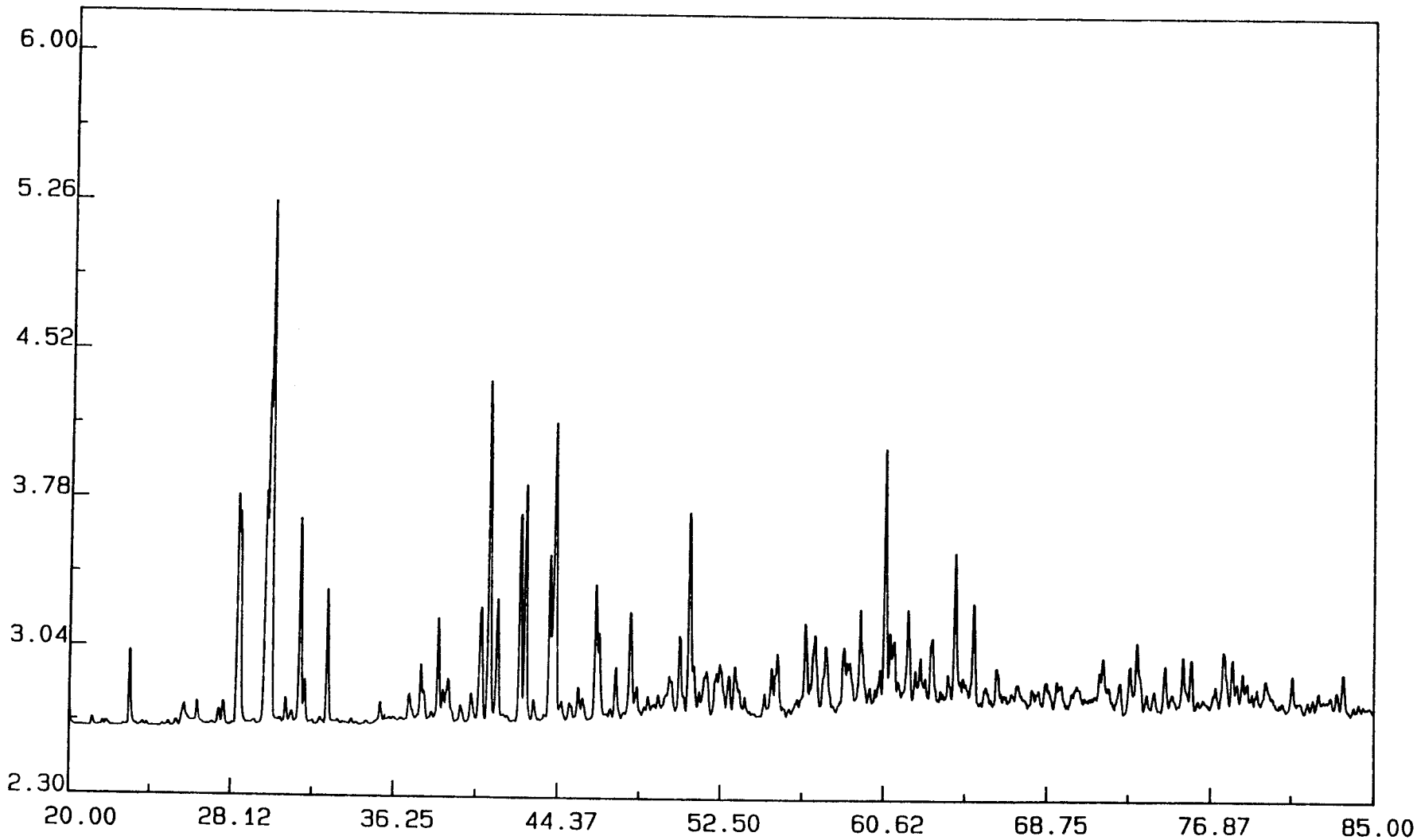
C10+ SATURATED HYDROCARBON FRACTION
2-27 A2 Shaw 14700' Crude Oil



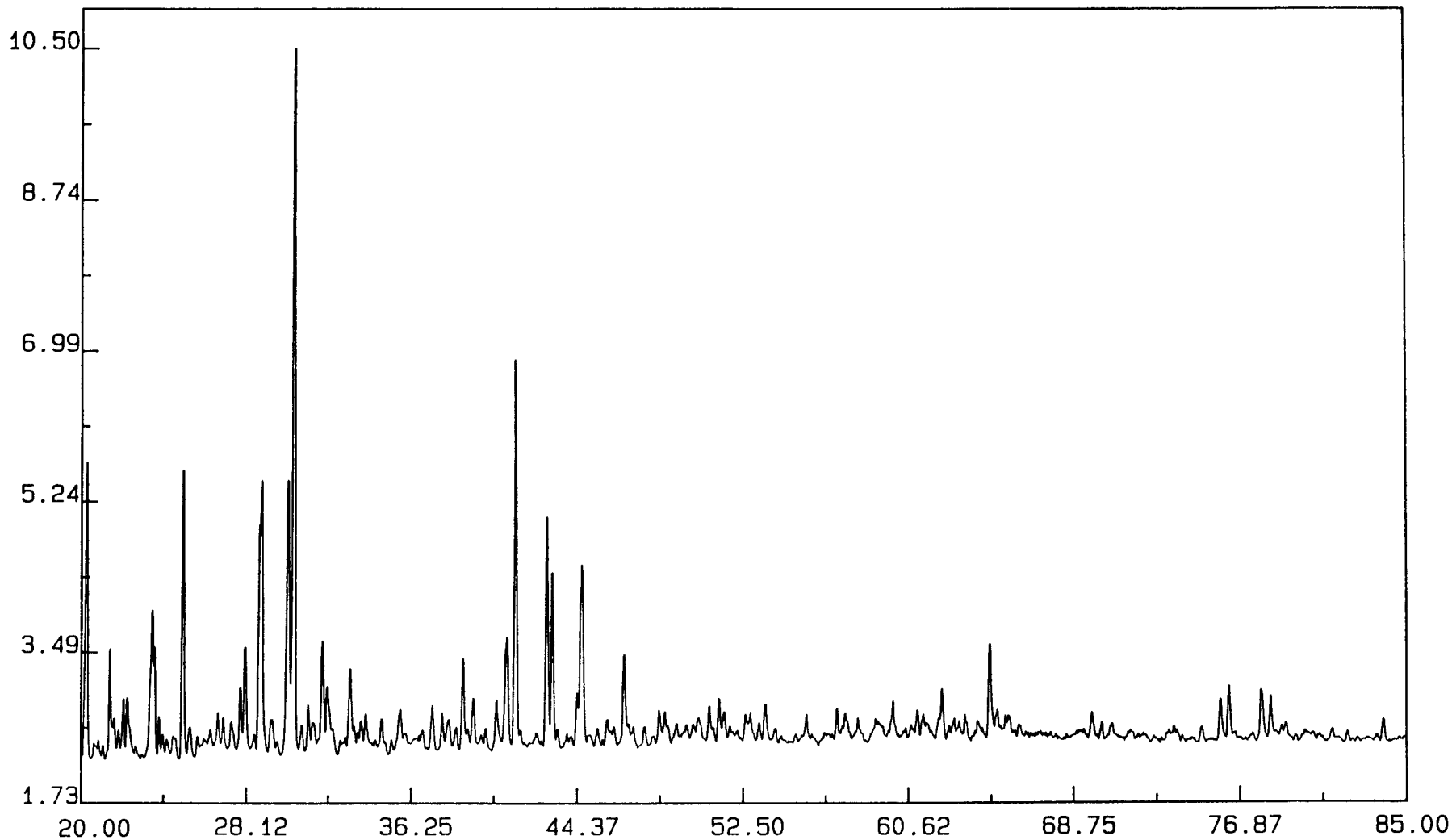
TLC AROMATIC FRACTION
2-11 BOREN PRODUCED OIL



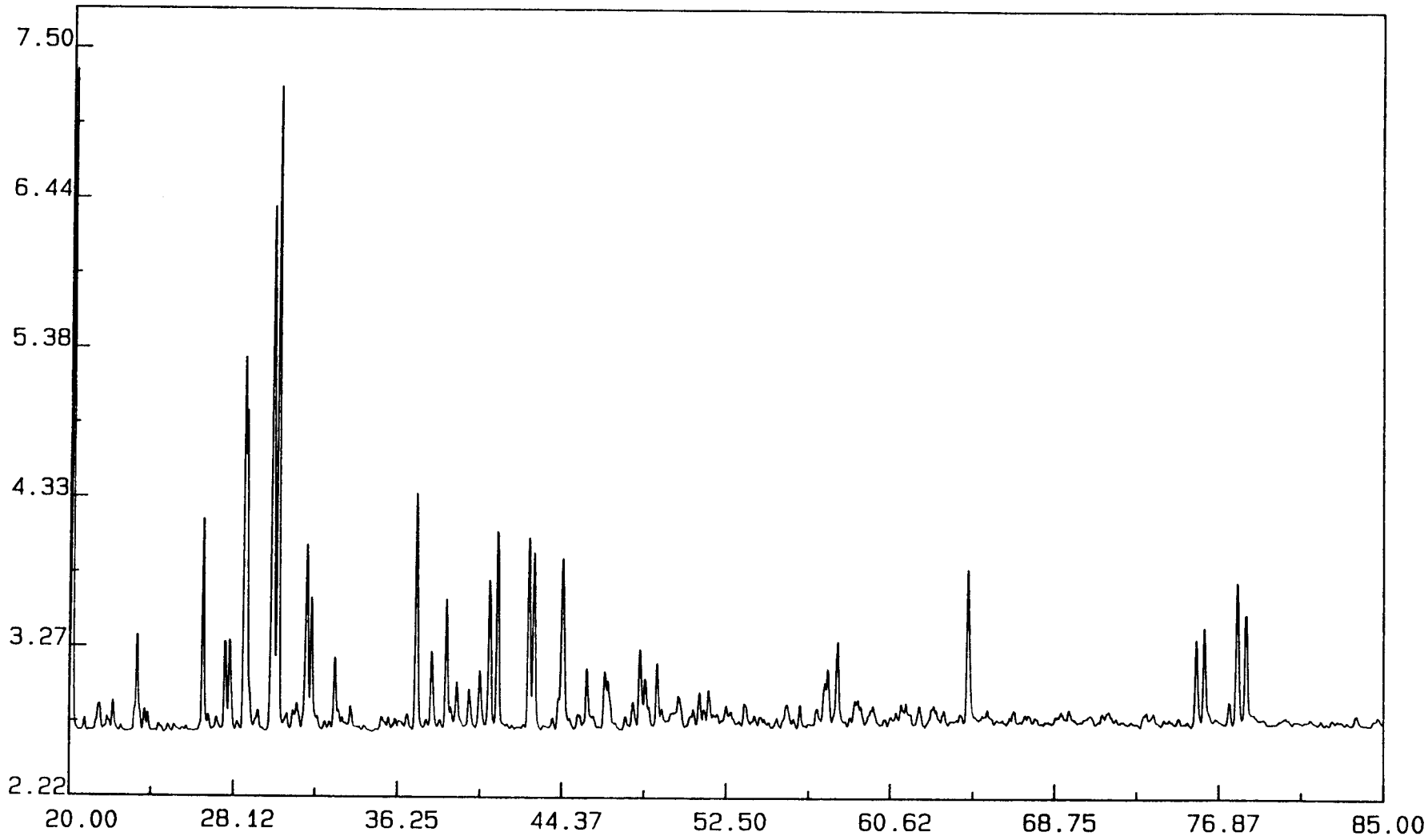
TLC AROMATIC FRACTION
3-11 BOREN 6970' CRUDE OIL



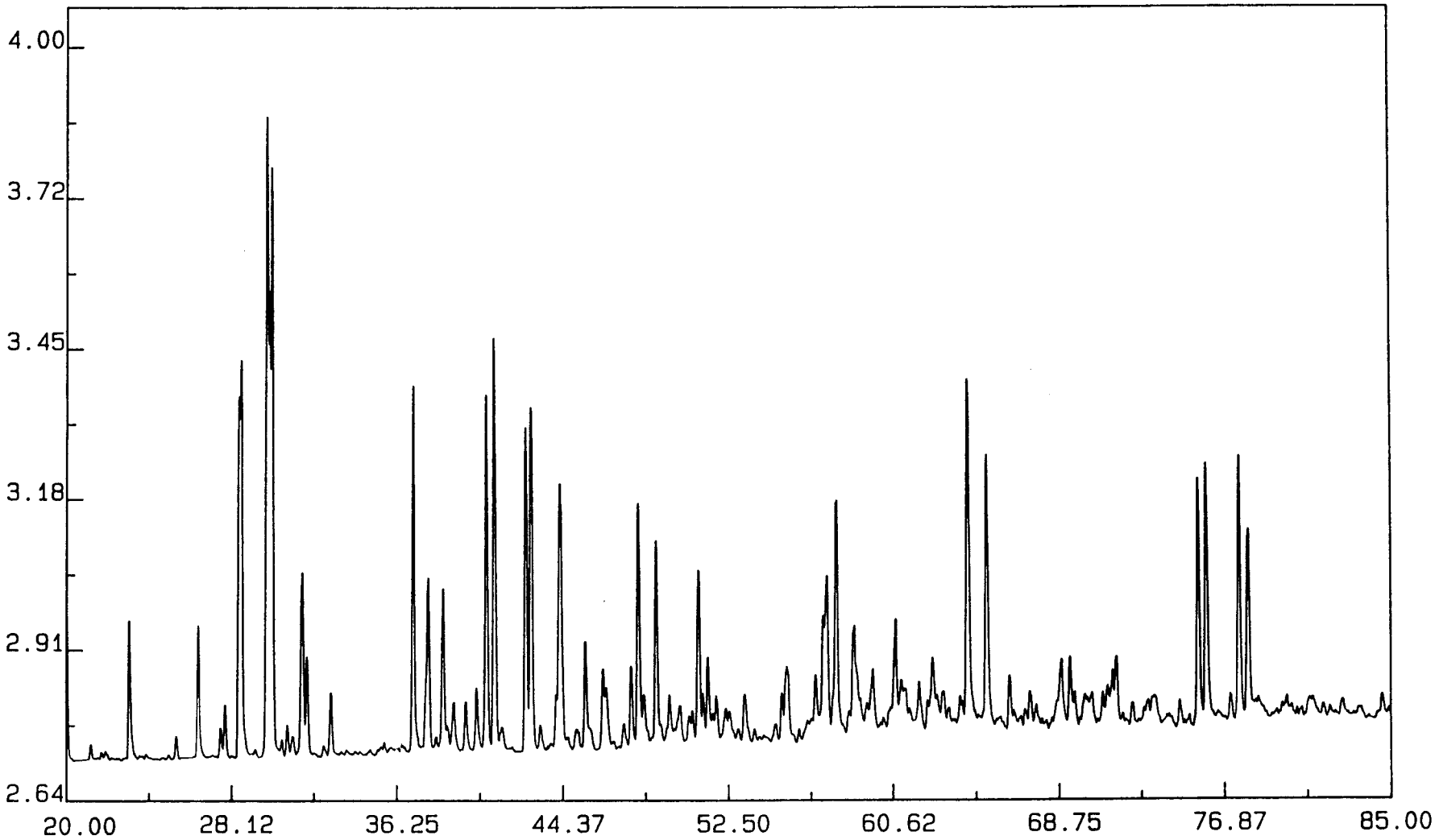
TLC AROMATIC FRACTION
3-11 BOREN 8984-9067' CRUDE OIL

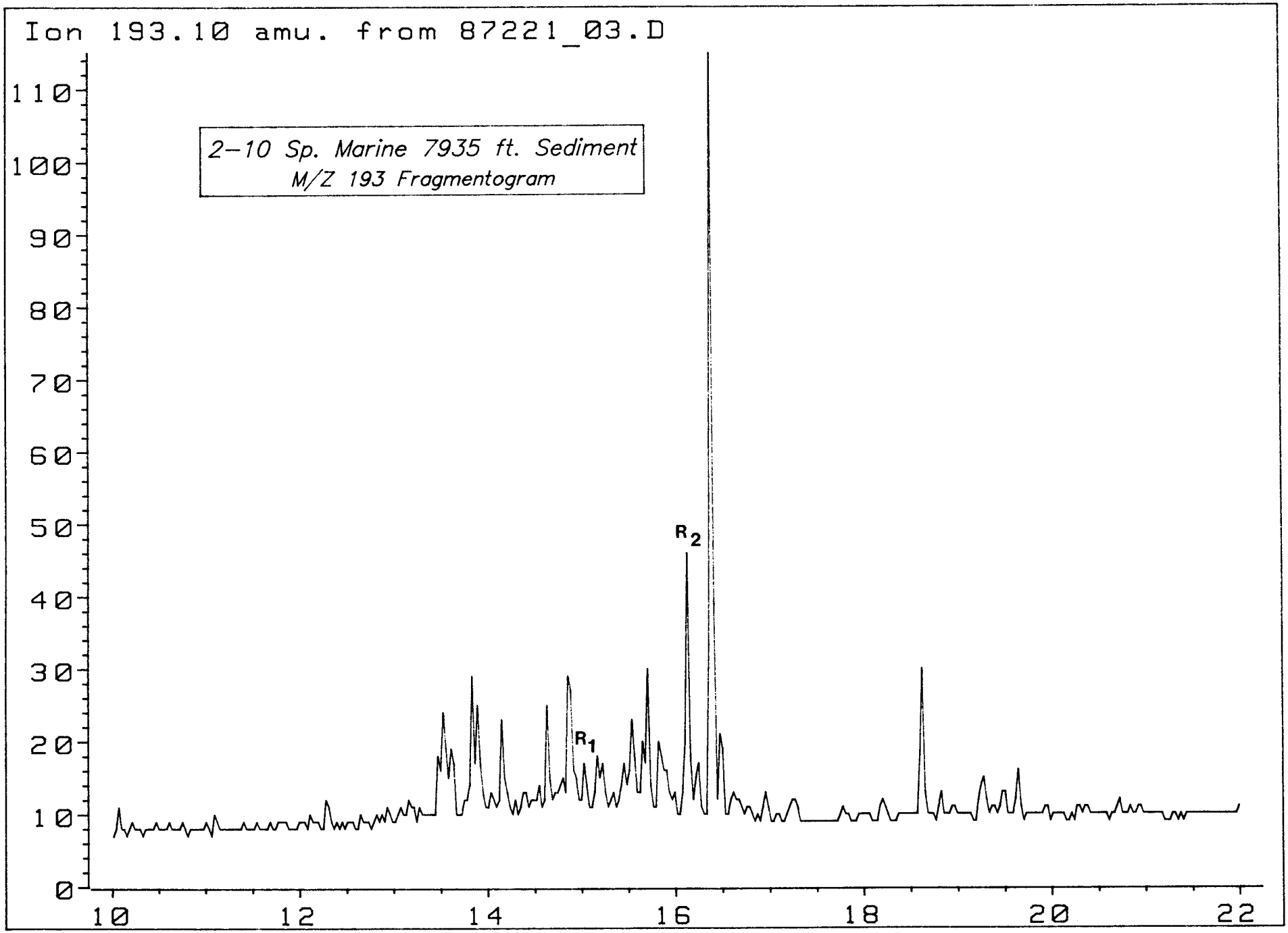


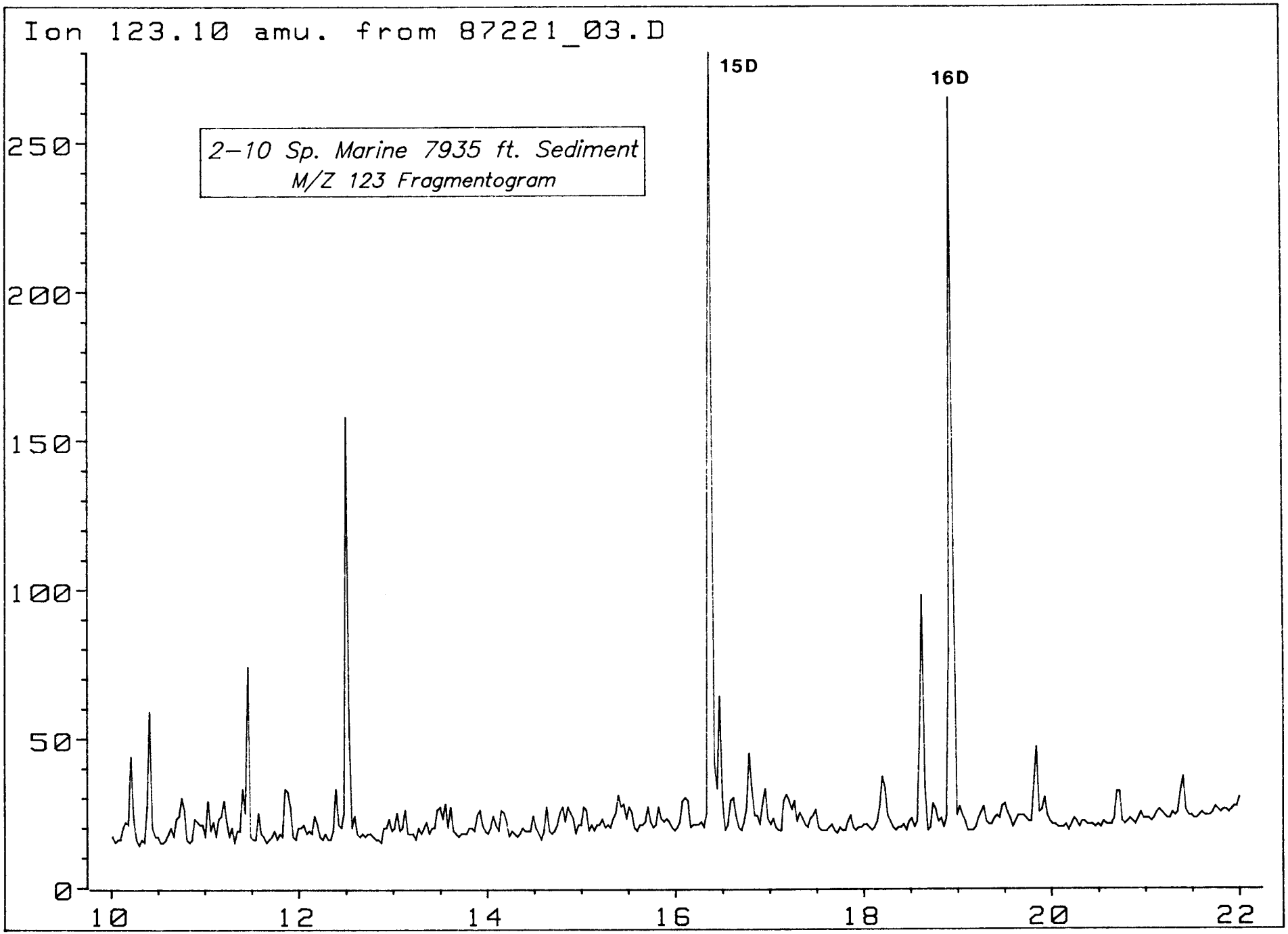
TLC AROMATIC FRACTION
2-20 LAMICQ 11356-11359' CRUDE OIL

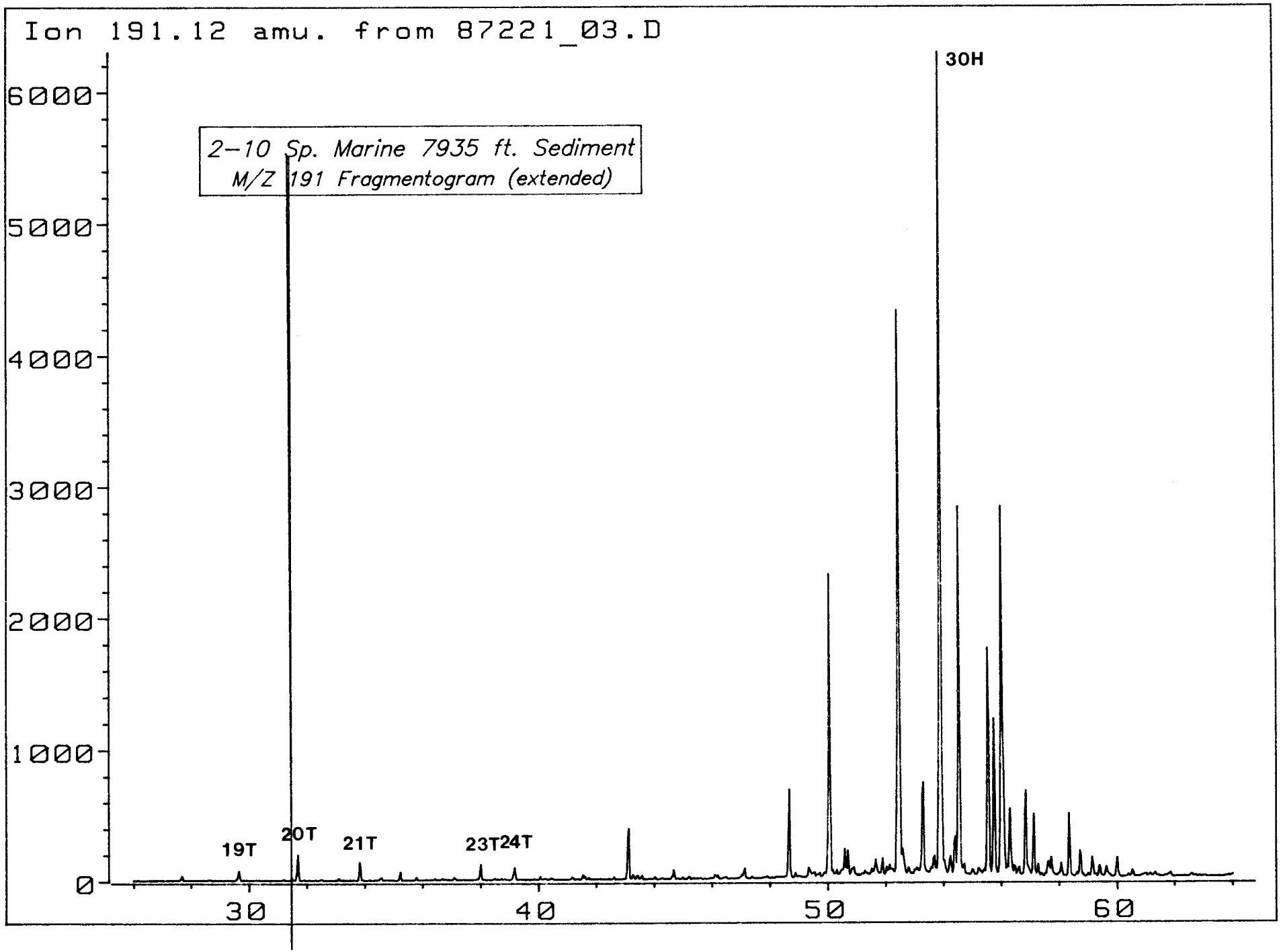


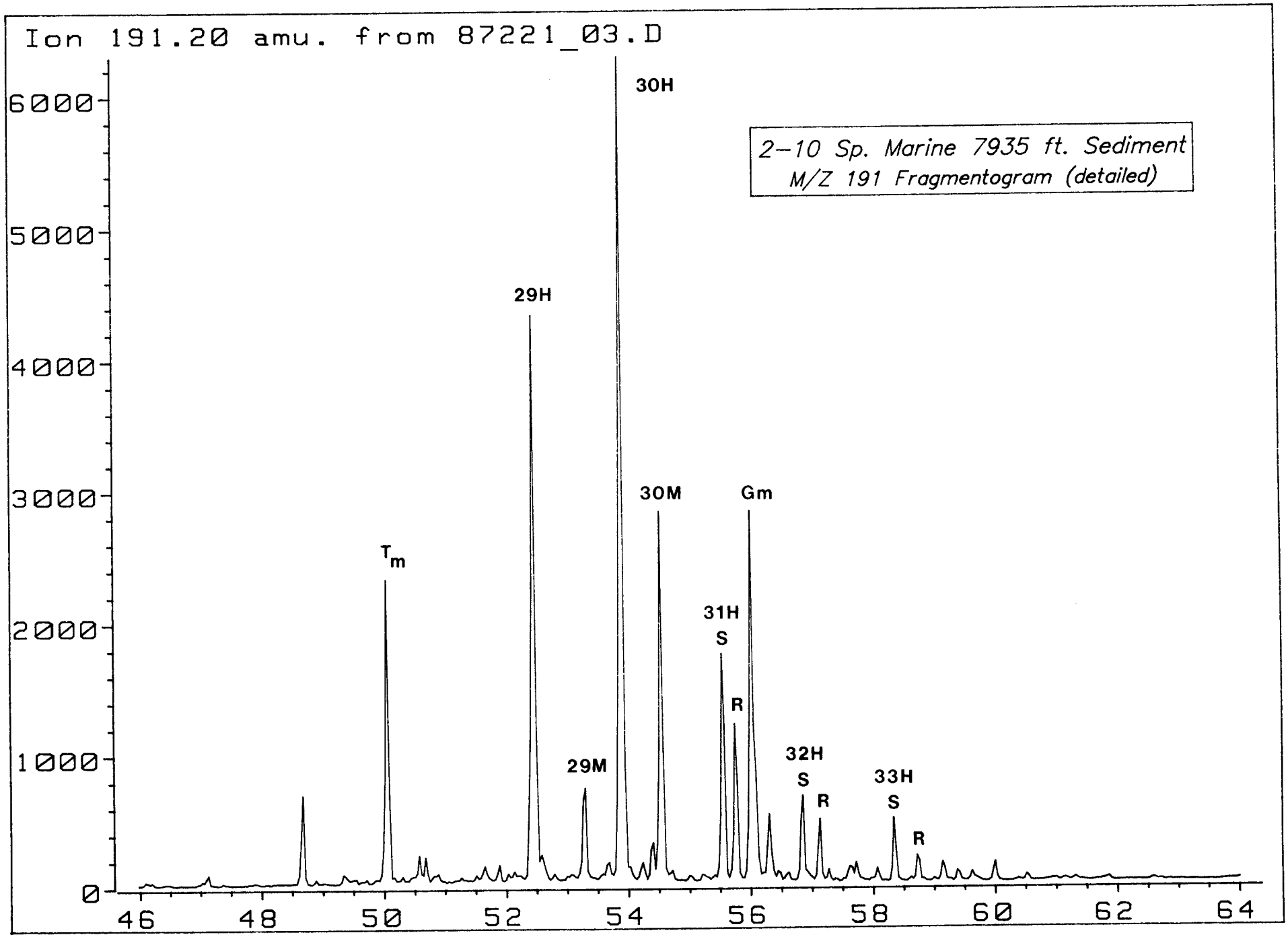
TLC AROMATIC FRACTION
2-27 SHAW 14700' CRUDE OIL

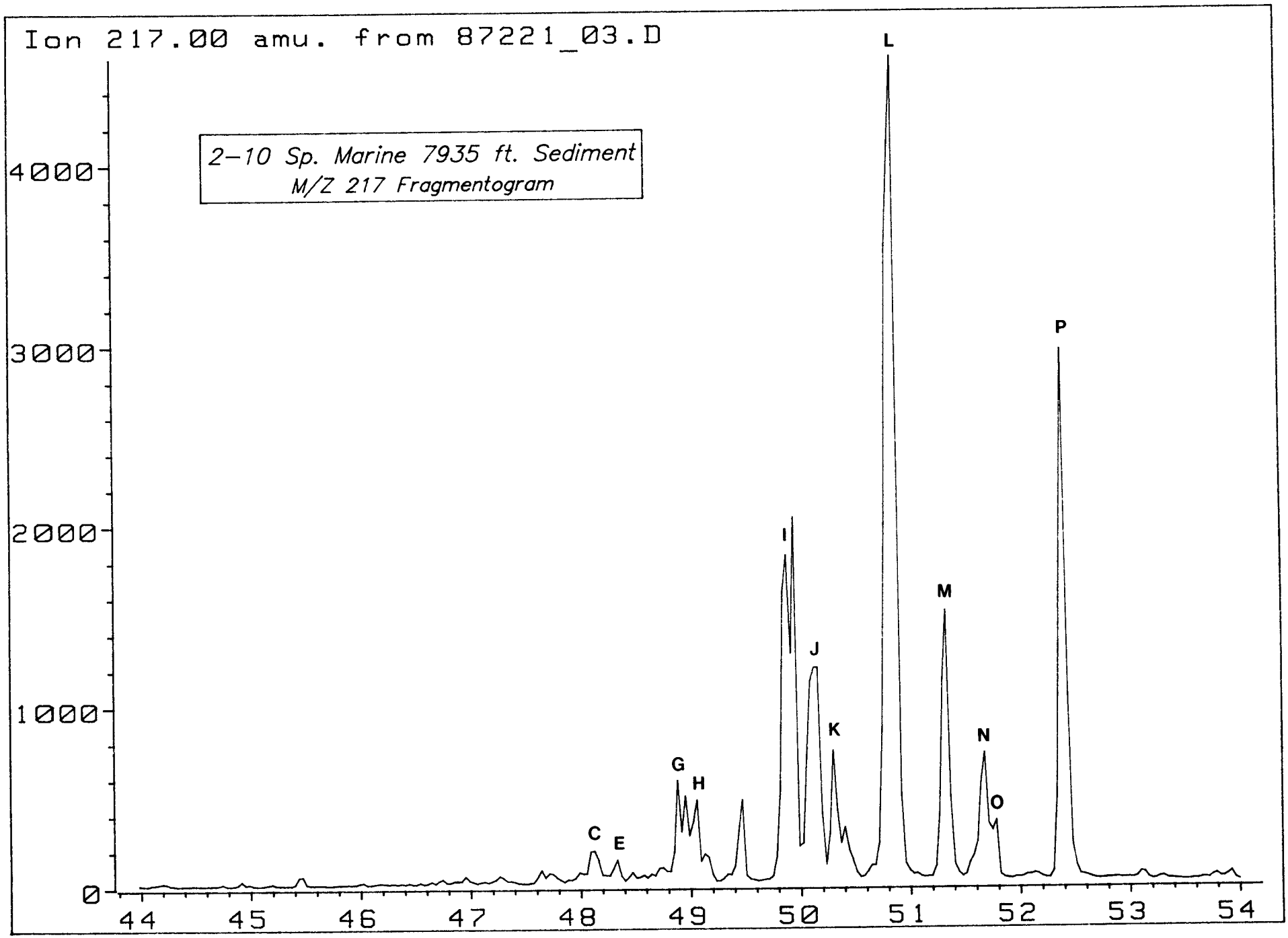


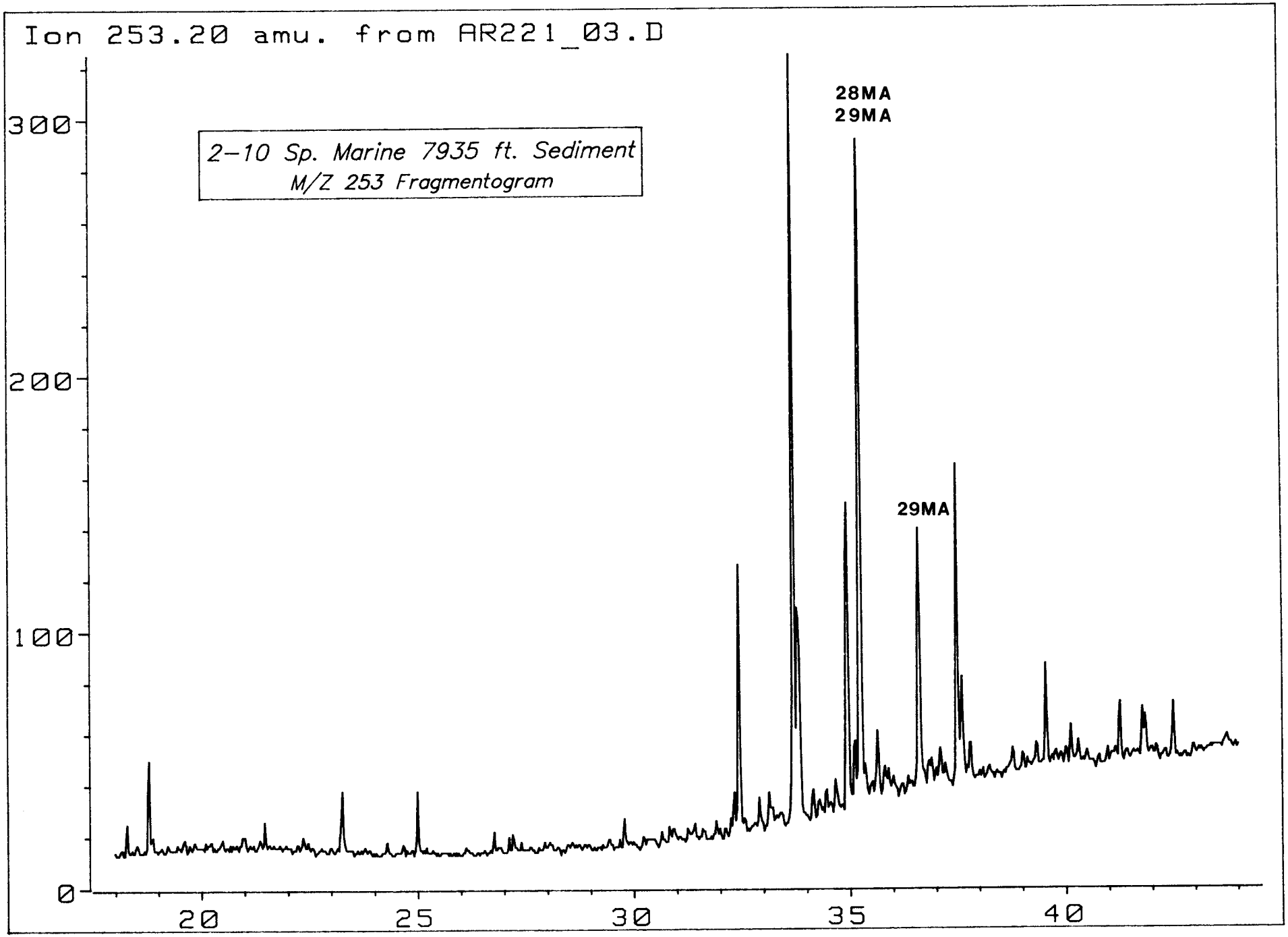

Ion 193.10 amu. from 87221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 193 Fragmentogram
R1
R2
110
100
90
80
70
60
50
40
30
20
10
0
10
12
14
16
18
20
22

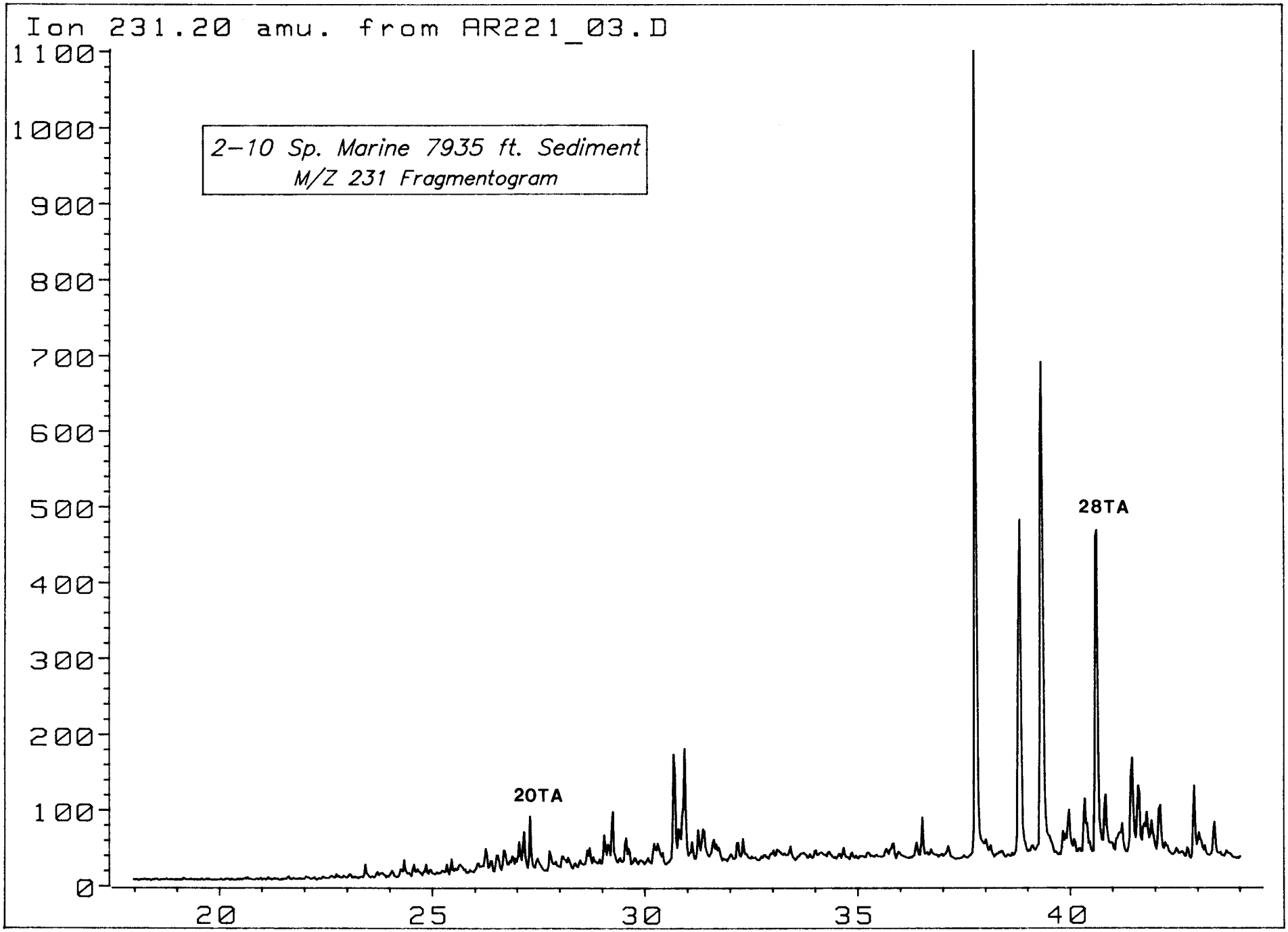

Ion 123.10 amu. from 87221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 123 Fragmentogram
15D
16D
250
200
150
100
50
0
10
12
14
16
18
20
22

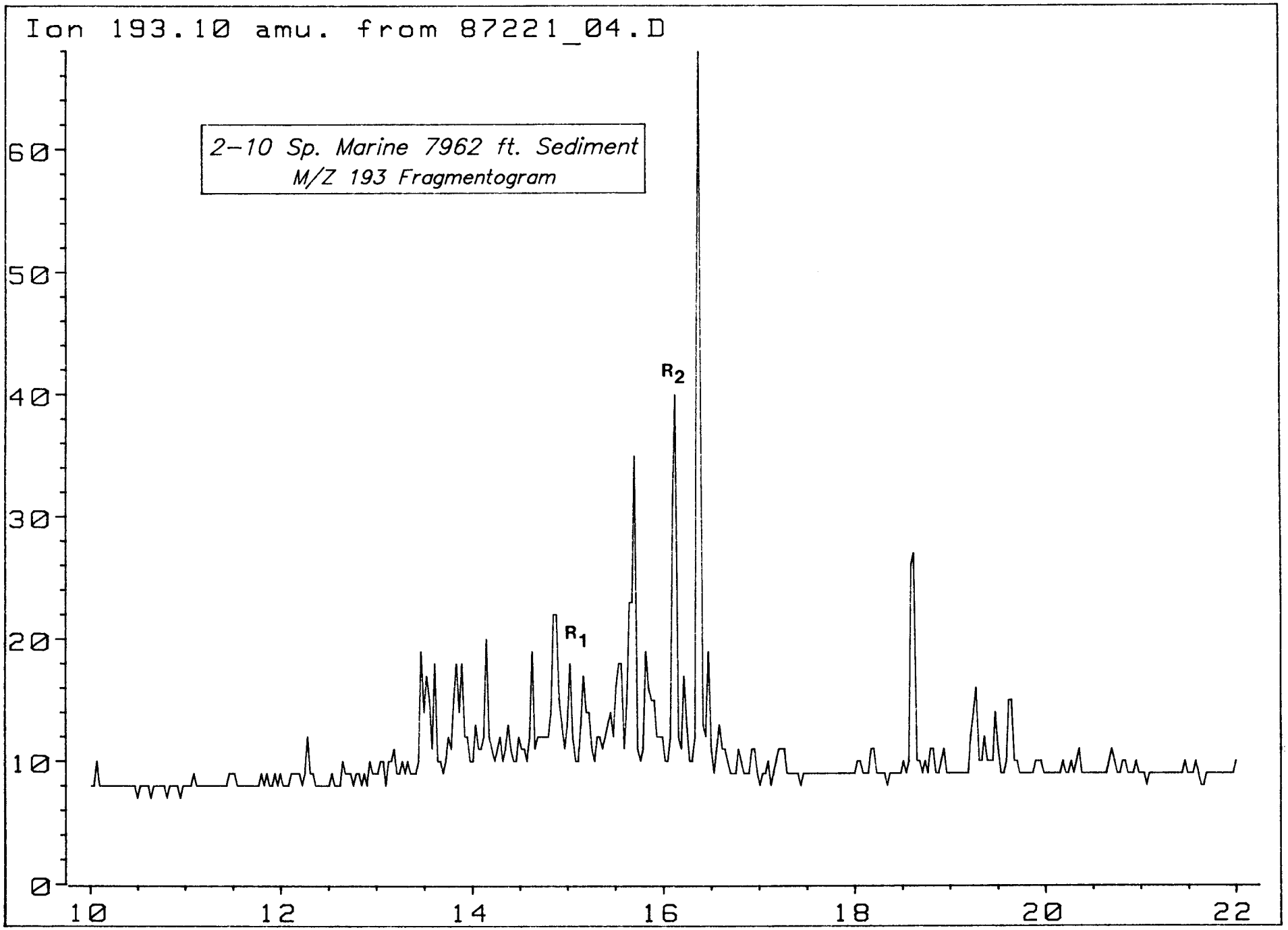

Ion 191.12 amu. from 87221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 191 Fragmentogram (extended)
30H
19T
20T
21T
23T
24T
6000
5000
4000
3000
2000
1000
0
30
40
50
60

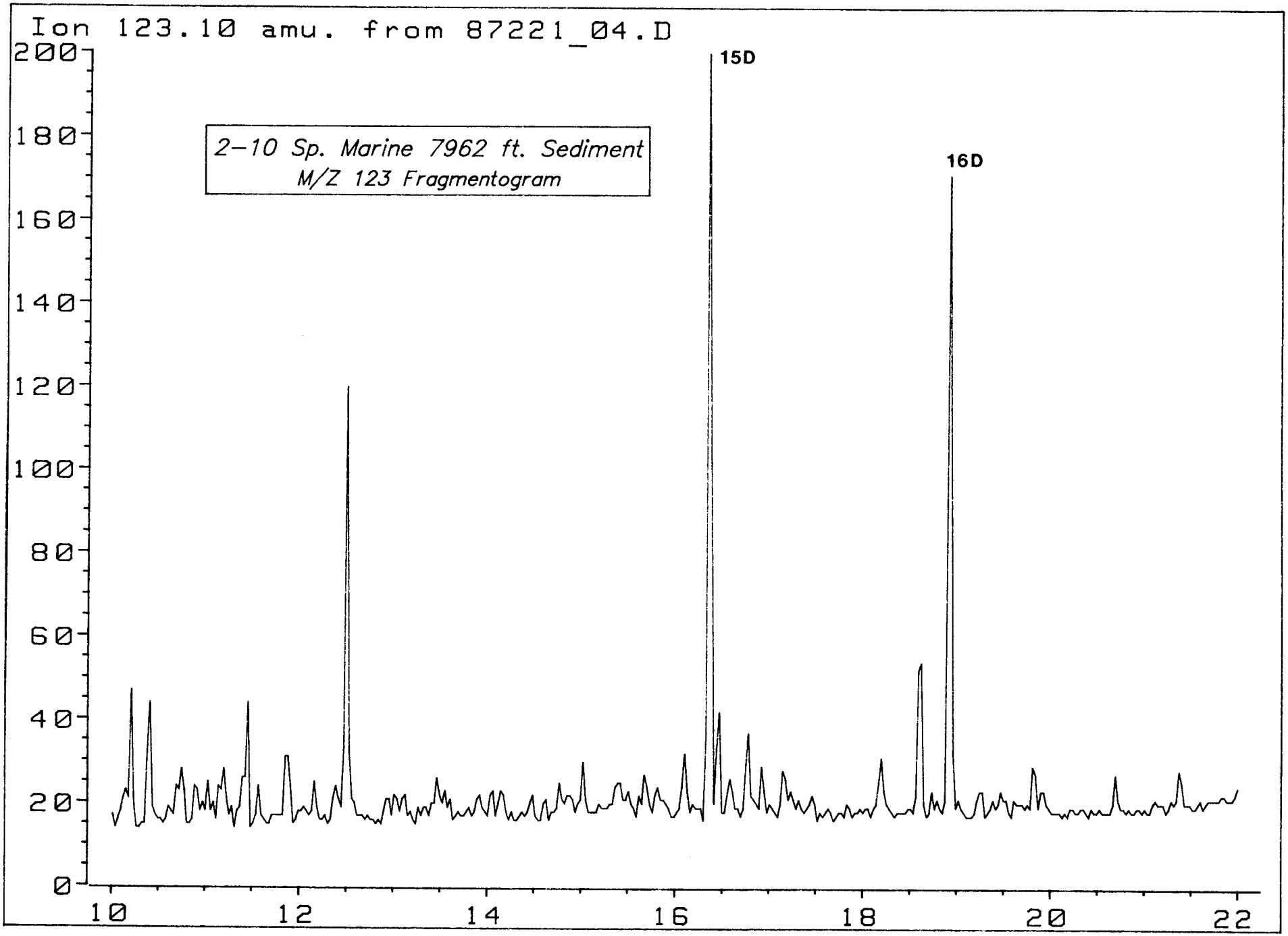

Ion 191.20 amu. from 87221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 191 Fragmentogram (detailed)
6000
5000
4000
3000
2000
1000
0
46
48
50
52
54
56
58
60
62
64
Tm
29H
29M
30H
30M
31H
S
R
Gm
32H
S
R
33H
S
R

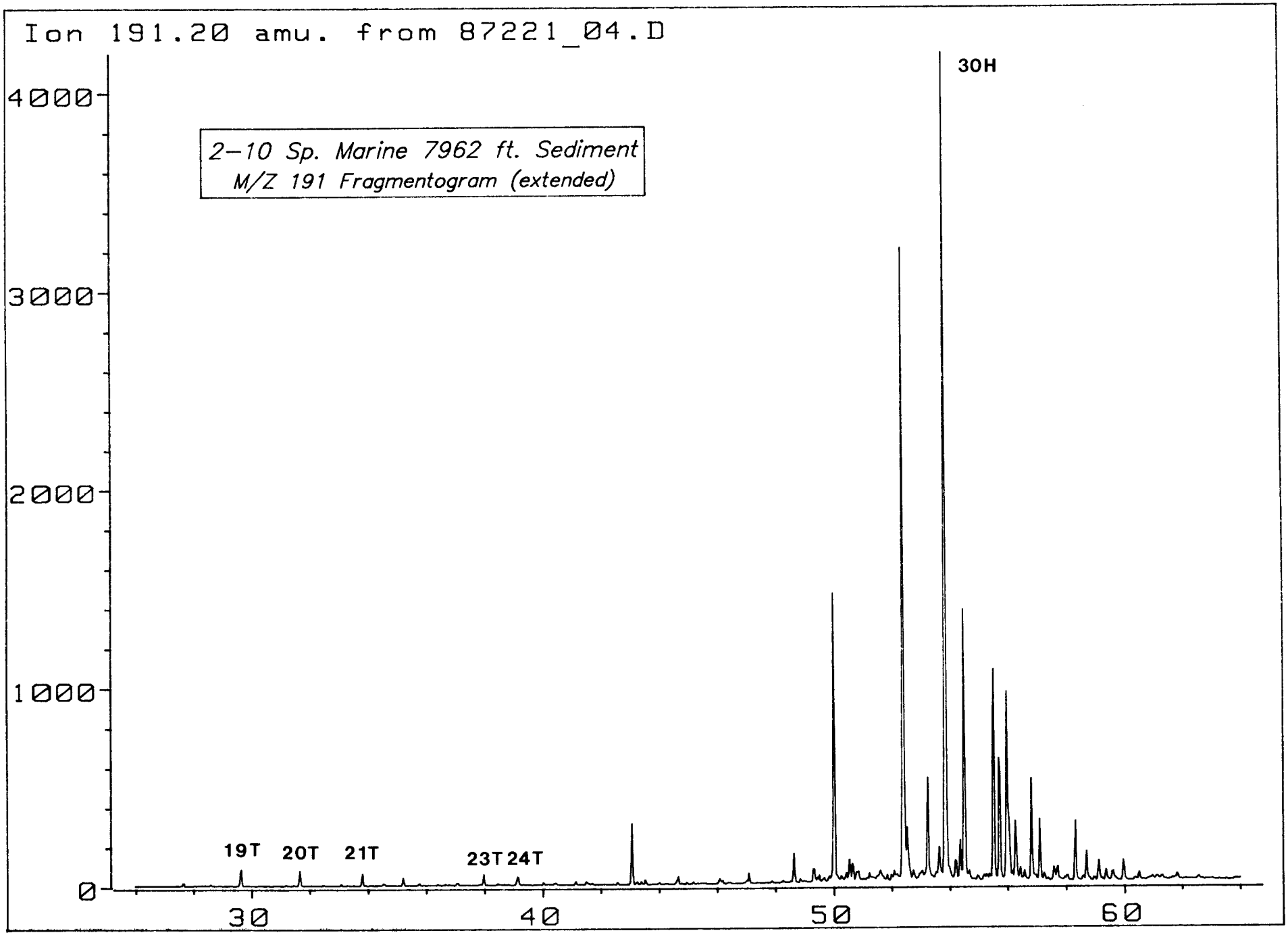

Ion 217.00 amu. from 87221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 217 Fragmentogram
4000
3000
2000
1000
0
44
45
46
47
48
49
50
51
52
53
54
C
E
G
H
I
J
K
L
M
N
O
P

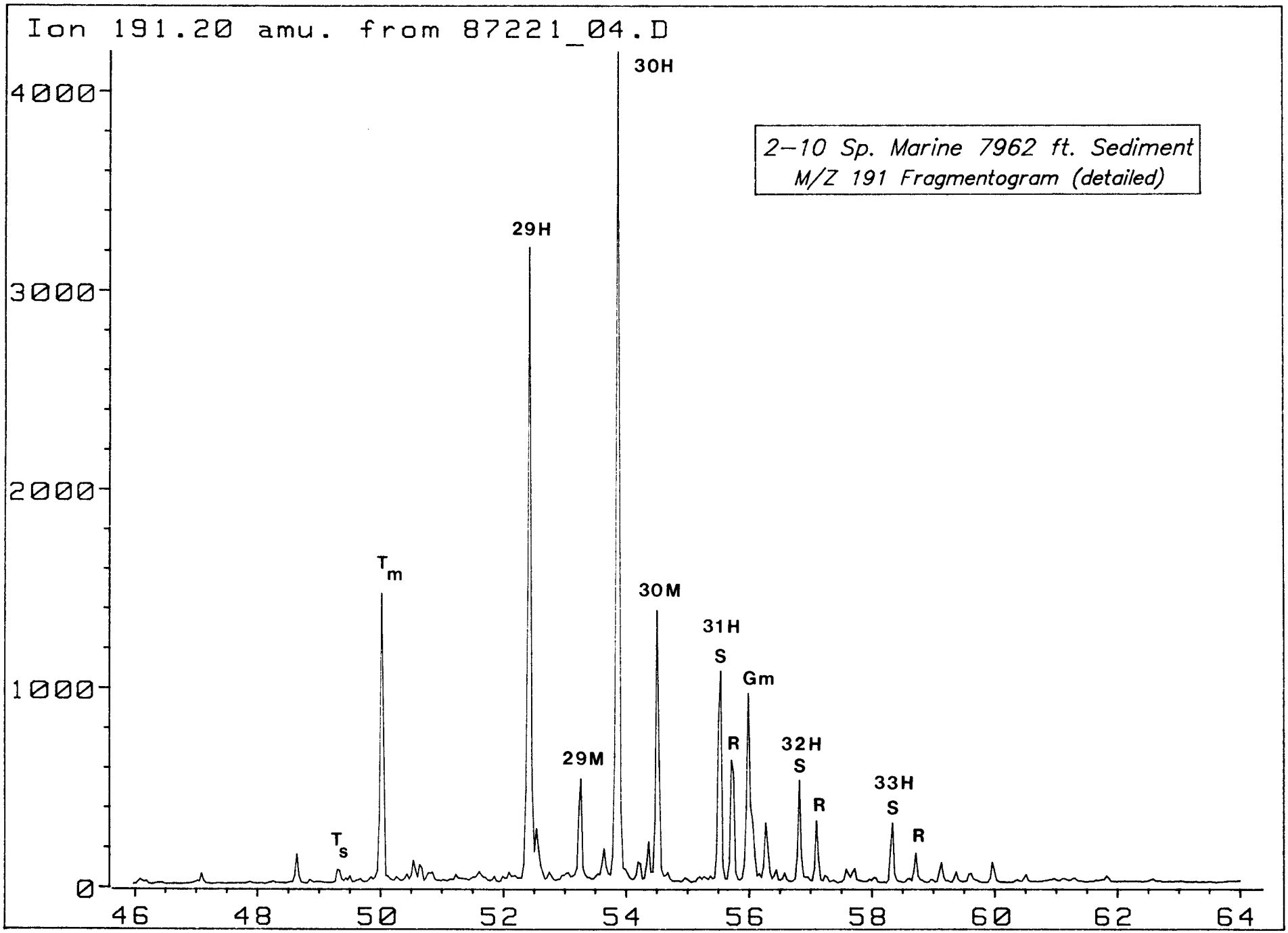

Ion 253.20 amu. from AR221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 253 Fragmentogram
28MA
29MA
29MA
300
200
100
0
20
25
30
35
40

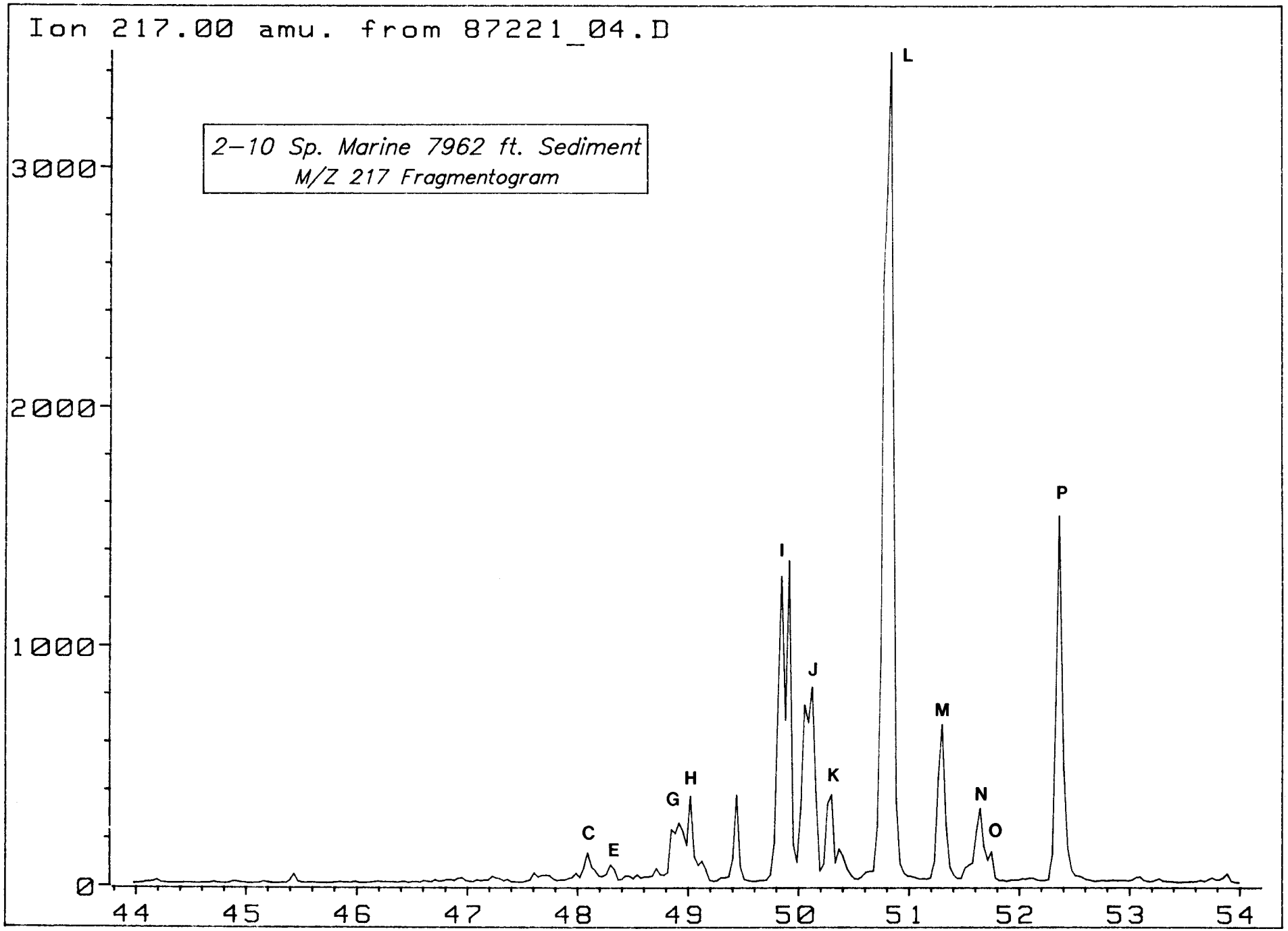

Ion 231.20 amu. from AR221_03.D
2-10 Sp. Marine 7935 ft. Sediment
M/Z 231 Fragmentogram
20TA
28TA
1100
1000
900
800
700
600
500
400
300
200
100
0
20
25
30
35
40

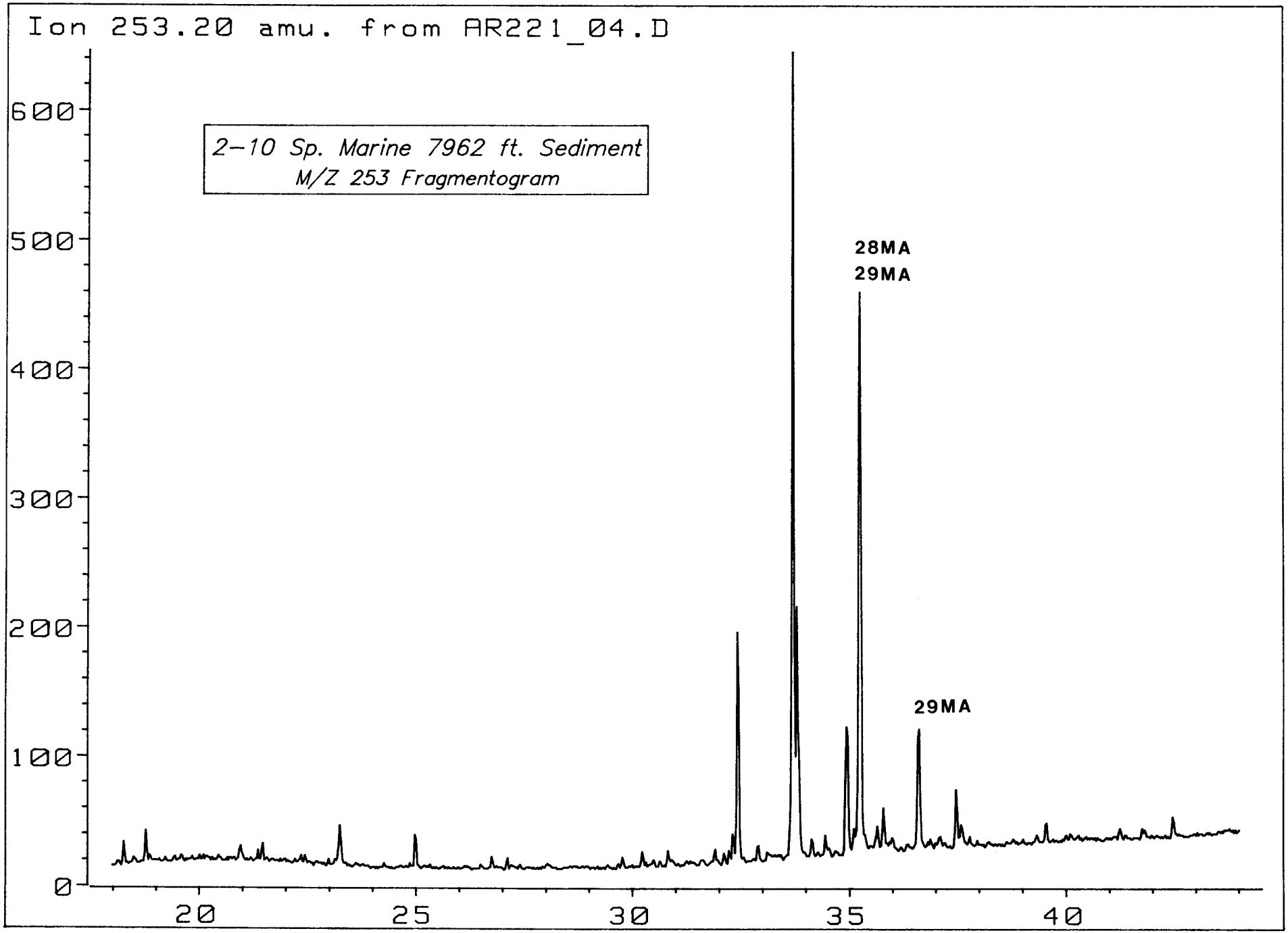

Ion 193.10 amu. from 87221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 193 Fragmentogram
R1
R2
0
10
20
30
40
50
60
10
12
14
16
18
20
22

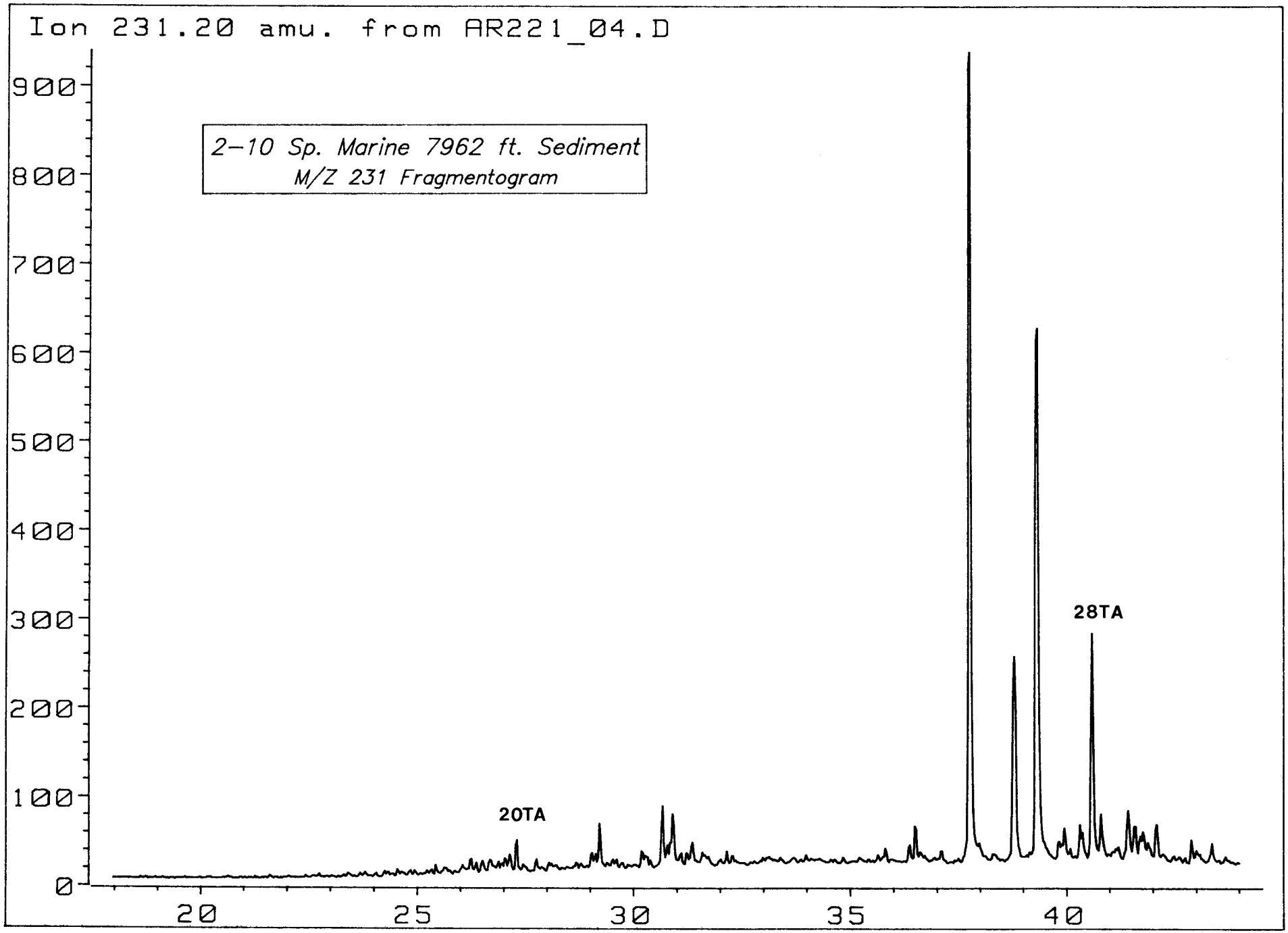

Ion 123.10 amu. from 87221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 123 Fragmentogram
15D
16D
200
180
160
140
120
100
80
60
40
20
0
10
12
14
16
18
20
22

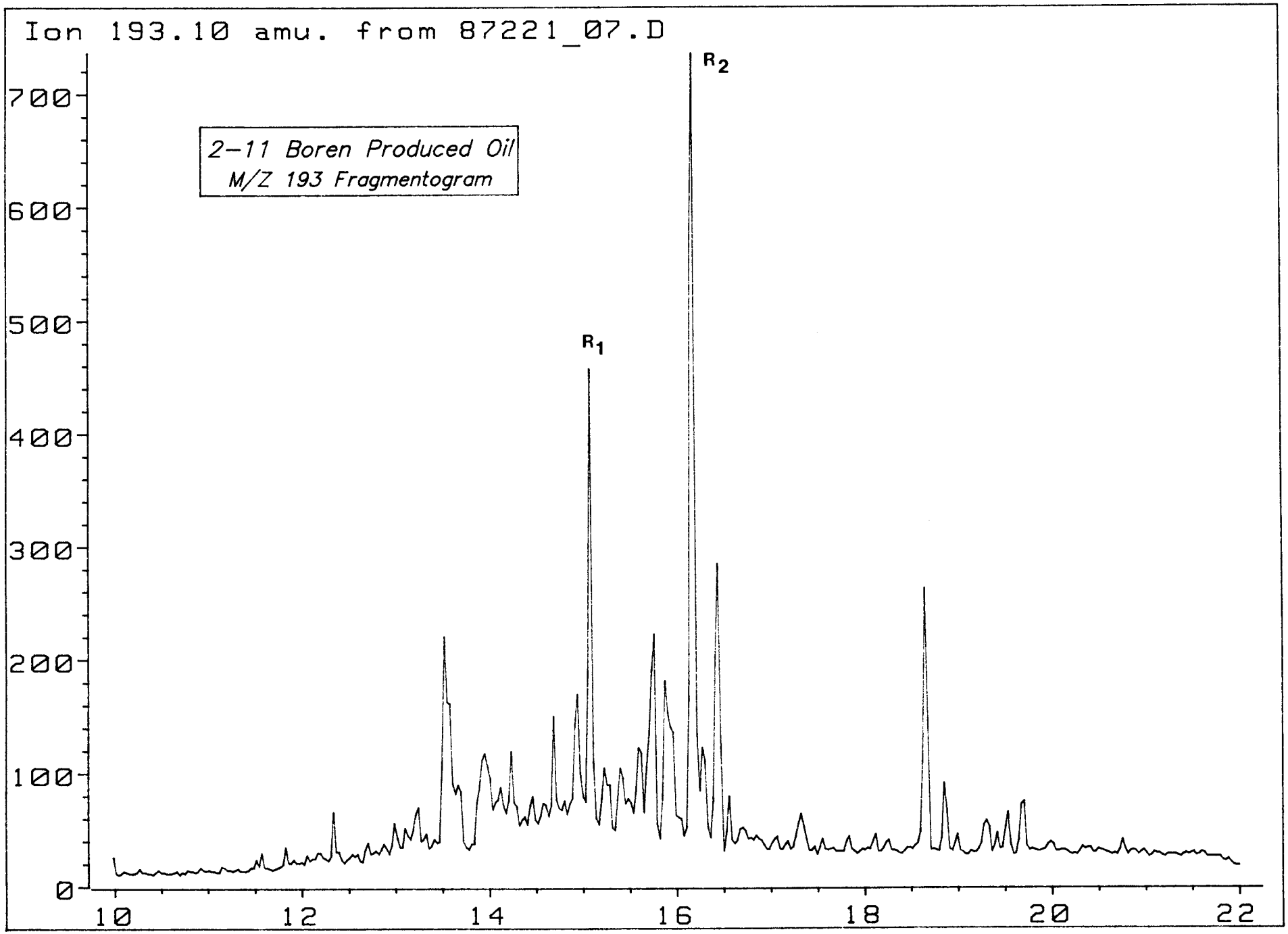

Ion 191.20 amu. from 87221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 191 Fragmentogram (extended)
30H
19T
20T
21T
23T
24T
4000
3000
2000
1000
0
30
40
50
60

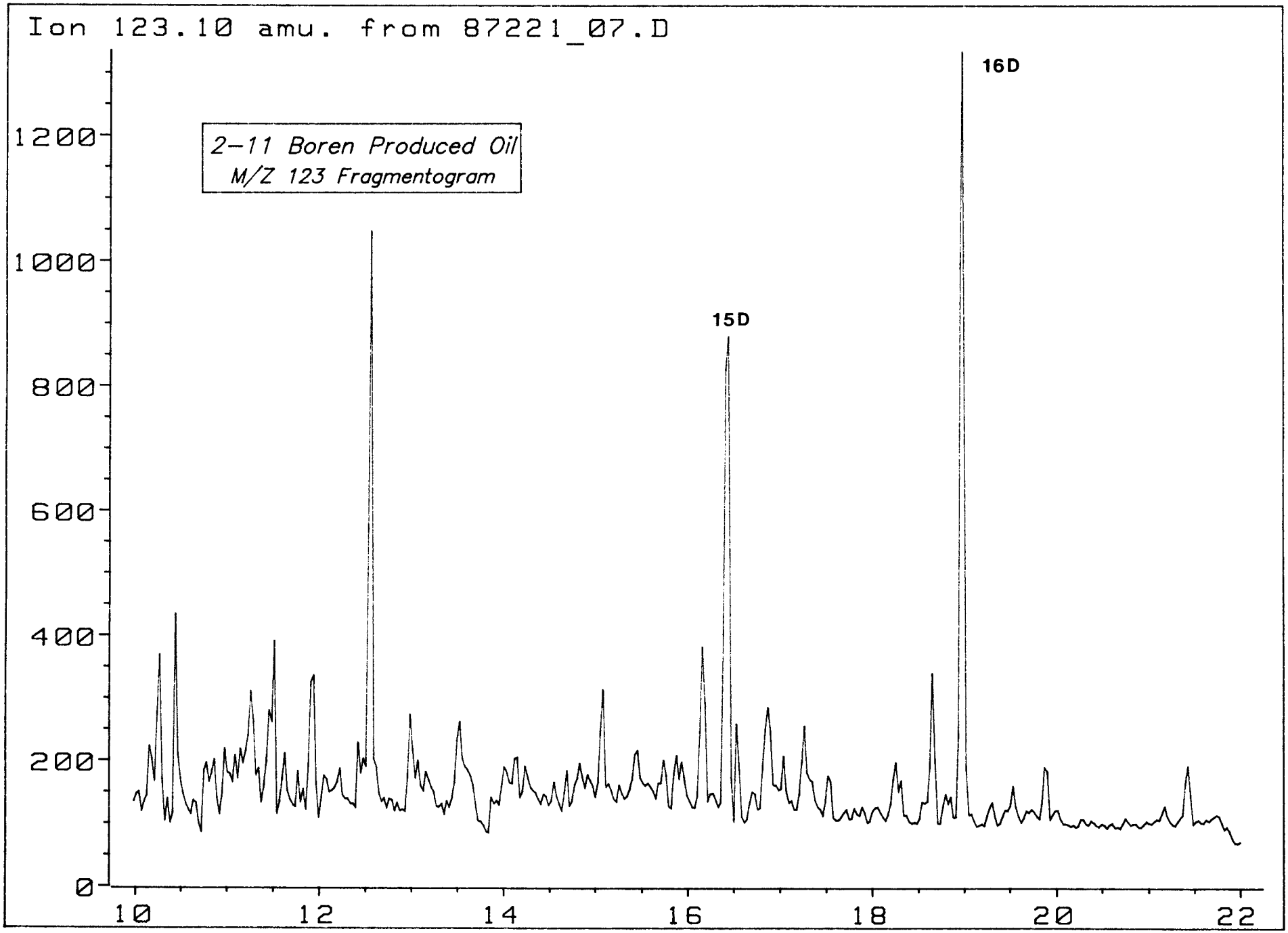

Ion 191.20 amu. from 87221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 191 Fragmentogram (detailed)
4000
3000
2000
1000
0
46
48
50
52
54
56
58
60
62
64
Ts
Tm
29H
29M
30H
30M
31H
S
R
Gm
32H
S
R
33H
S
R

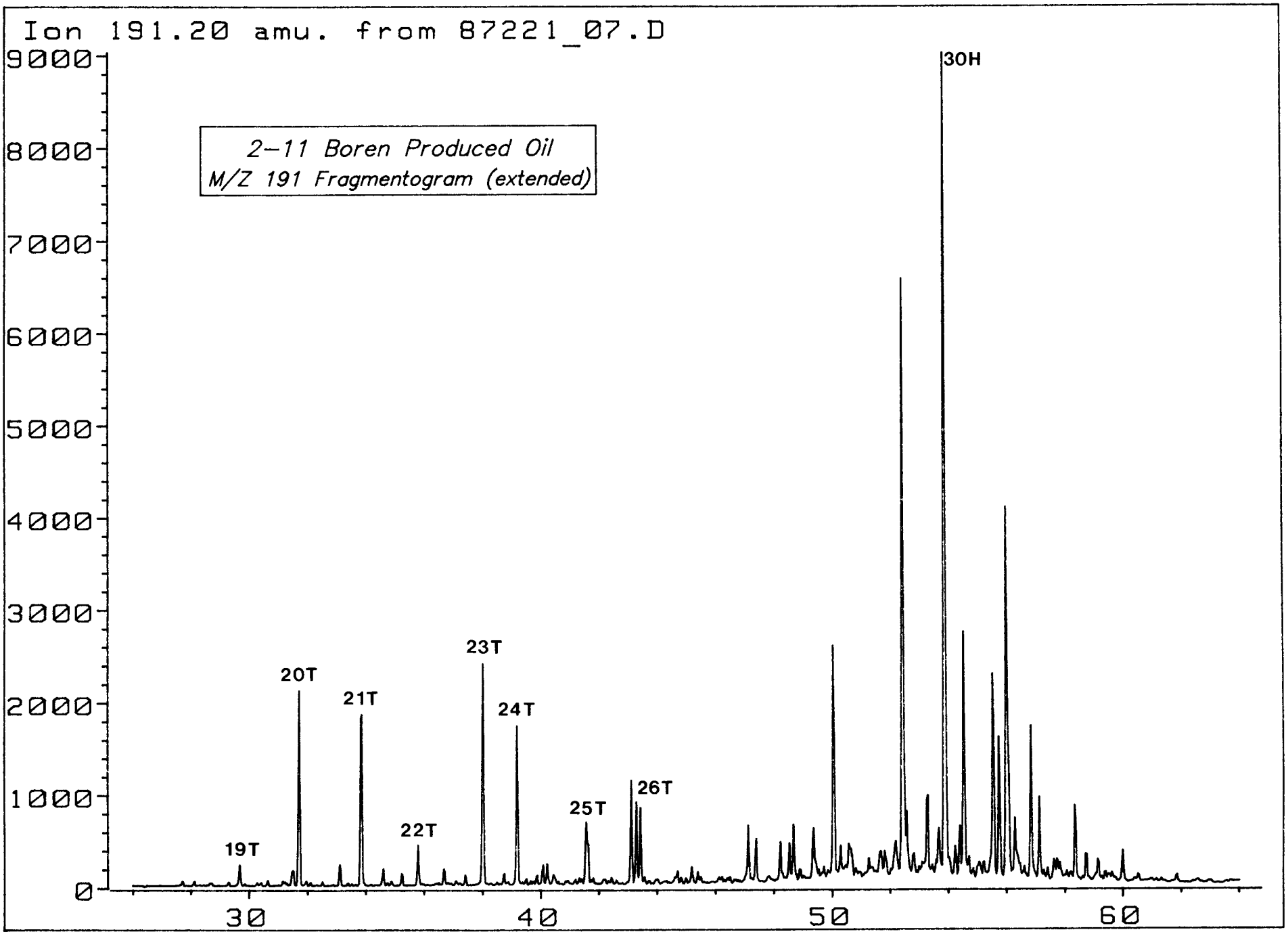

Ion 217.00 amu. from 87221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 217 Fragmentogram
3000
2000
1000
0
44
45
46
47
48
49
50
51
52
53
54
C
E
G
H
I
J
K
L
M
N
O
P

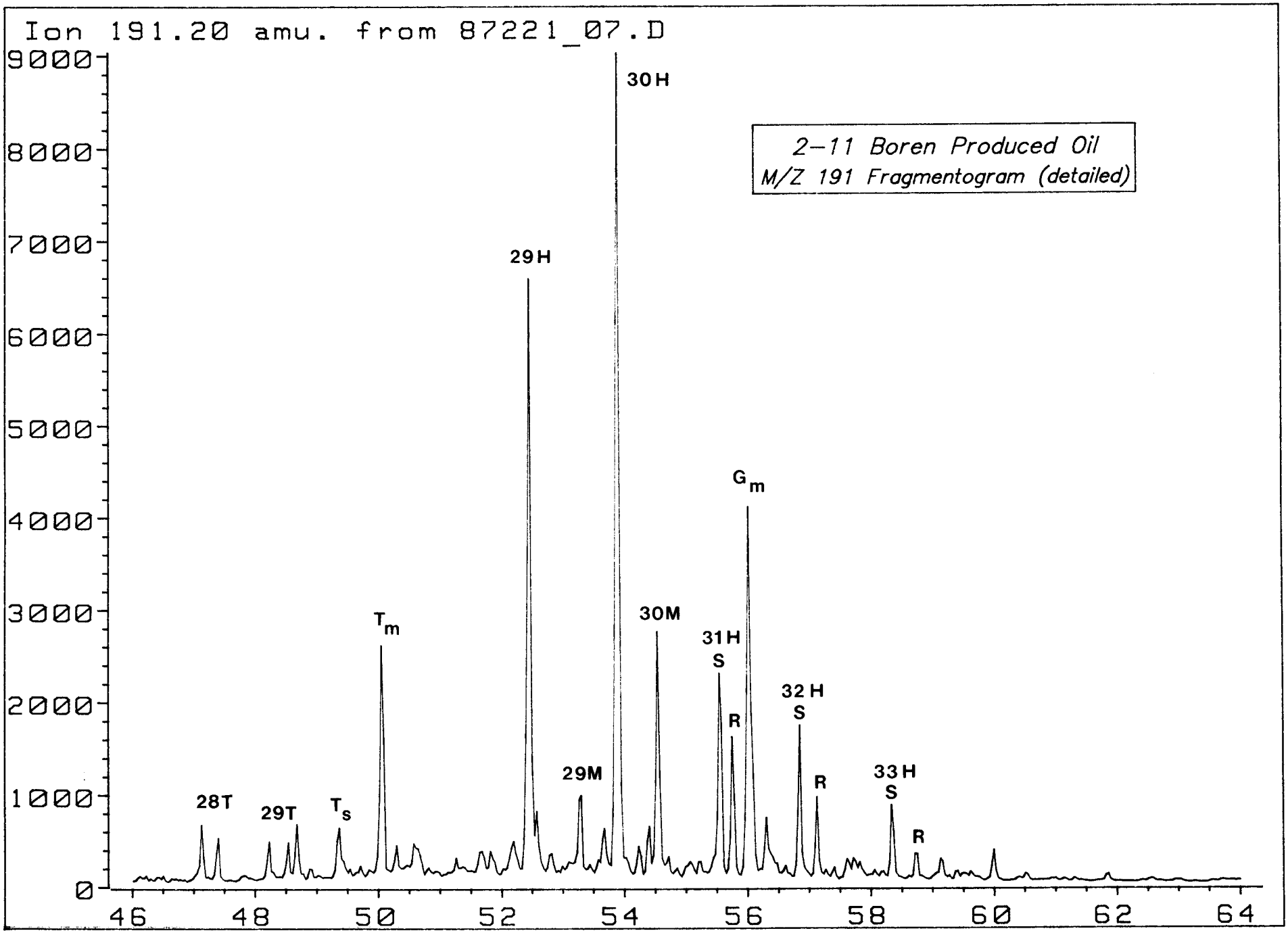

Ion 253.20 amu. from AR221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 253 Fragmentogram
28MA
29MA
29MA
600
500
400
300
200
100
0
20
25
30
35
40

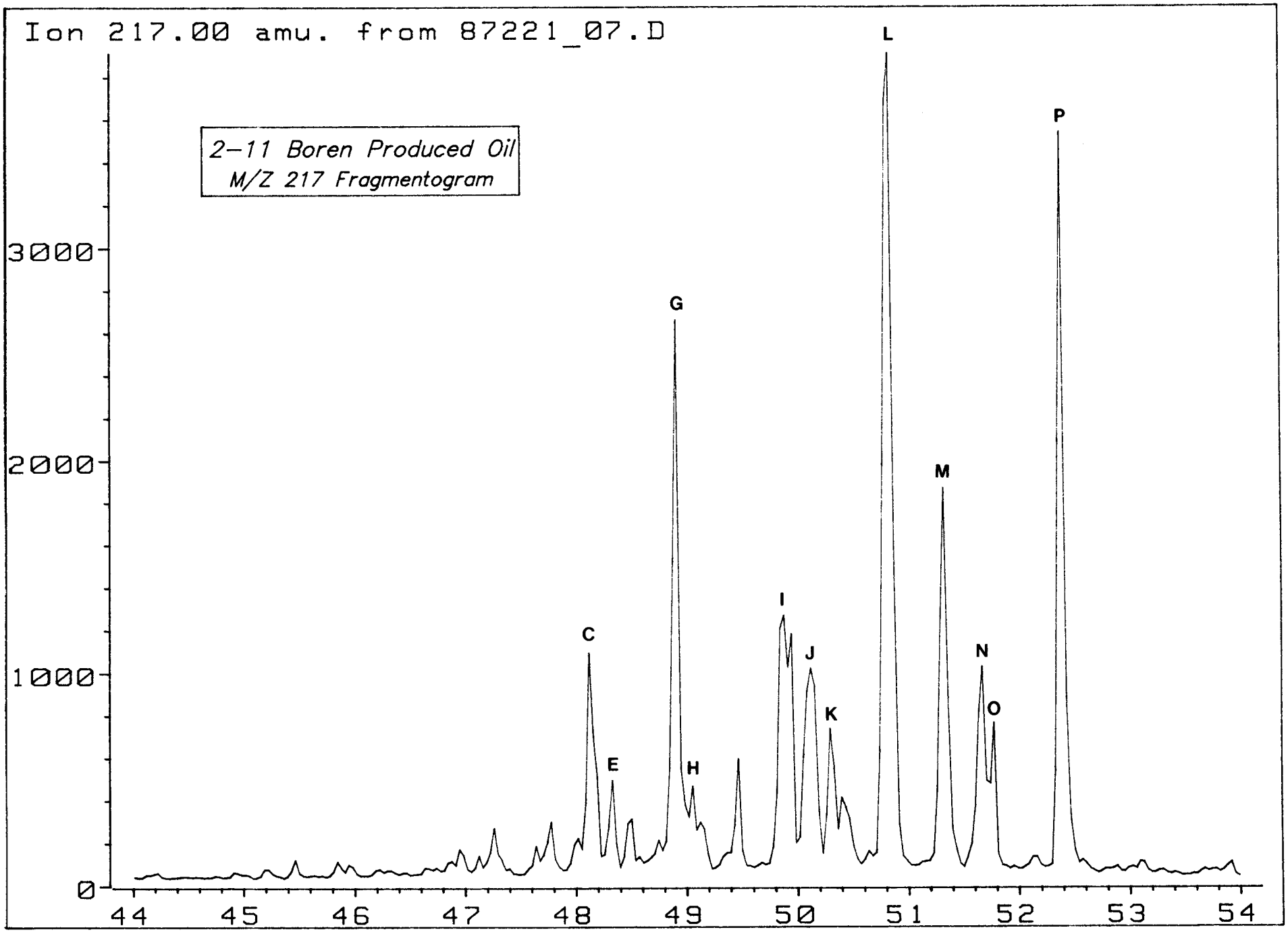

Ion 231.20 amu. from AR221_04.D
2-10 Sp. Marine 7962 ft. Sediment
M/Z 231 Fragmentogram
20TA
28TA
900
800
700
600
500
400
300
200
100
0
20
25
30
35
40

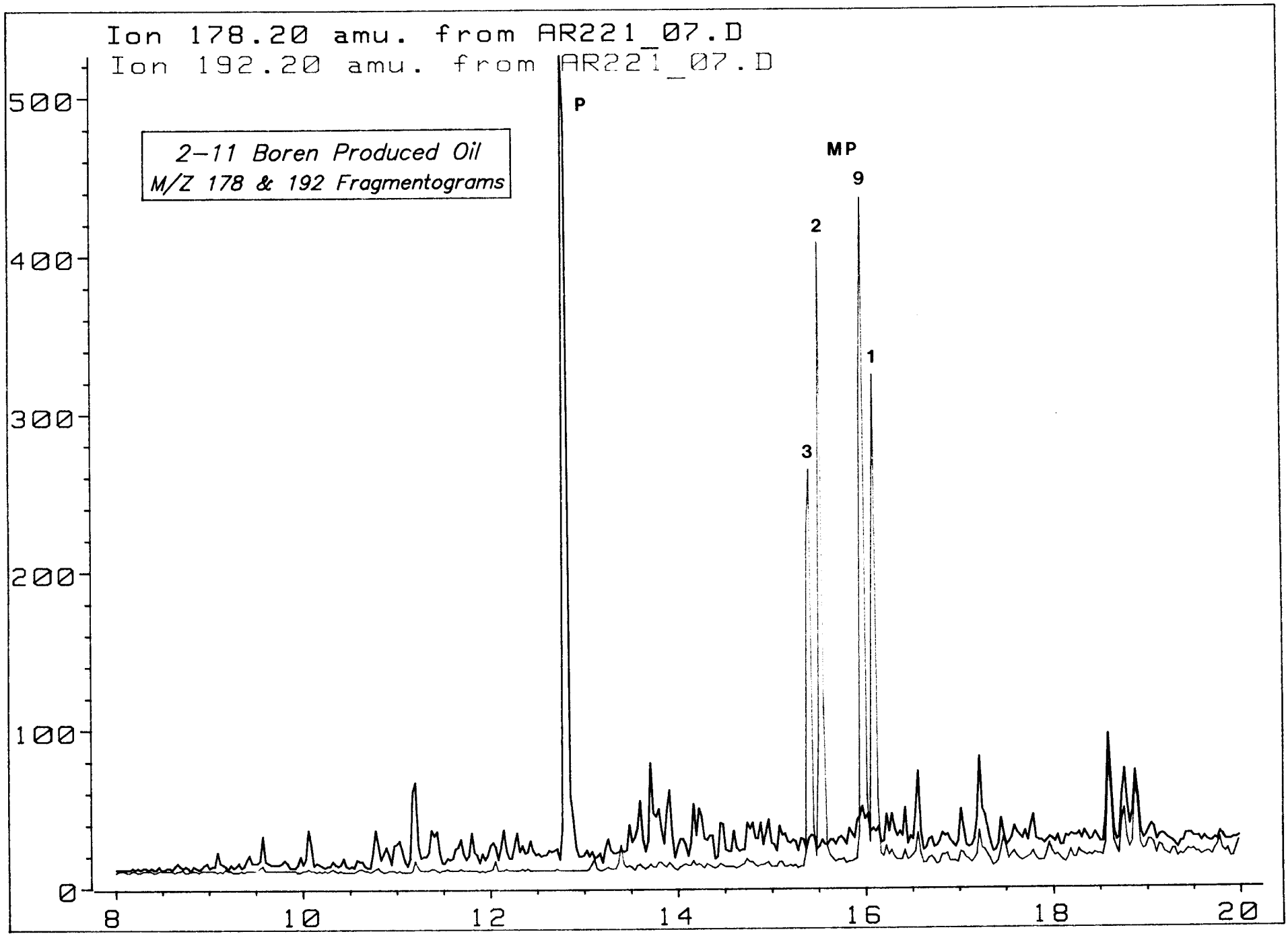

Ion 193.10 amu. from 87221_07.D
2-11 Boren Produced Oil
M/Z 193 Fragmentogram
R1
R2
700
600
500
400
300
200
100
0
10
12
14
16
18
20
22

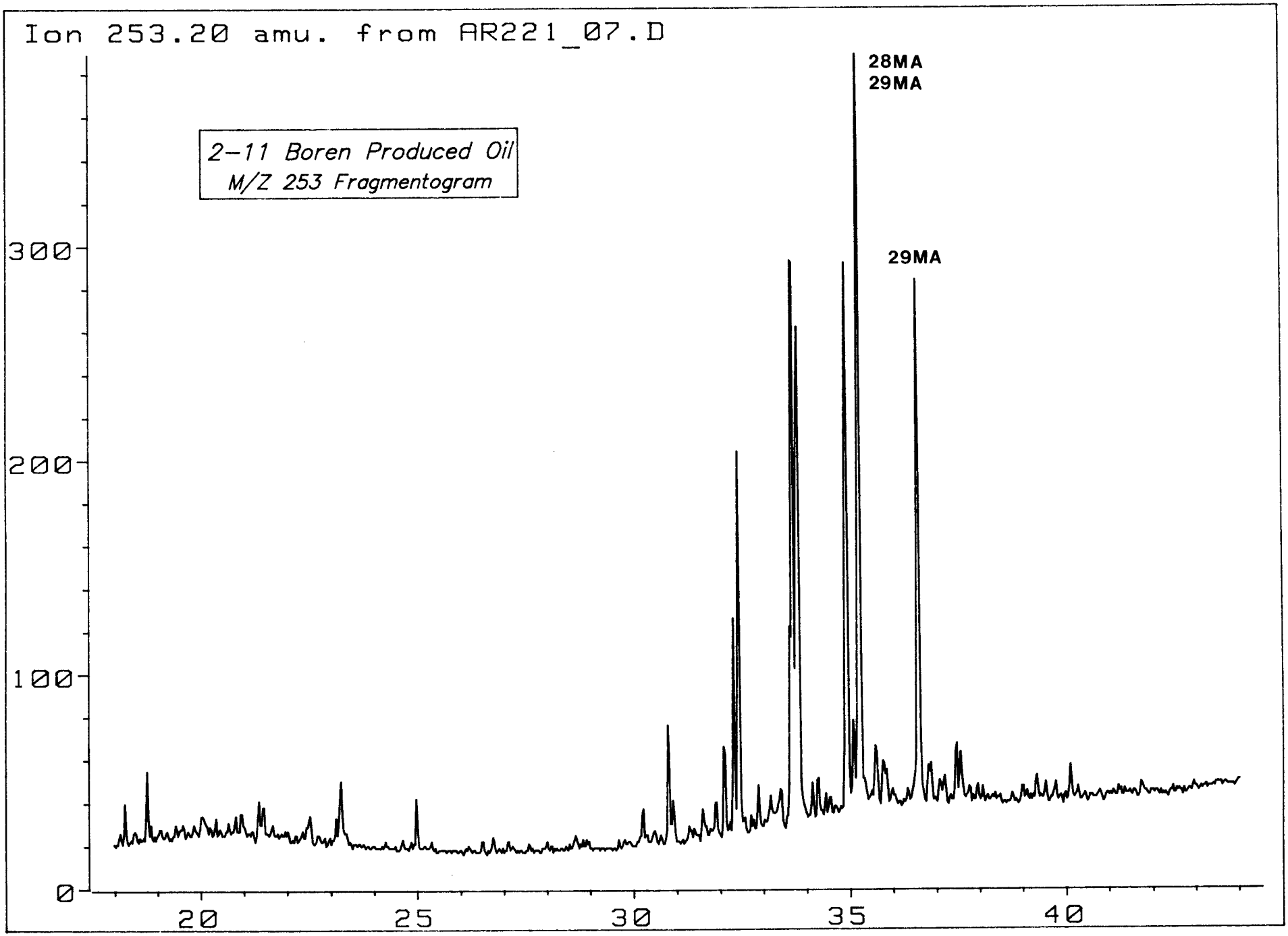

Ion 123.10 amu. from 87221_07.D
2-11 Boren Produced Oil
M/Z 123 Fragmentogram
16D
15D
1200
1000
800
600
400
200
0
10
12
14
16
18
20
22

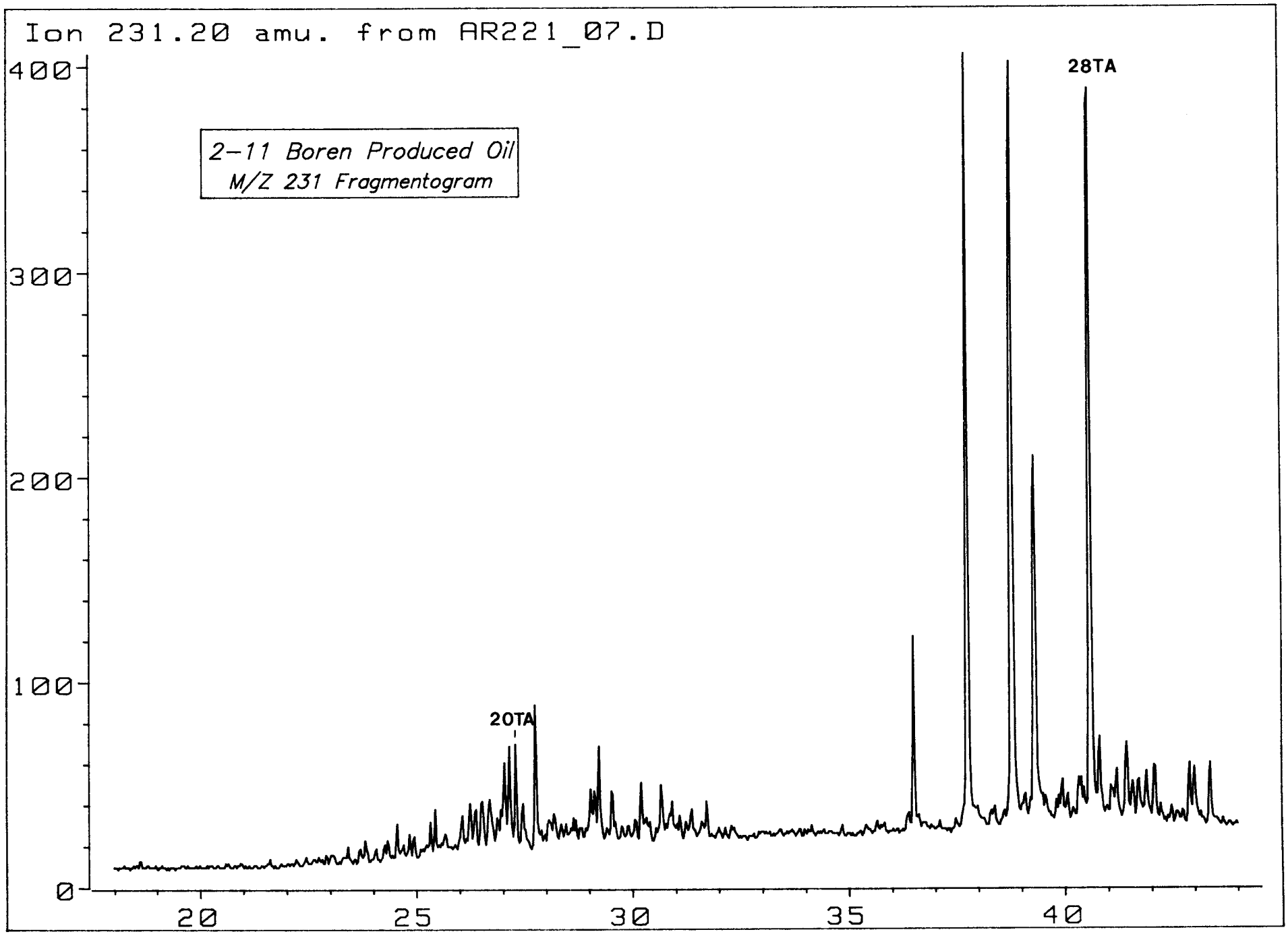

Ion 191.20 amu. from 87221_07.D
2-11 Boren Produced Oil
M/Z 191 Fragmentogram (extended)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
30
40
50
60
19T
20T
21T
22T
23T
24T
25T
26T
30H

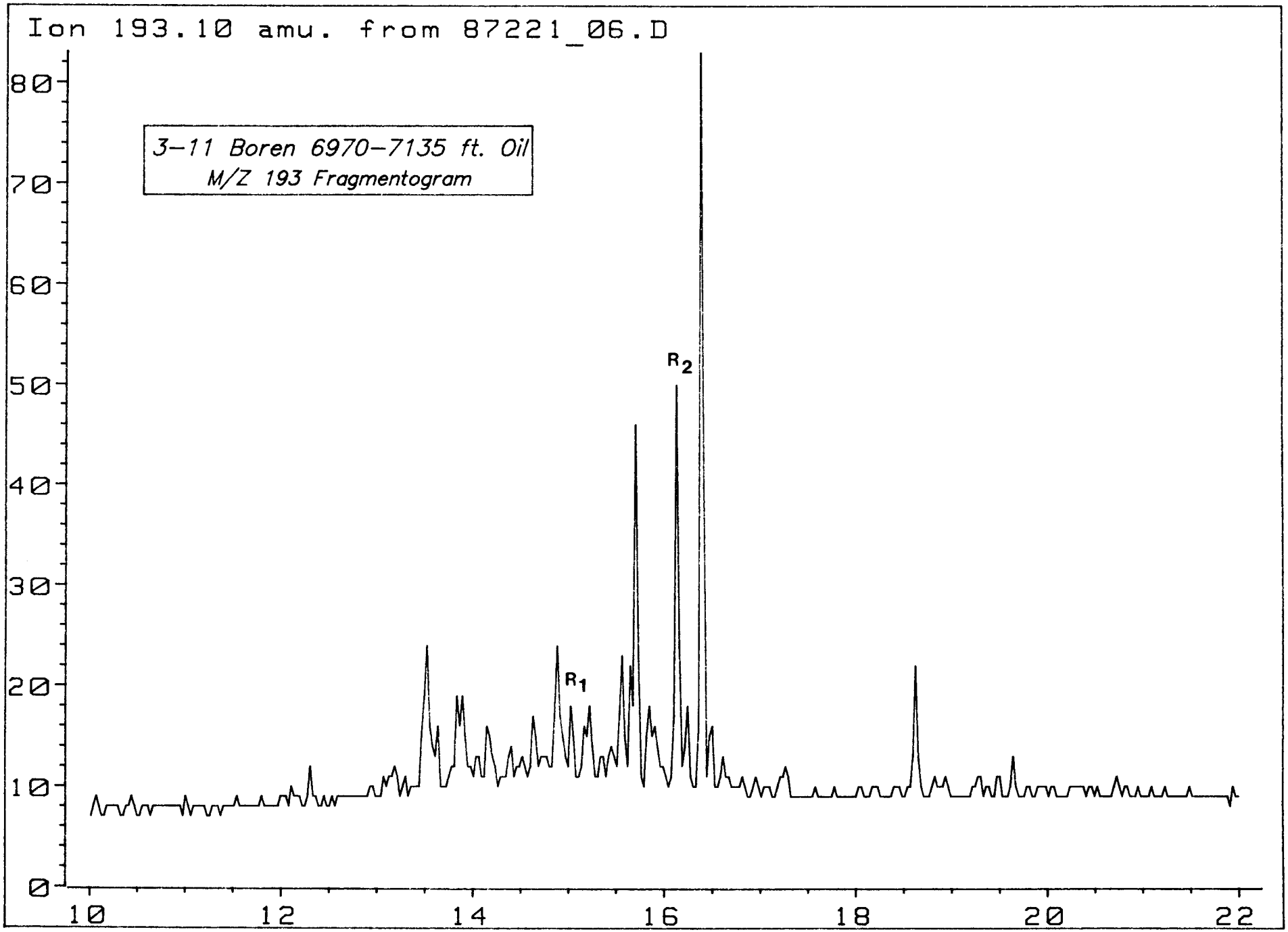

Ion 191.20 amu. from 87221_07.D
2-11 Boren Produced Oil
M/Z 191 Fragmentogram (detailed)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
46
48
50
52
54
56
58
60
62
64
28T
29T
Ts
Tm
29H
29M
30H
30M
31H
S
R
Gm
32H
S
R
33H
S
R

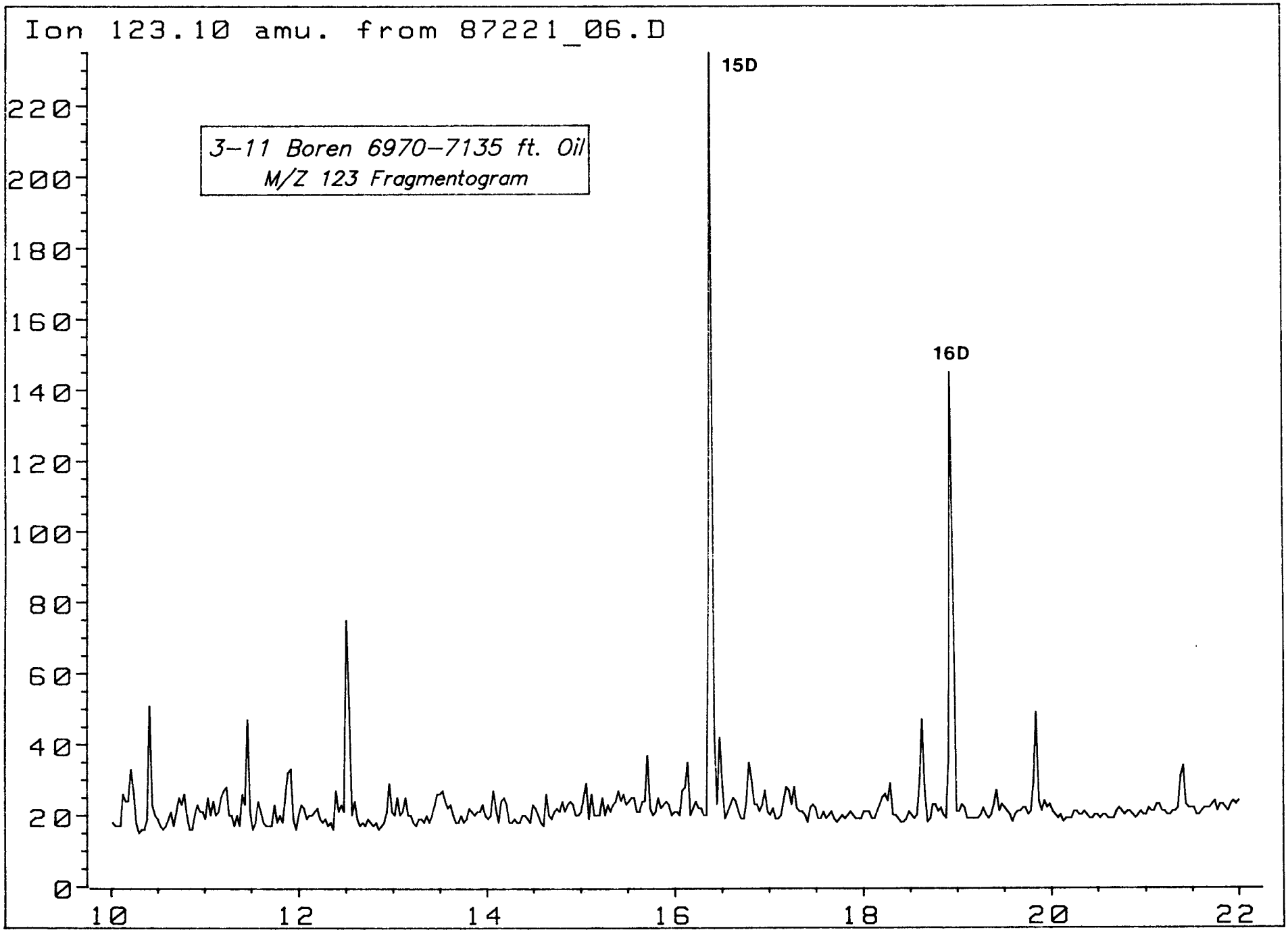

Ion 217.00 amu. from 87221_07.D
2-11 Boren Produced Oil
M/Z 217 Fragmentogram
3000
2000
1000
0
44
45
46
47
48
49
50
51
52
53
54
C
E
G
H
I
J
K
L
M
N
O
P

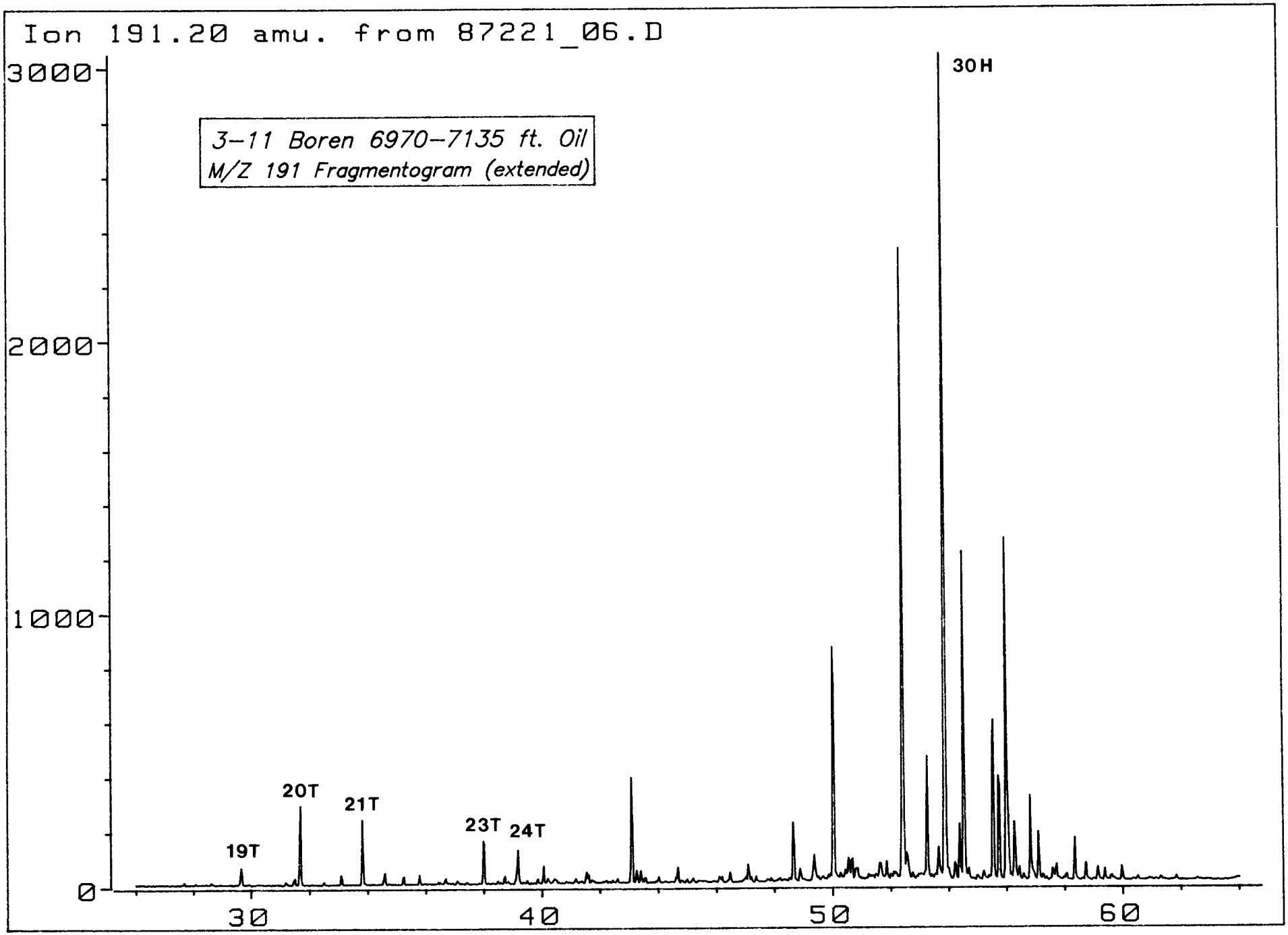

Ion 178.20 amu. from AR221_07.D
Ion 192.20 amu. from AR221_07.D
2-11 Boren Produced Oil
M/Z 178 & 192 Fragmentograms
P
MP
9
2
1
3
500
400
300
200
100
0
8
10
12
14
16
18
20

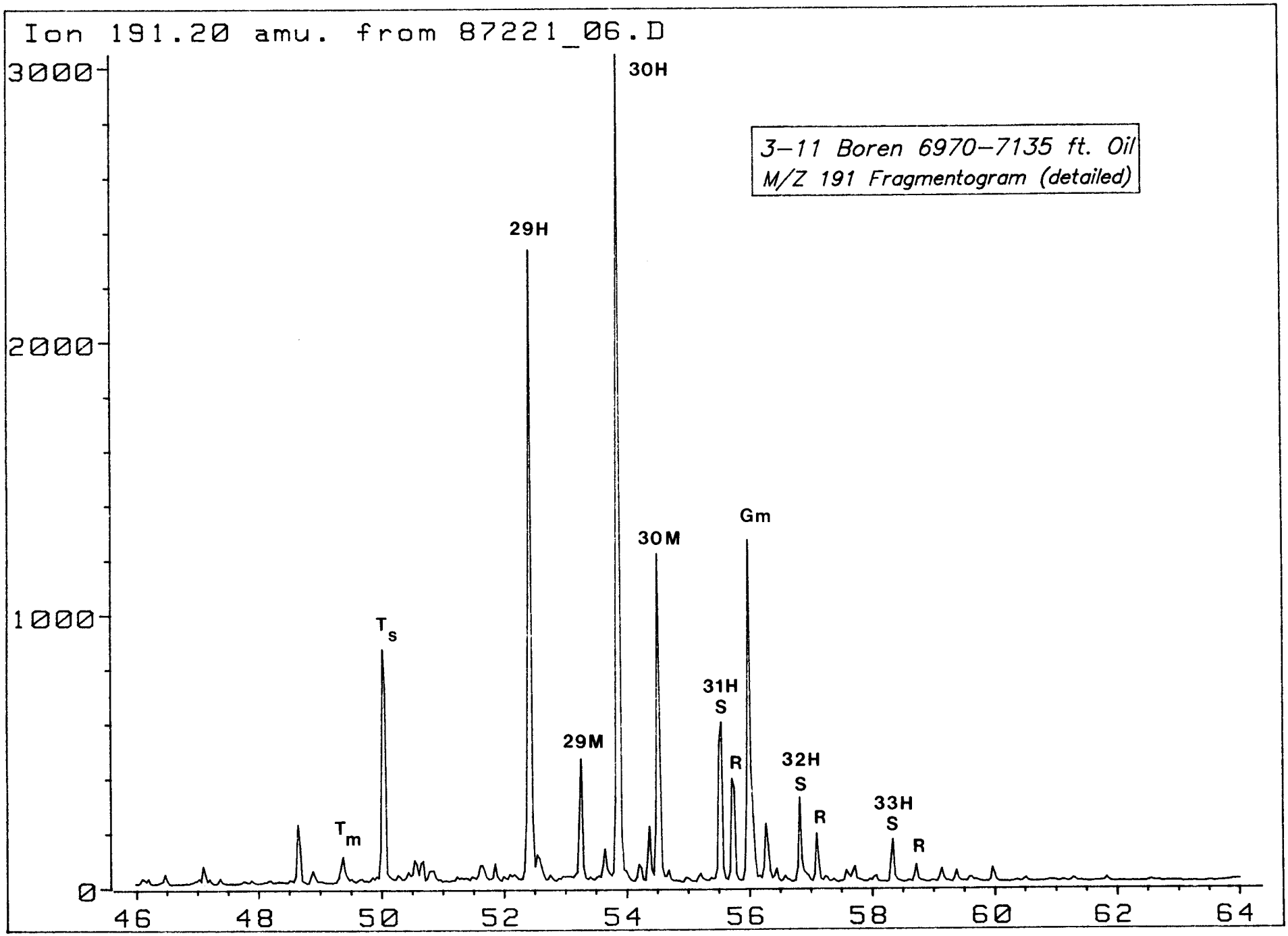

Ion 253.20 amu. from AR221_07.D
2-11 Boren Produced Oil
M/Z 253 Fragmentogram
28MA
29MA
29MA
300
200
100
0
20
25
30
35
40

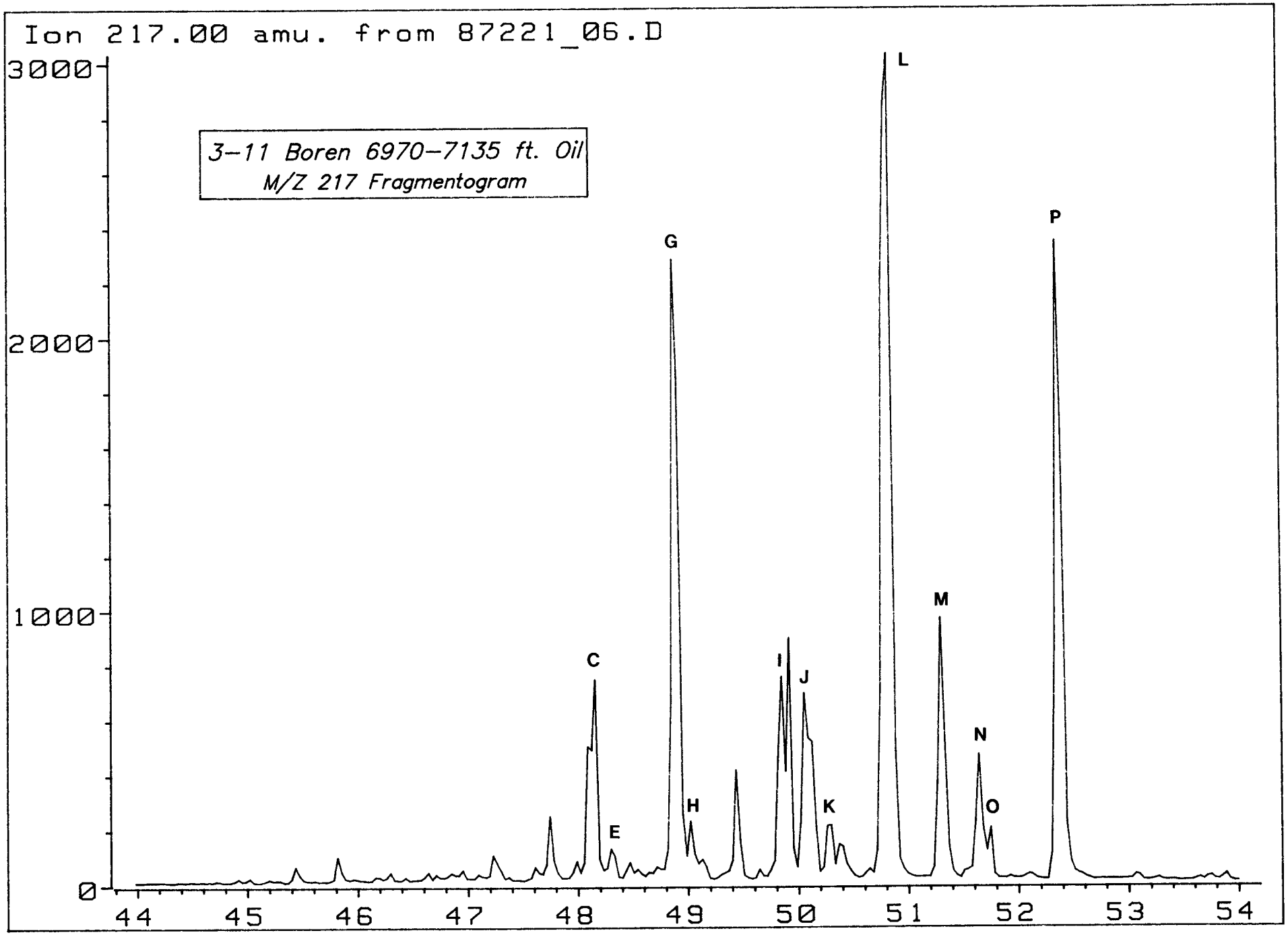

Ion 231.20 amu. from AR221_07.D
2-11 Boren Produced Oil
M/Z 231 Fragmentogram
28TA
20TA
400
300
200
100
0
20
25
30
35
40

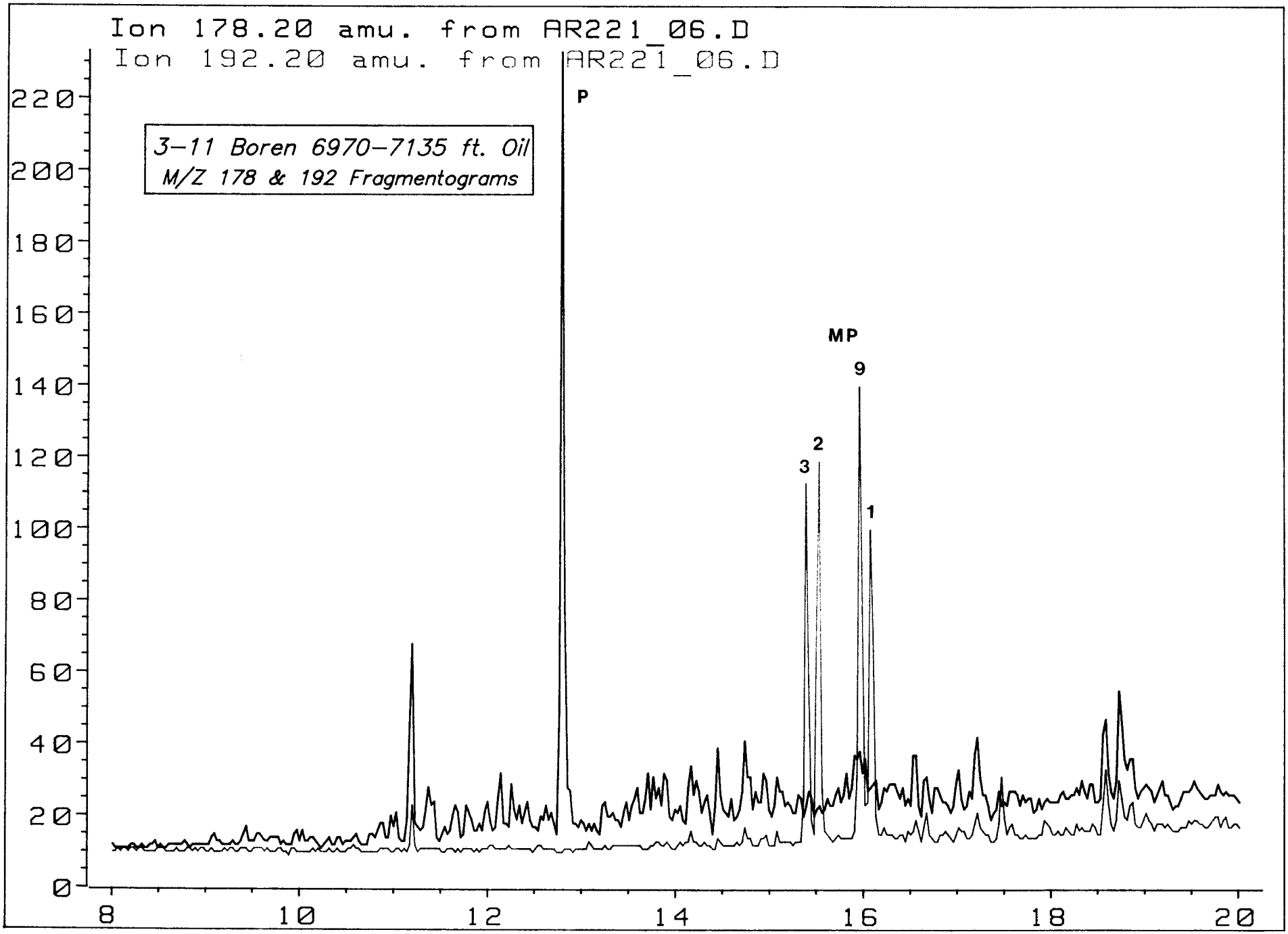

Ion 193.10 amu. from 87221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 193 Fragmentogram
R1
R2
80
70
60
50
40
30
20
10
0
10
12
14
16
18
20
22

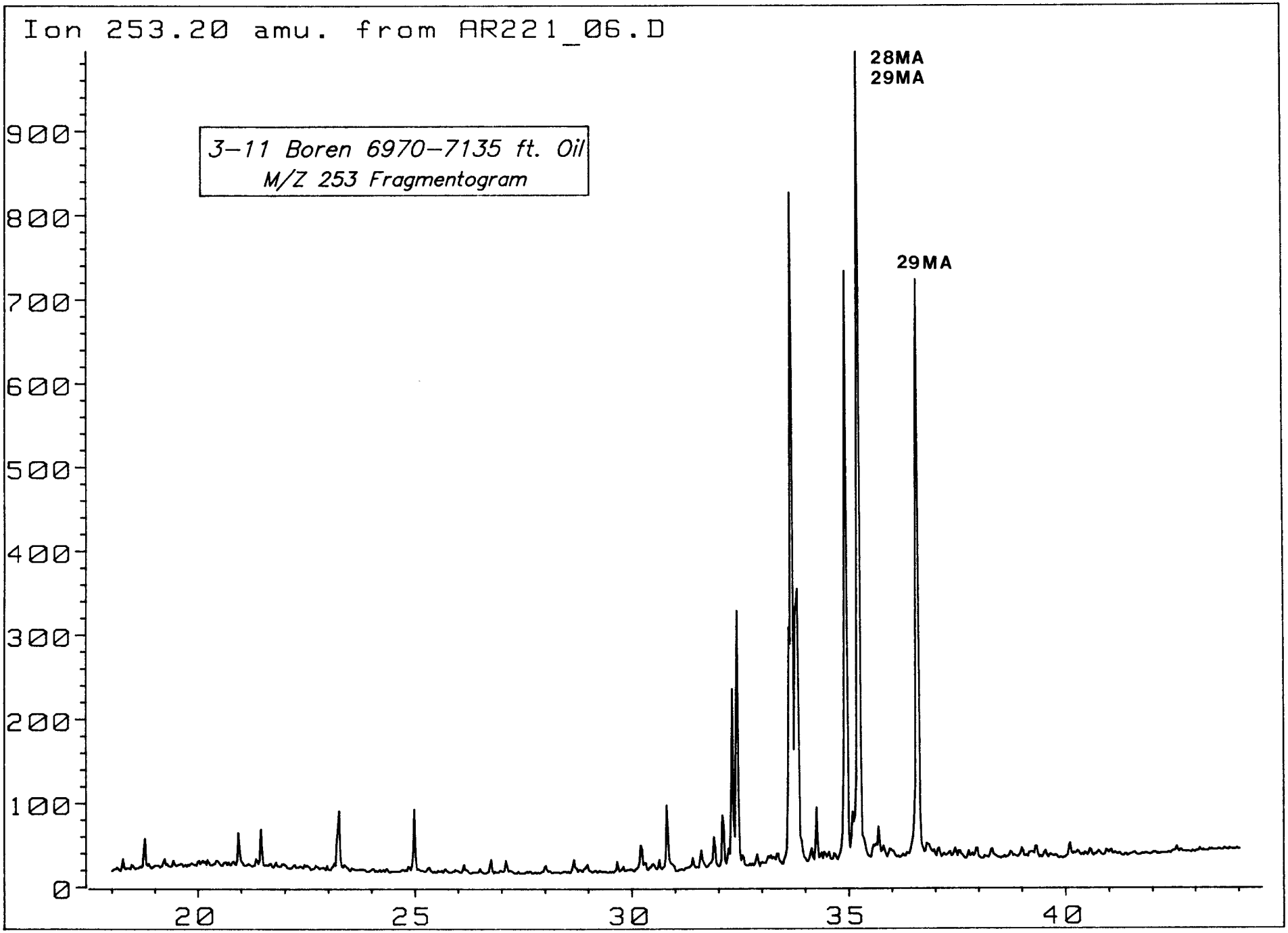

Ion 123.10 amu. from 87221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 123 Fragmentogram
15D
16D
220
200
180
160
140
120
100
80
60
40
20
0
10
12
14
16
18
20
22

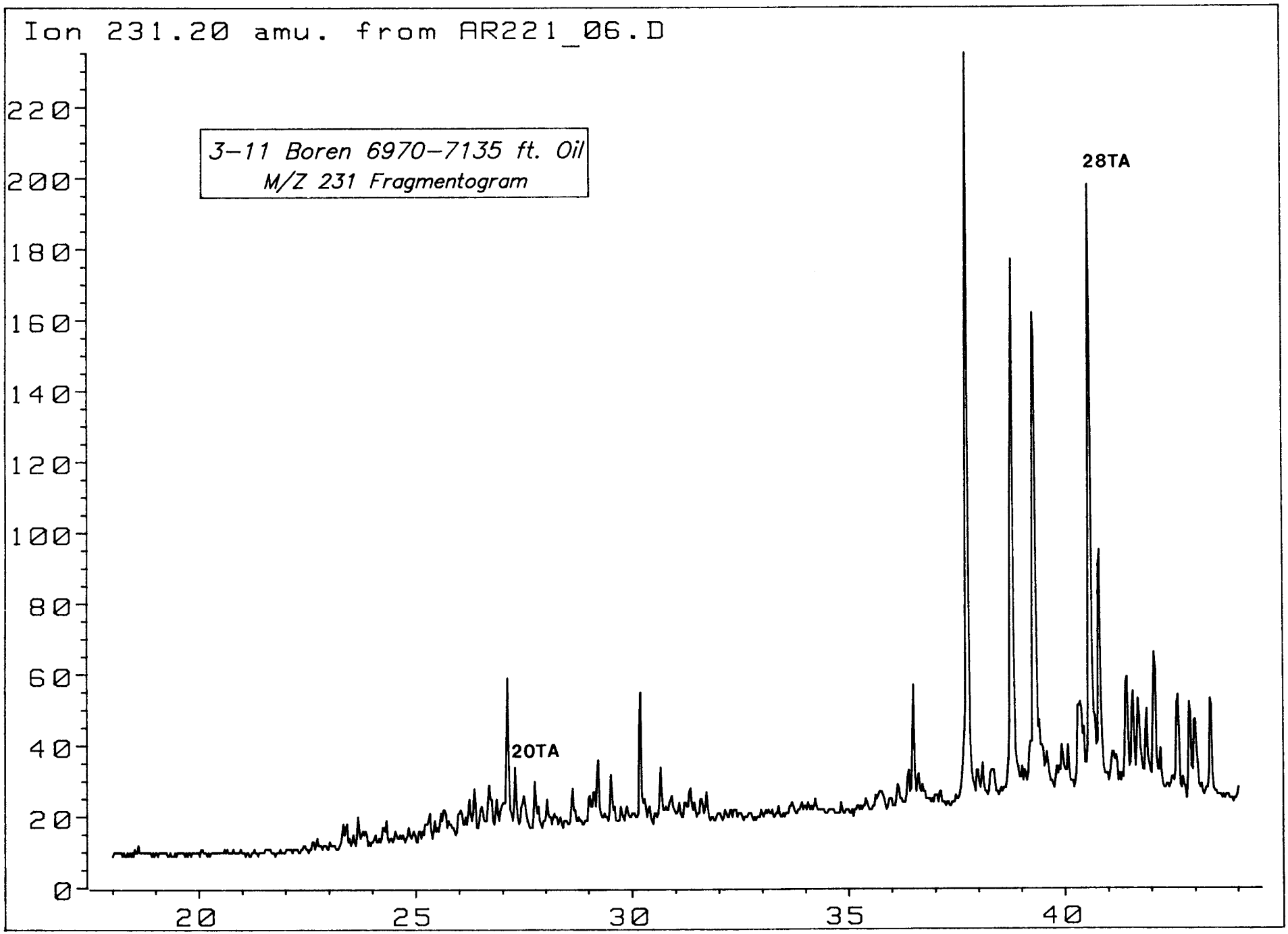

Ion 191.20 amu. from 87221_06.D
3000
2000
1000
0
3-11 Boren 6970-7135 ft. Oil
M/Z 191 Fragmentogram (extended)
30H
19T
20T
21T
23T
24T
30
40
50
60

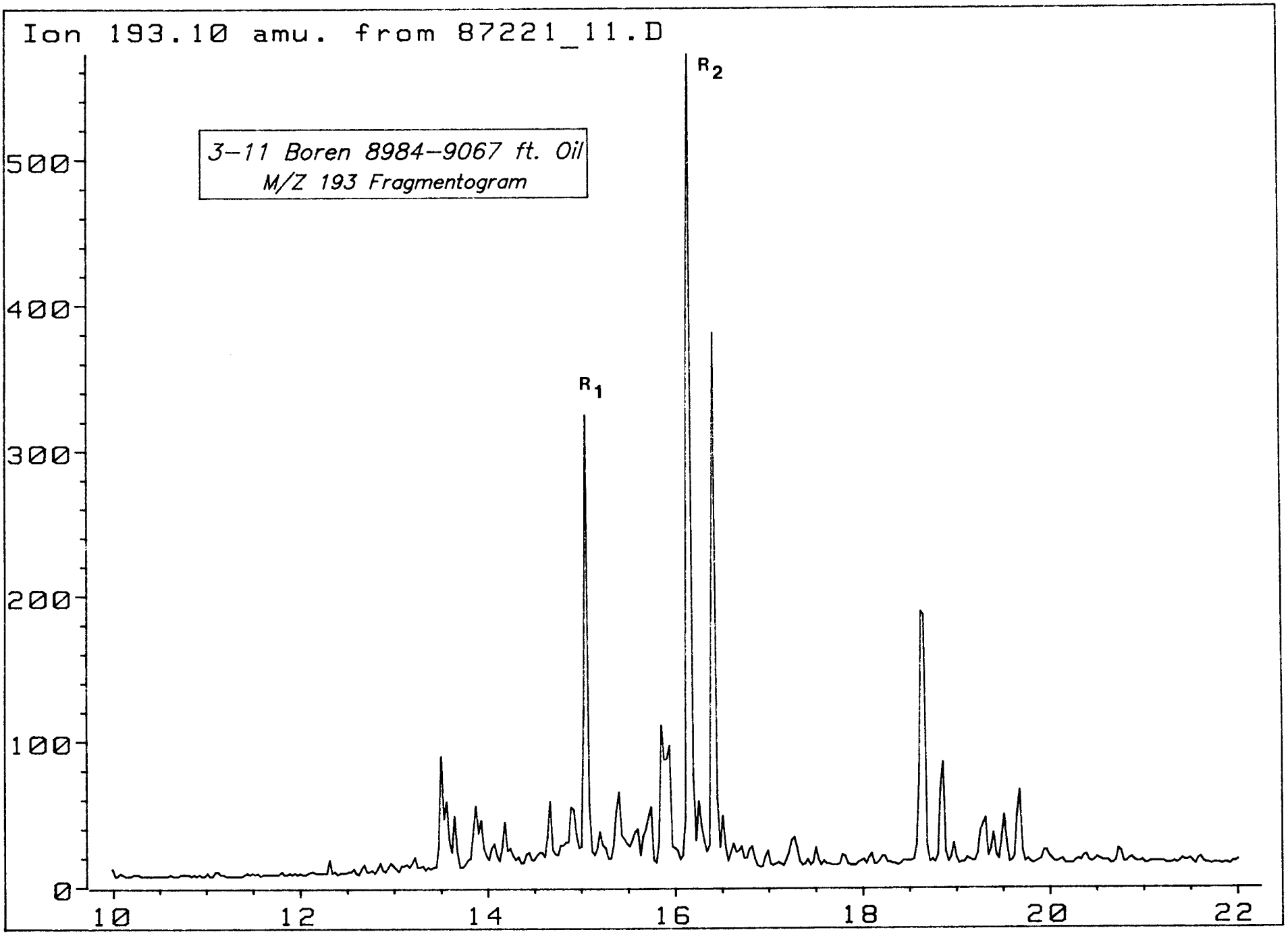

Ion 191.20 amu. from 87221_06.D
3000
2000
1000
0
46
48
50
52
54
56
58
60
62
64
3-11 Boren 6970-7135 ft. Oil
M/Z 191 Fragmentogram (detailed)
30H
29H
30M
Gm
Ts
Tm
29M
31H
S
R
32H
S
R
33H
S
R

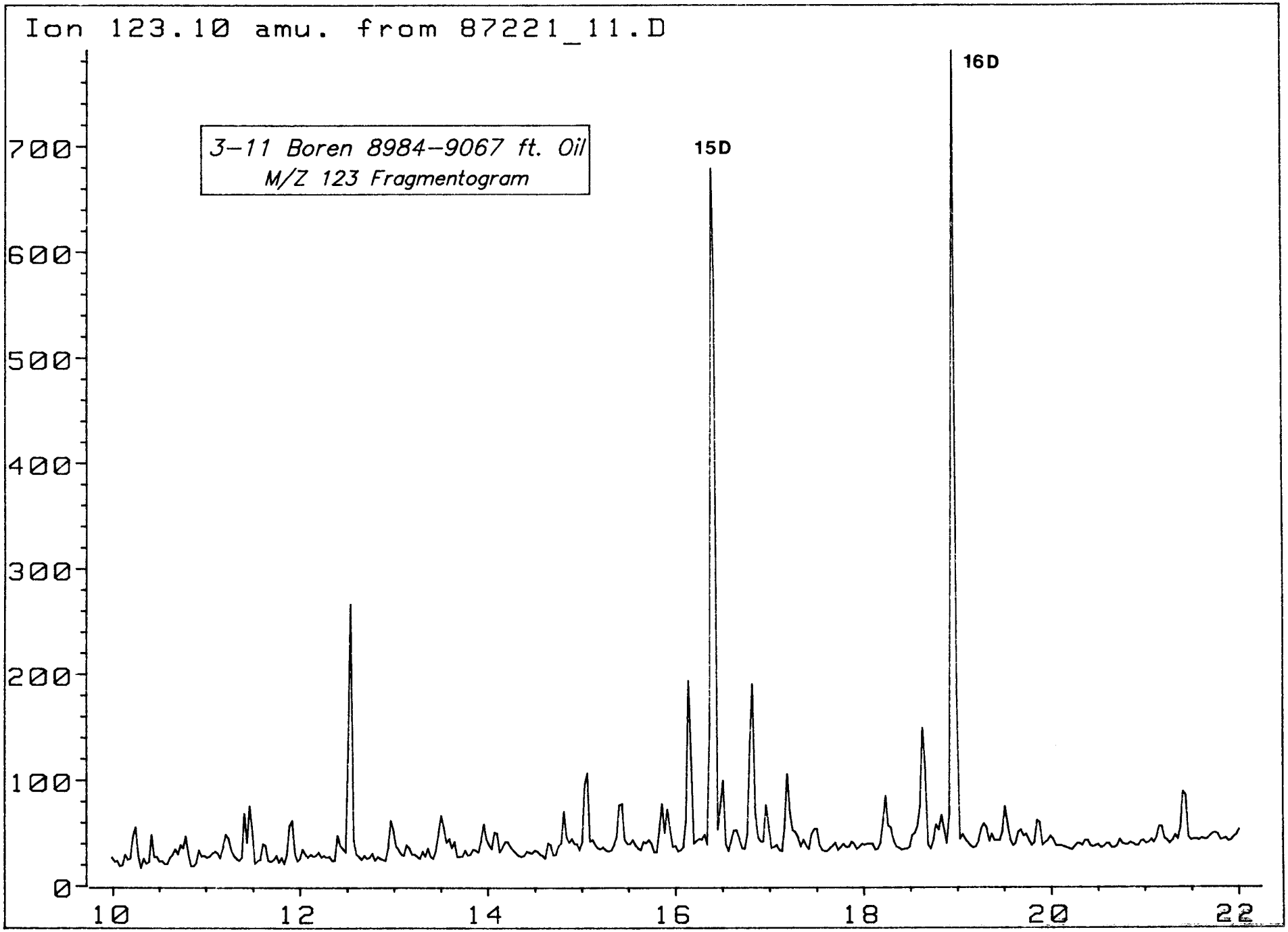

Ion 217.00 amu. from 87221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 217 Fragmentogram
3000
2000
1000
0
44
45
46
47
48
49
50
51
52
53
54
C
E
G
H
I
J
K
L
M
N
O
P

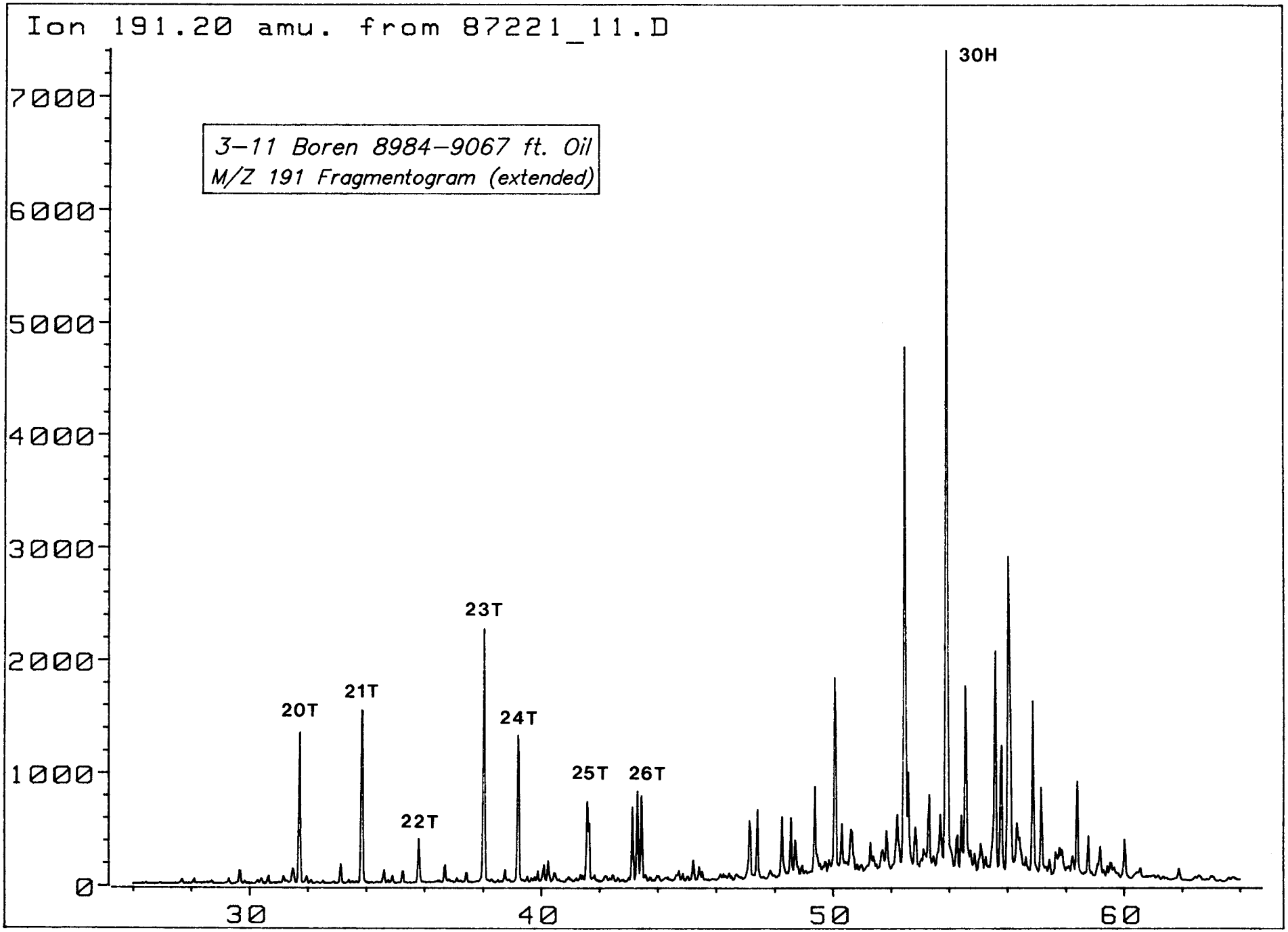

Ion 178.20 amu. from AR221_06.D
Ion 192.20 amu. from AR221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 178 & 192 Fragmentograms
P
MP
9
2
3
1
220
200
180
160
140
120
100
80
60
40
20
0
8
10
12
14
16
18
20

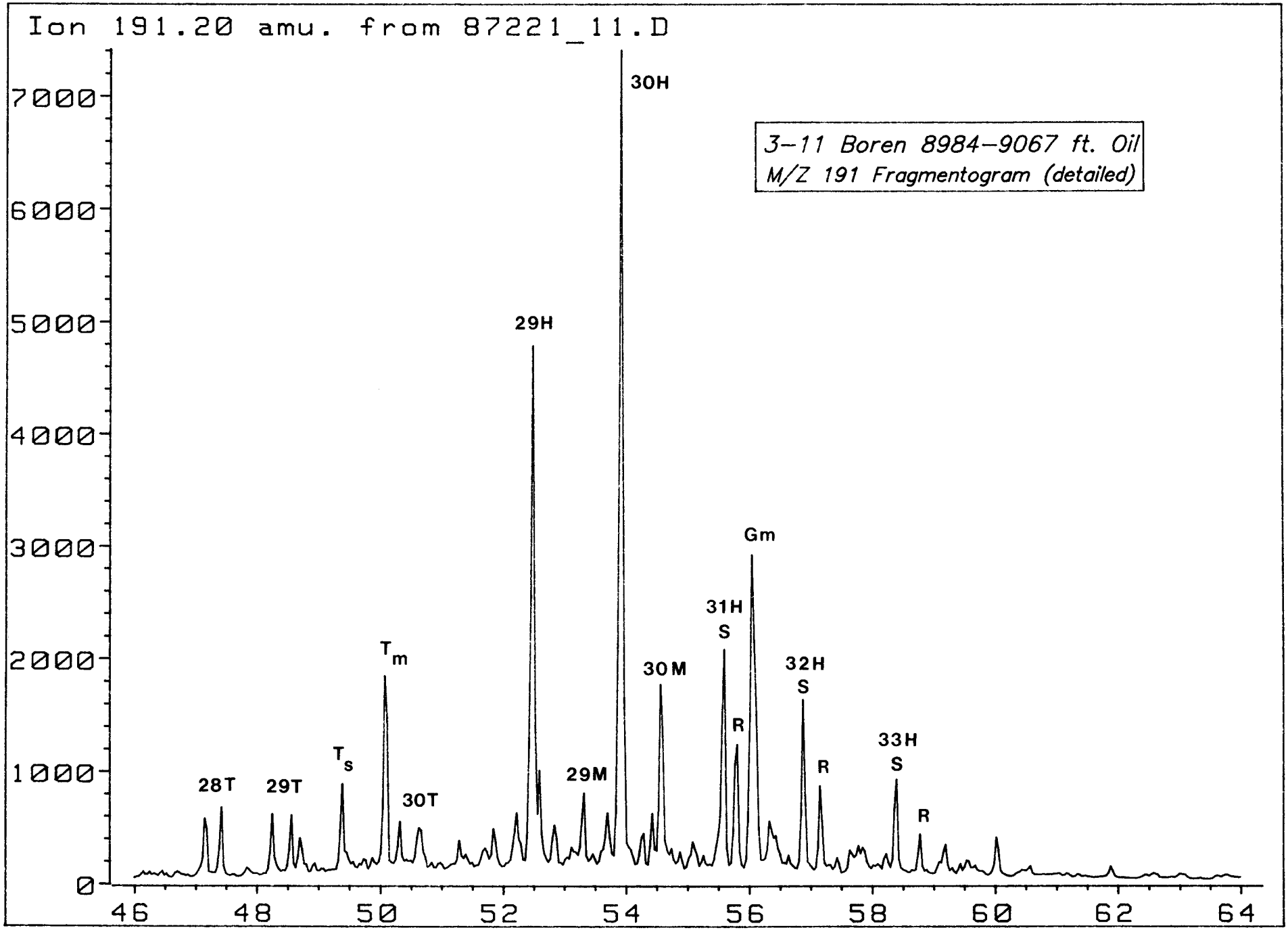

Ion 253.20 amu. from AR221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 253 Fragmentogram
28MA
29MA
29MA
900
800
700
600
500
400
300
200
100
0
20
25
30
35
40

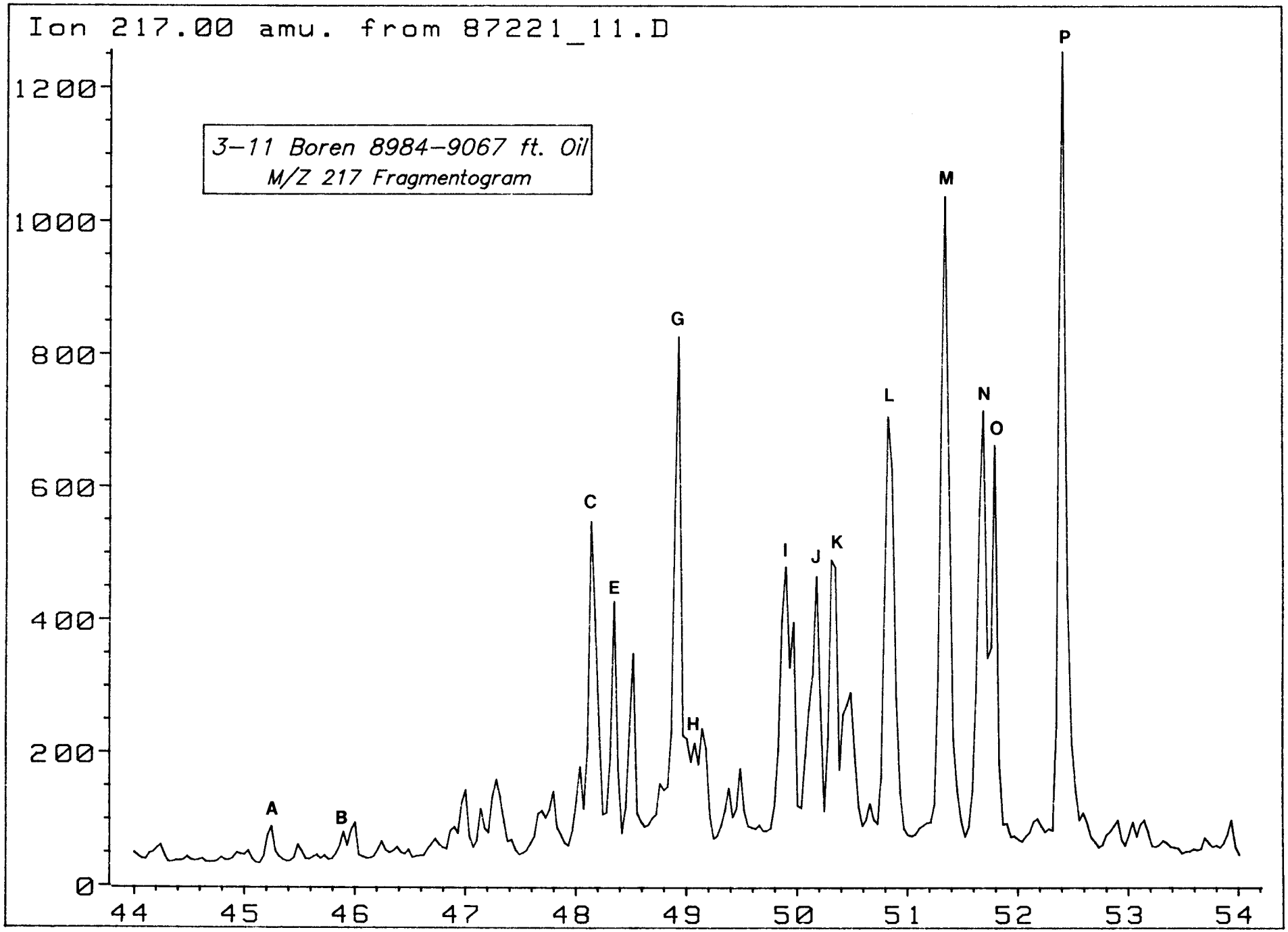

Ion 231.20 amu. from AR221_06.D
3-11 Boren 6970-7135 ft. Oil
M/Z 231 Fragmentogram
20TA
28TA
0
20
40
60
80
100
120
140
160
180
200
220
20
25
30
35
40

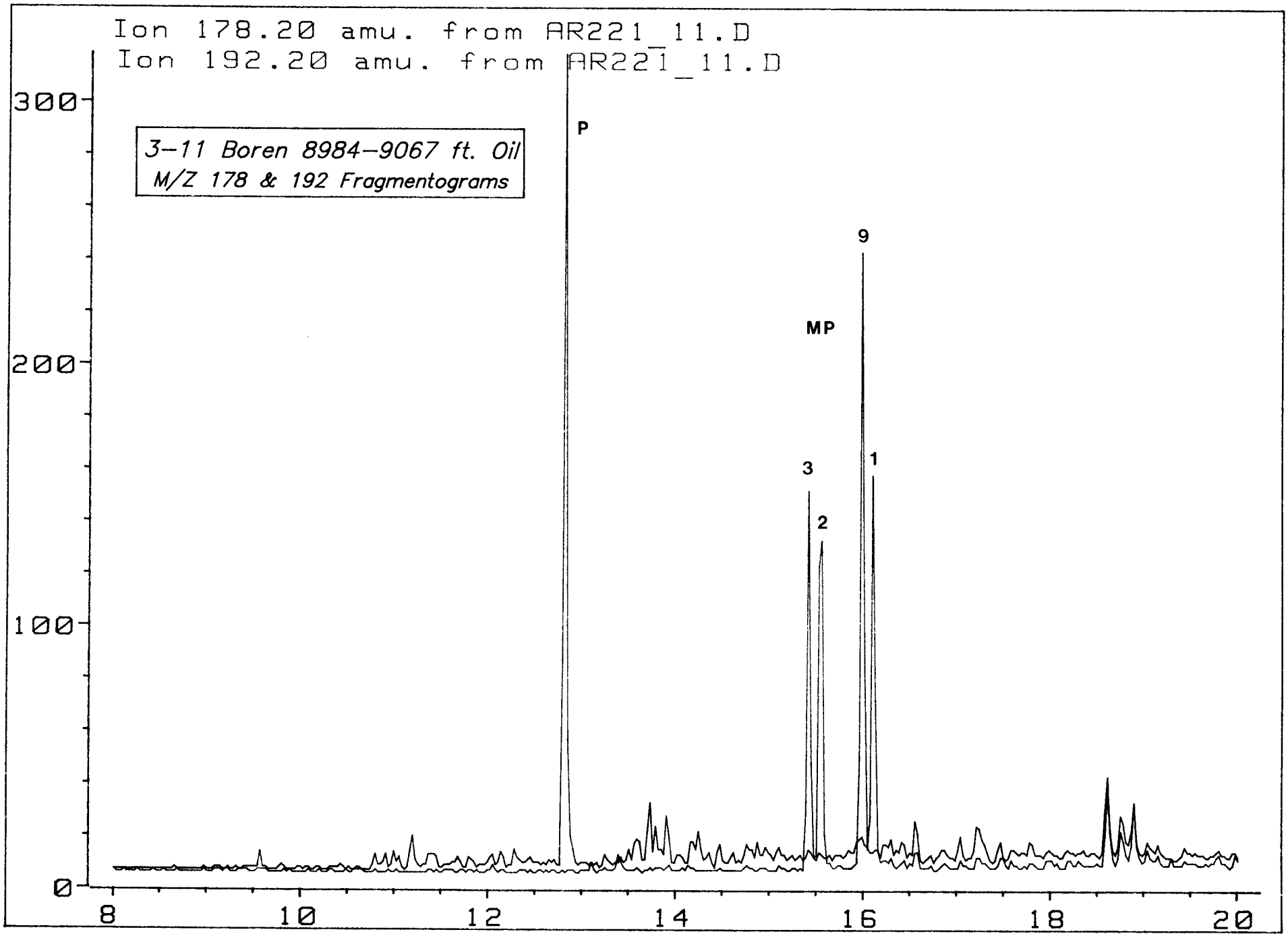

Ion 193.10 amu. from 87221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 193 Fragmentogram
R1
R2
500
400
300
200
100
0
10
12
14
16
18
20
22

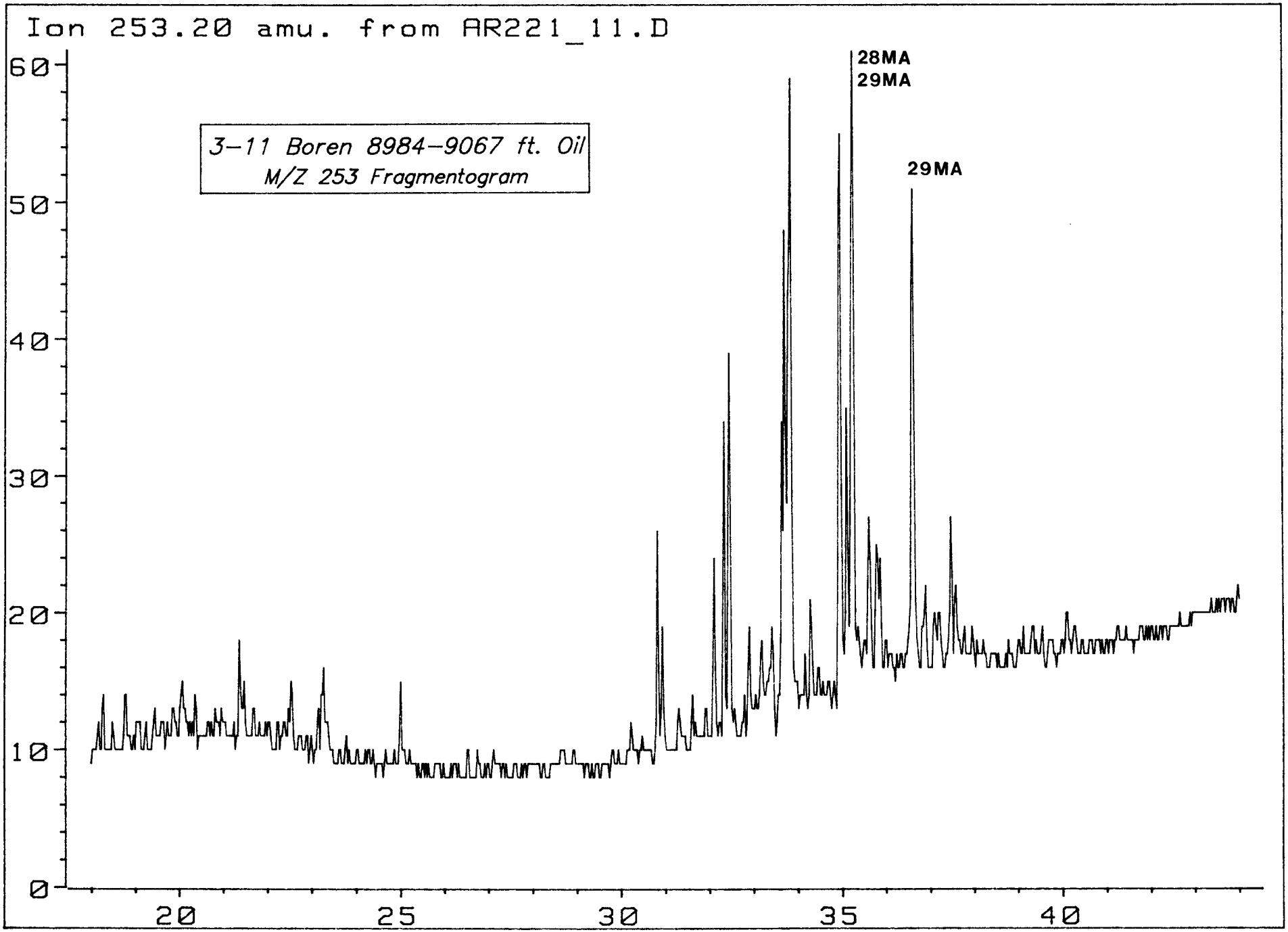

Ion 123.10 amu. from 87221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 123 Fragmentogram
15D
16D
700
600
500
400
300
200
100
0
10
12
14
16
18
20
22

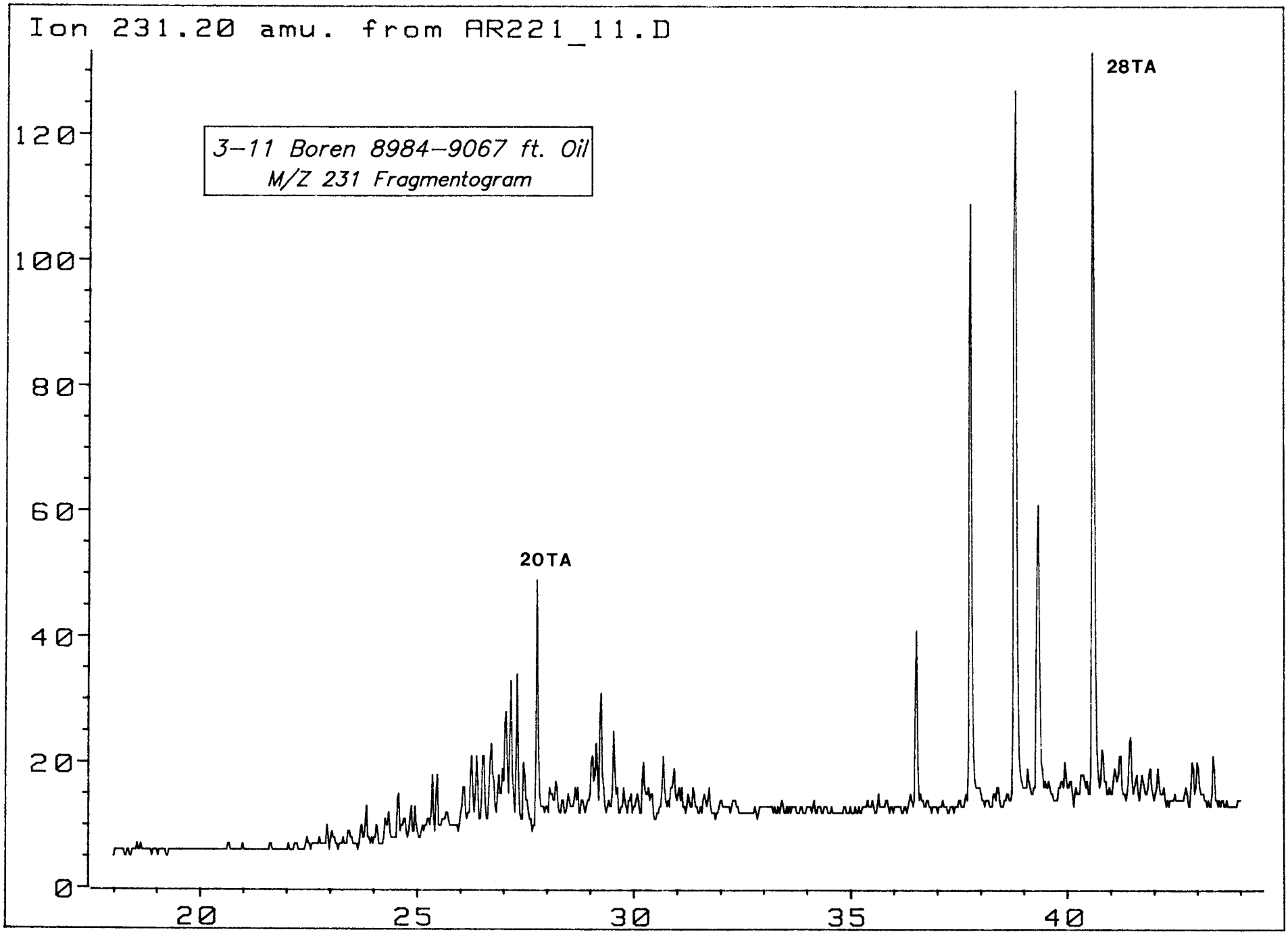

Ion 191.20 amu. from 87221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 191 Fragmentogram (extended)
7000
6000
5000
4000
3000
2000
1000
0
30
40
50
60
20T
21T
22T
23T
24T
25T
26T
30H

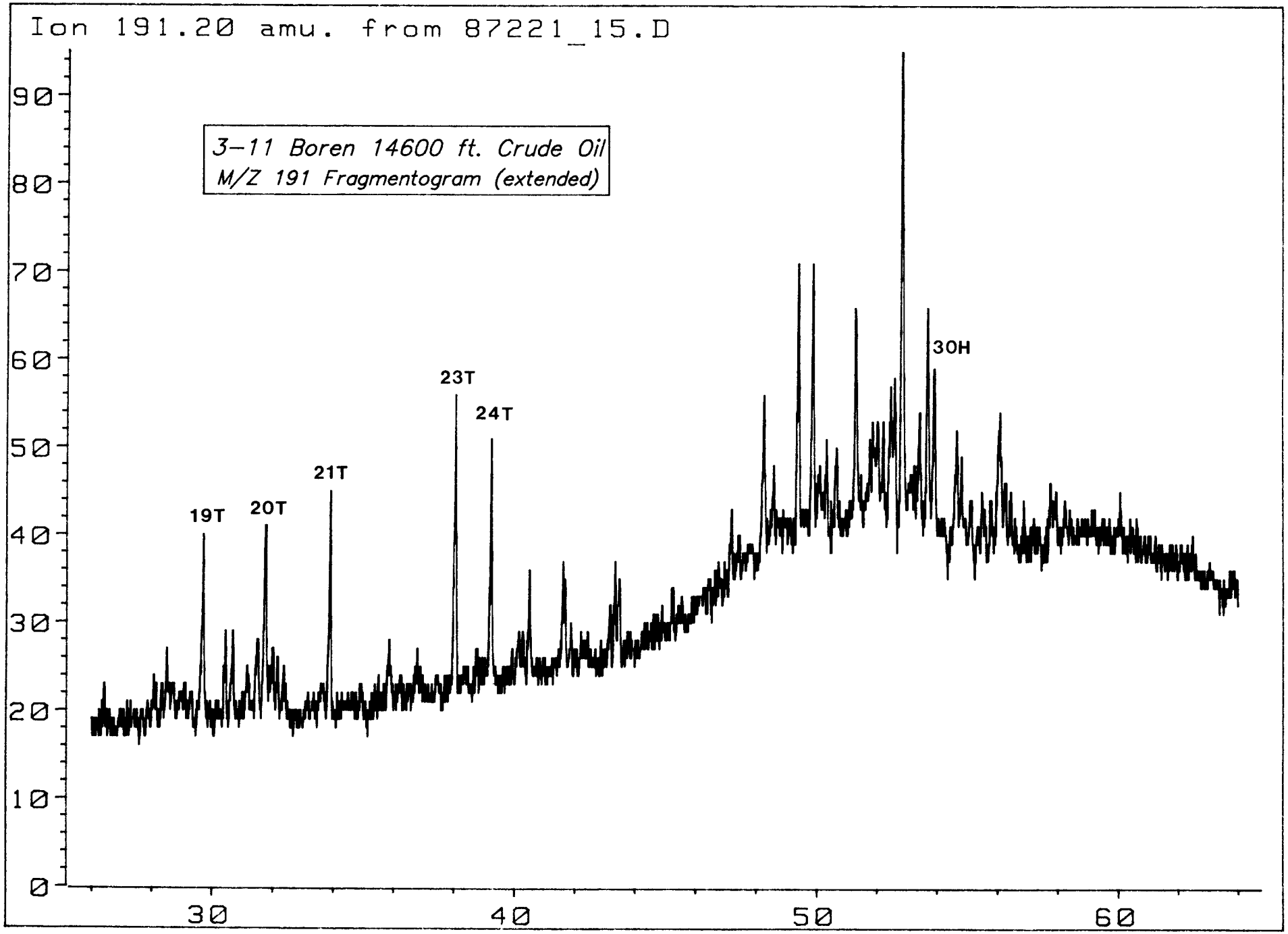

Ion 191.20 amu. from 87221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 191 Fragmentogram (detailed)
7000
6000
5000
4000
3000
2000
1000
0
46
48
50
52
54
56
58
60
62
64
28T
29T
Ts
Tm
30T
29H
29M
30H
30M
31H
S
R
Gm
32H
S
R
33H
S
R

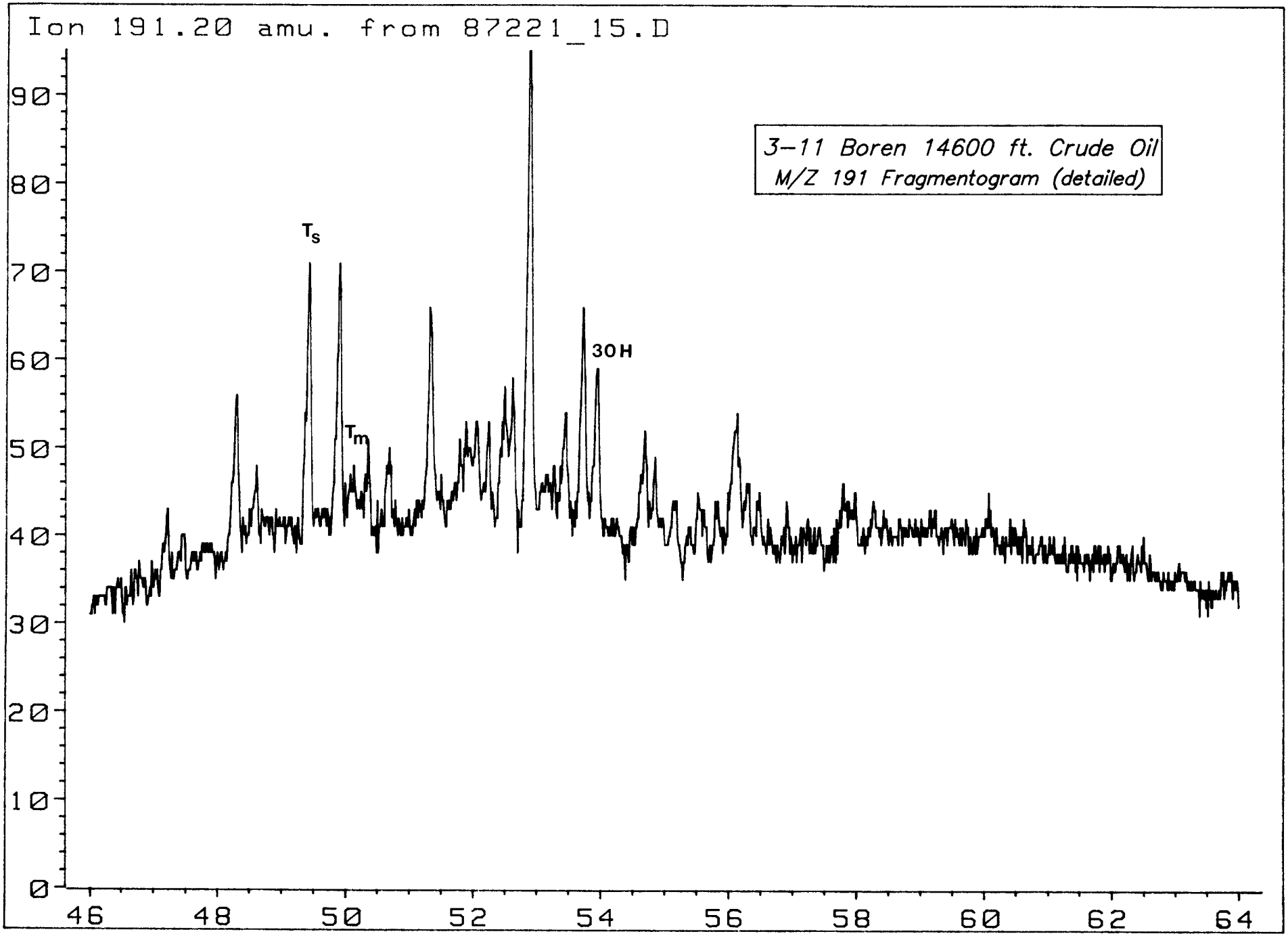

Ion 217.00 amu. from 87221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 217 Fragmentogram
1200
1000
800
600
400
200
0
44
45
46
47
48
49
50
51
52
53
54
A
B
C
E
G
H
I
J
K
L
M
N
O
P

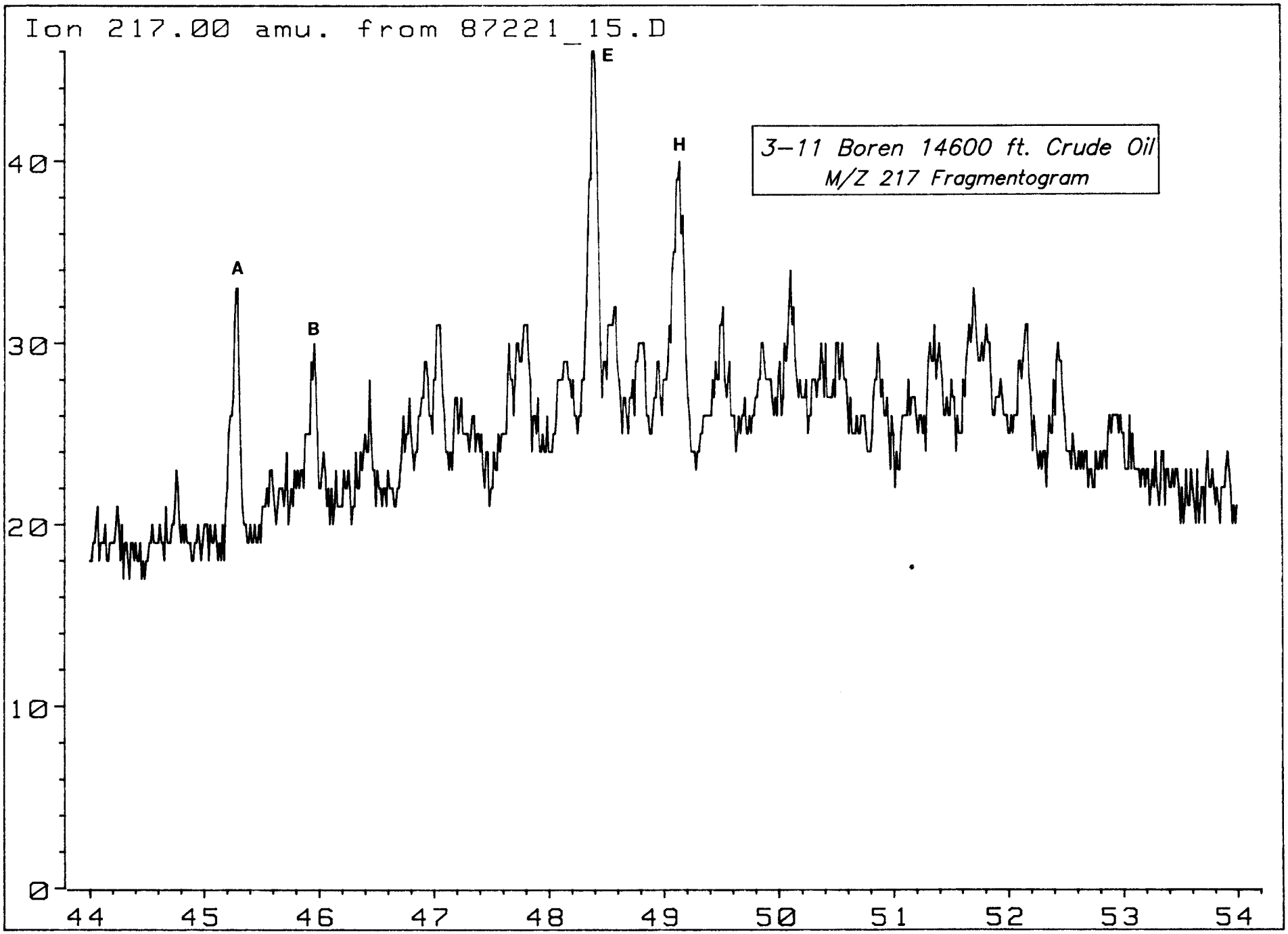

Ion 178.20 amu. from AR221_11.D
Ion 192.20 amu. from AR221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 178 & 192 Fragmentograms
P
MP
9
3
2
1
300
200
100
0
8
10
12
14
16
18
20

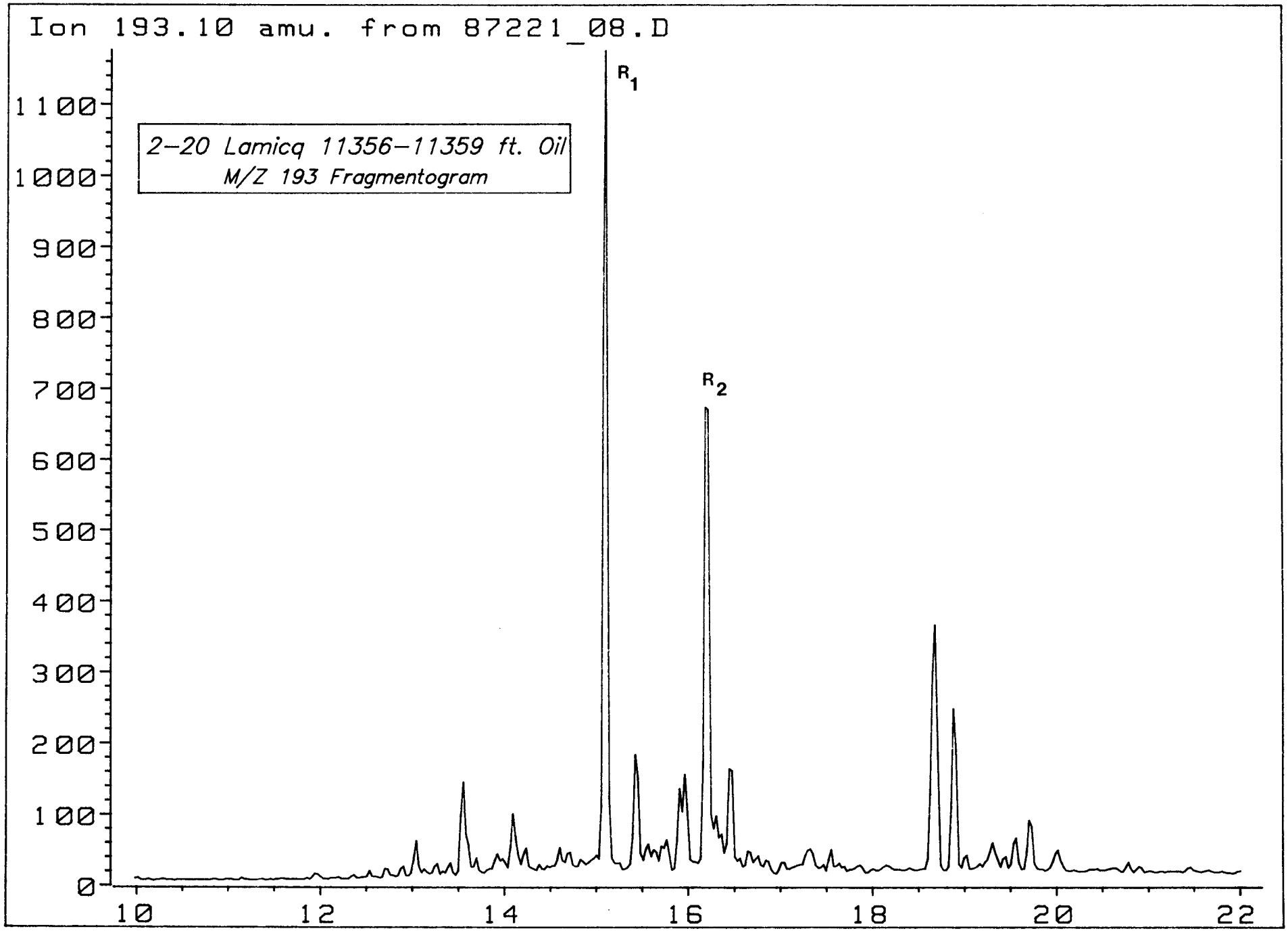

Ion 253.20 amu. from AR221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 253 Fragmentogram
28MA
29MA
29MA
60
50
40
30
20
10
0
20
25
30
35
40

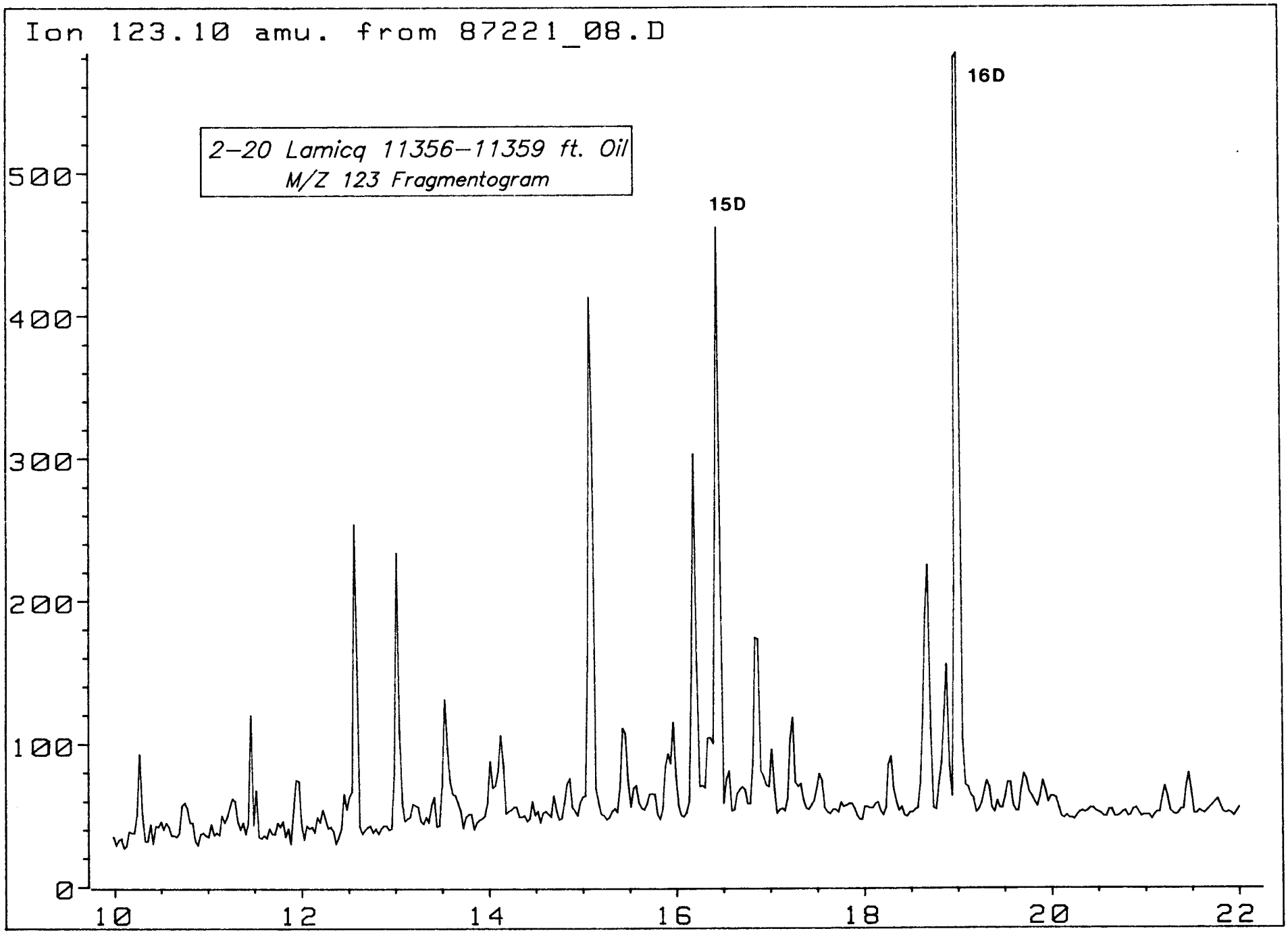

Ion 231.20 amu. from AR221_11.D
3-11 Boren 8984-9067 ft. Oil
M/Z 231 Fragmentogram
20TA
28TA
120
100
80
60
40
20
0
20
25
30
35
40

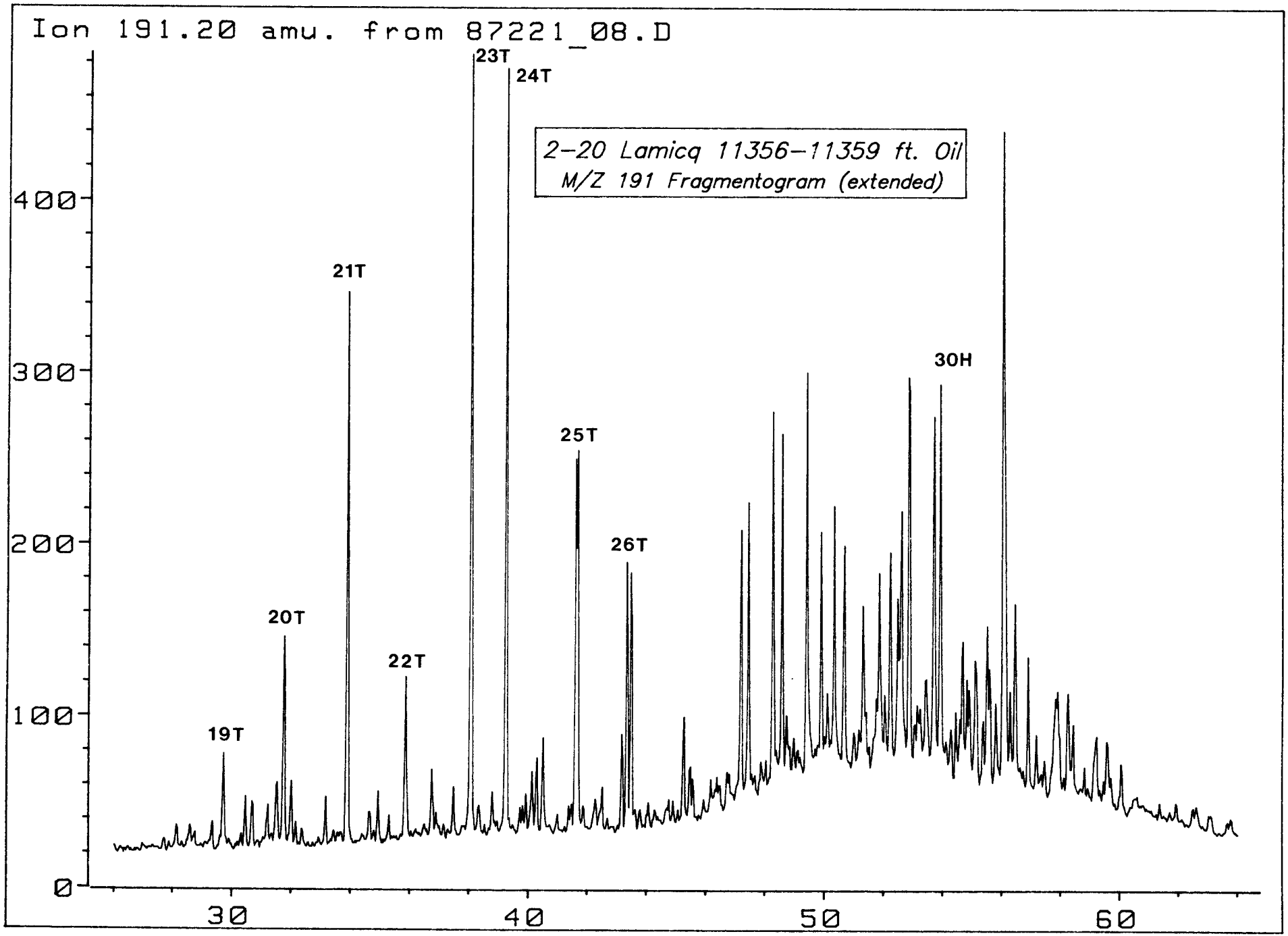

Ion 191.20 amu. from 87221_15.D
3-11 Boren 14600 ft. Crude Oil
M/Z 191 Fragmentogram (extended)
19T
20T
21T
23T
24T
30H
90
80
70
60
50
40
30
20
10
0
30
40
50
60

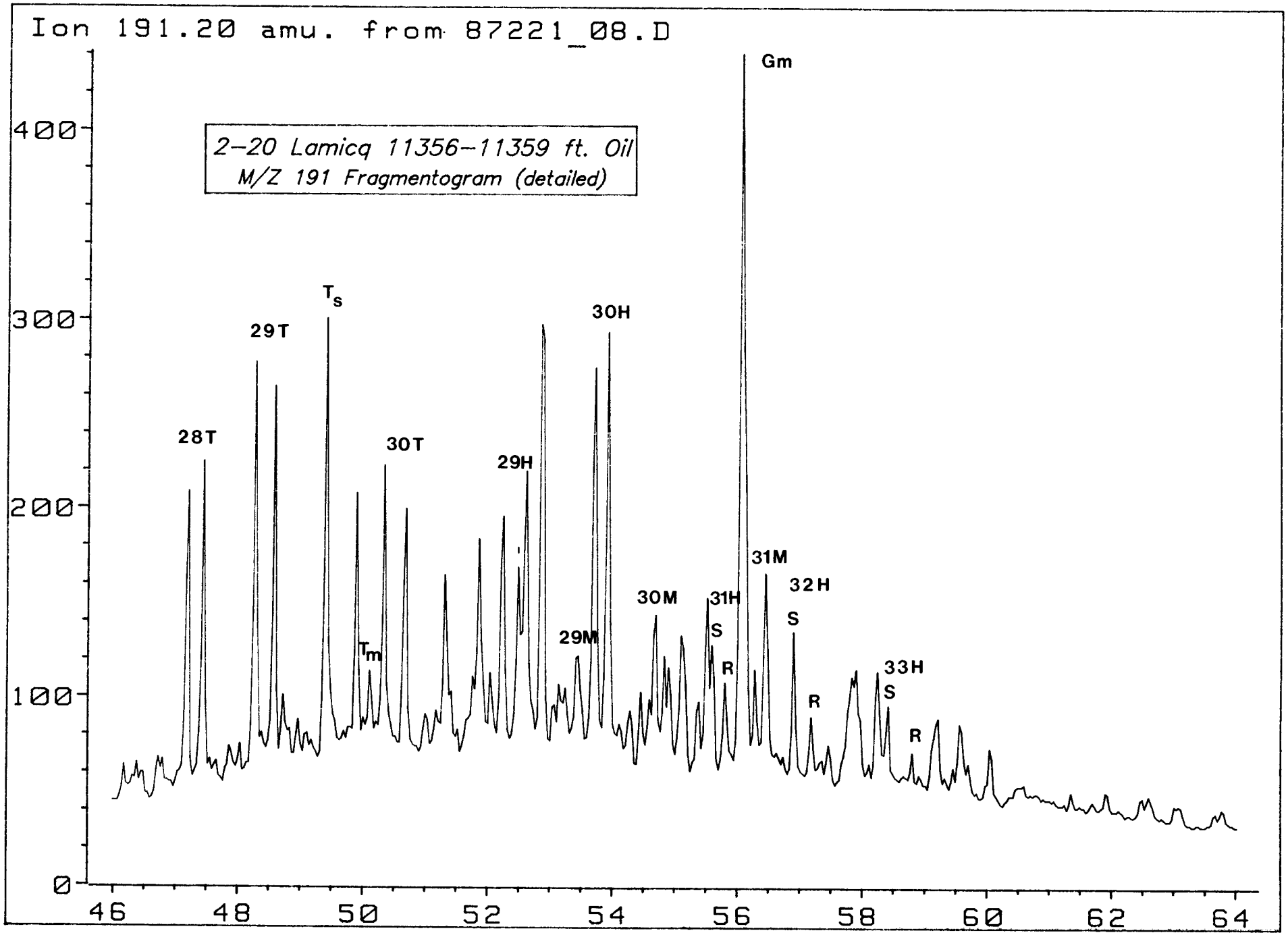

Ion 191.20 amu. from 87221_15.D
3-11 Boren 14600 ft. Crude Oil
M/Z 191 Fragmentogram (detailed)
Ts
Tm
30H
0
10
20
30
40
50
60
70
80
90
46
48
50
52
54
56
58
60
62
64

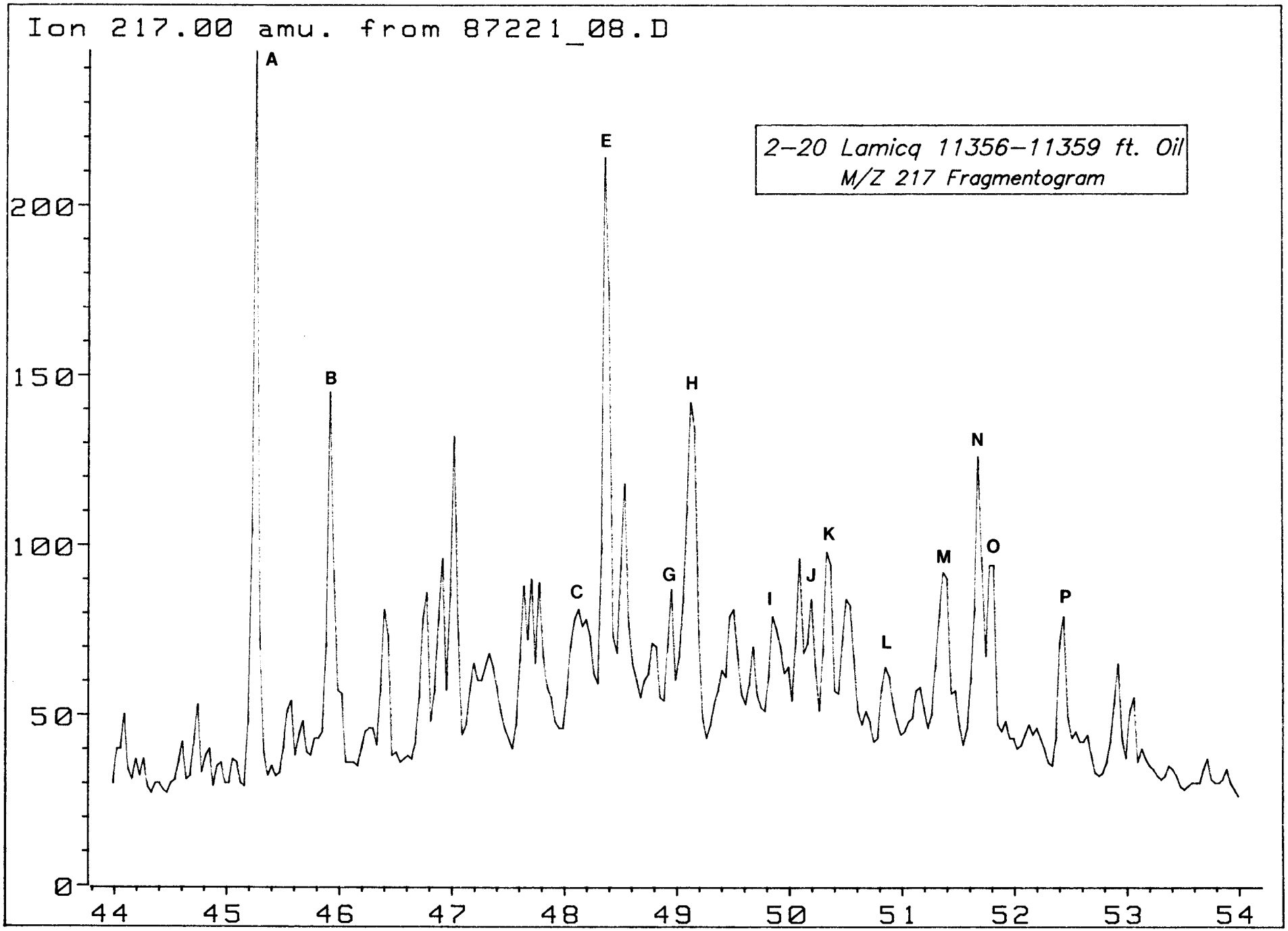

Ion 217.00 amu. from 87221_15.D
3-11 Boren 14600 ft. Crude Oil
M/Z 217 Fragmentogram
A
B
E
H
40
30
20
10
0
44
45
46
47
48
49
50
51
52
53
54

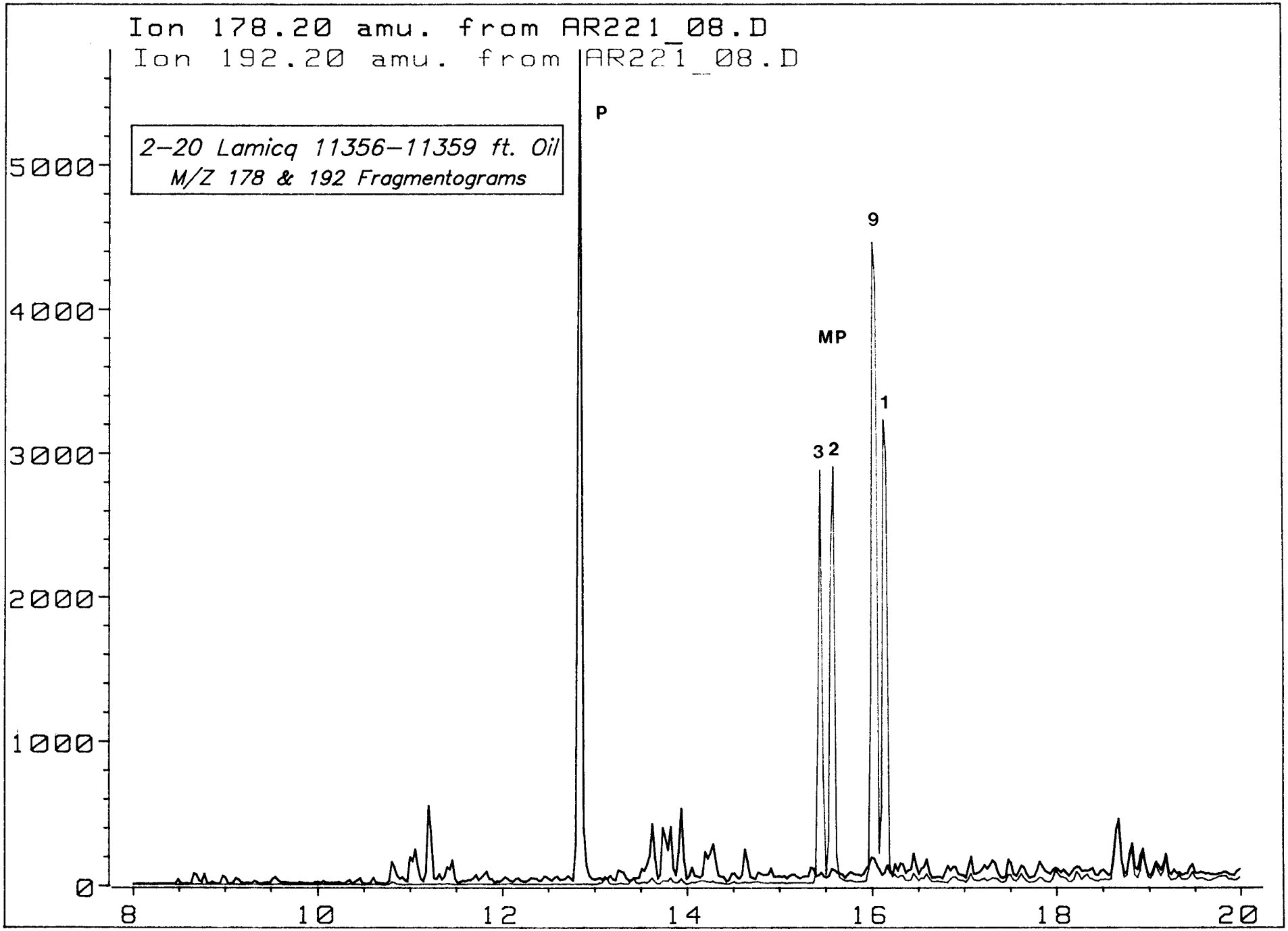

Ion 193.10 amu. from 87221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 193 Fragmentogram
R1
R2
1100
1000
900
800
700
600
500
400
300
200
100
0
10
12
14
16
18
20
22

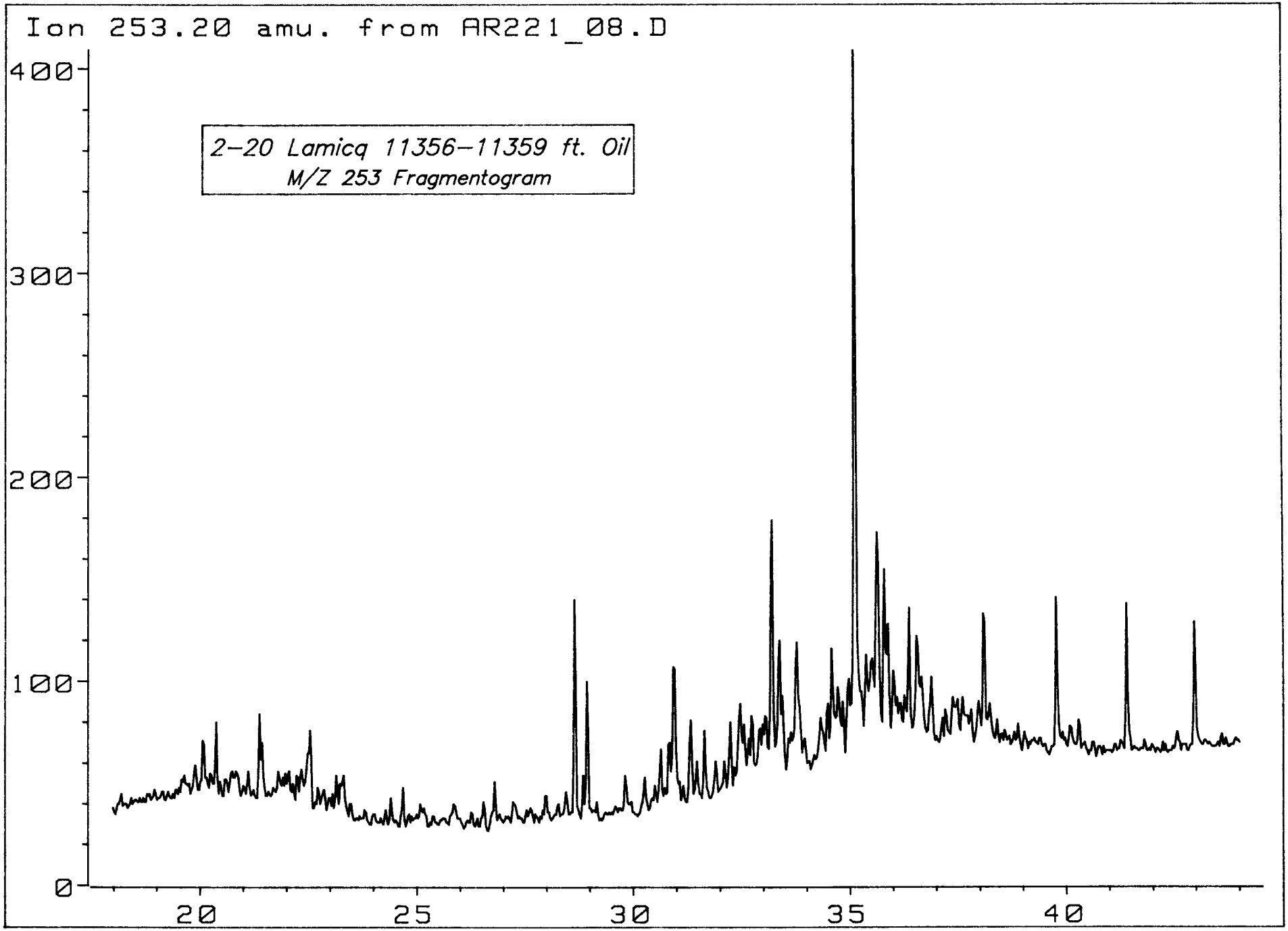

Ion 123.10 amu. from 87221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 123 Fragmentogram
15D
16D
500
400
300
200
100
0
10
12
14
16
18
20
22

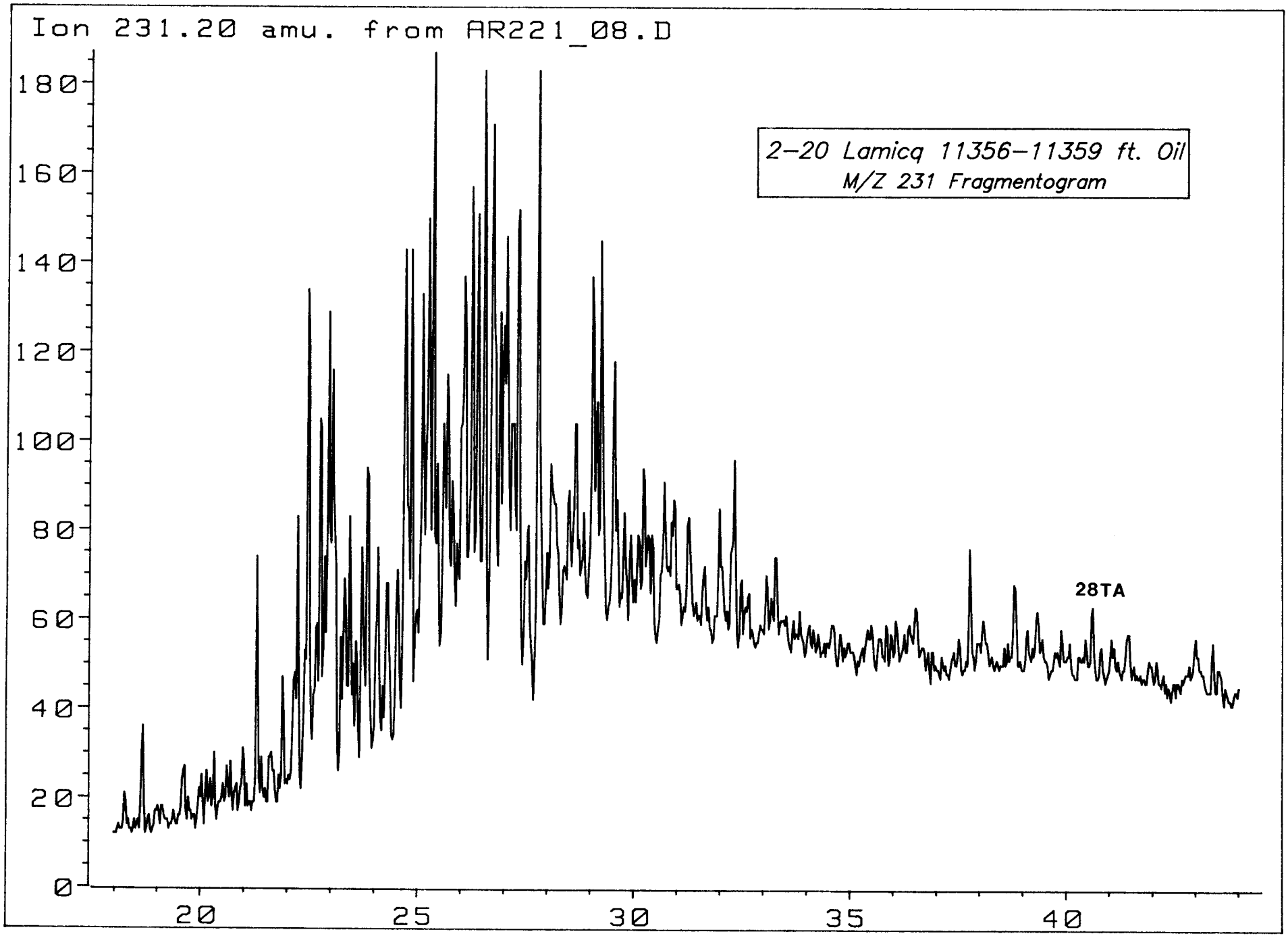

Ion 191.20 amu. from 87221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 191 Fragmentogram (extended)
19T
20T
21T
22T
23T
24T
25T
26T
30H
0
100
200
300
400
30
40
50
60

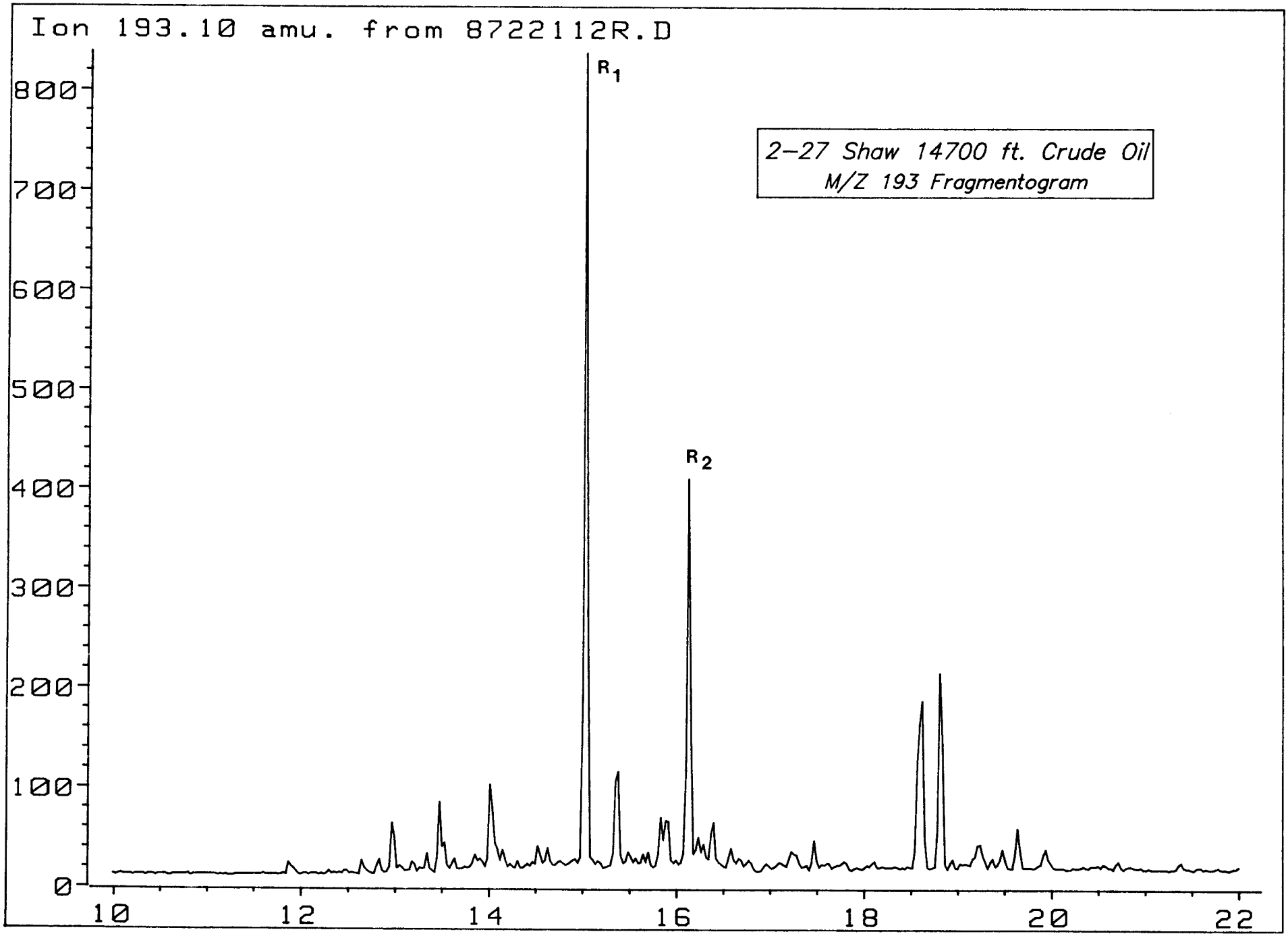

Ion 191.20 amu. from 87221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 191 Fragmentogram (detailed)
Gm
Ts
29T
28T
30T
Tm
29H
30H
29M
30M
31H
S
R
31M
32H
S
R
33H
S
R
0
100
200
300
400
46
48
50
52
54
56
58
60
62
64

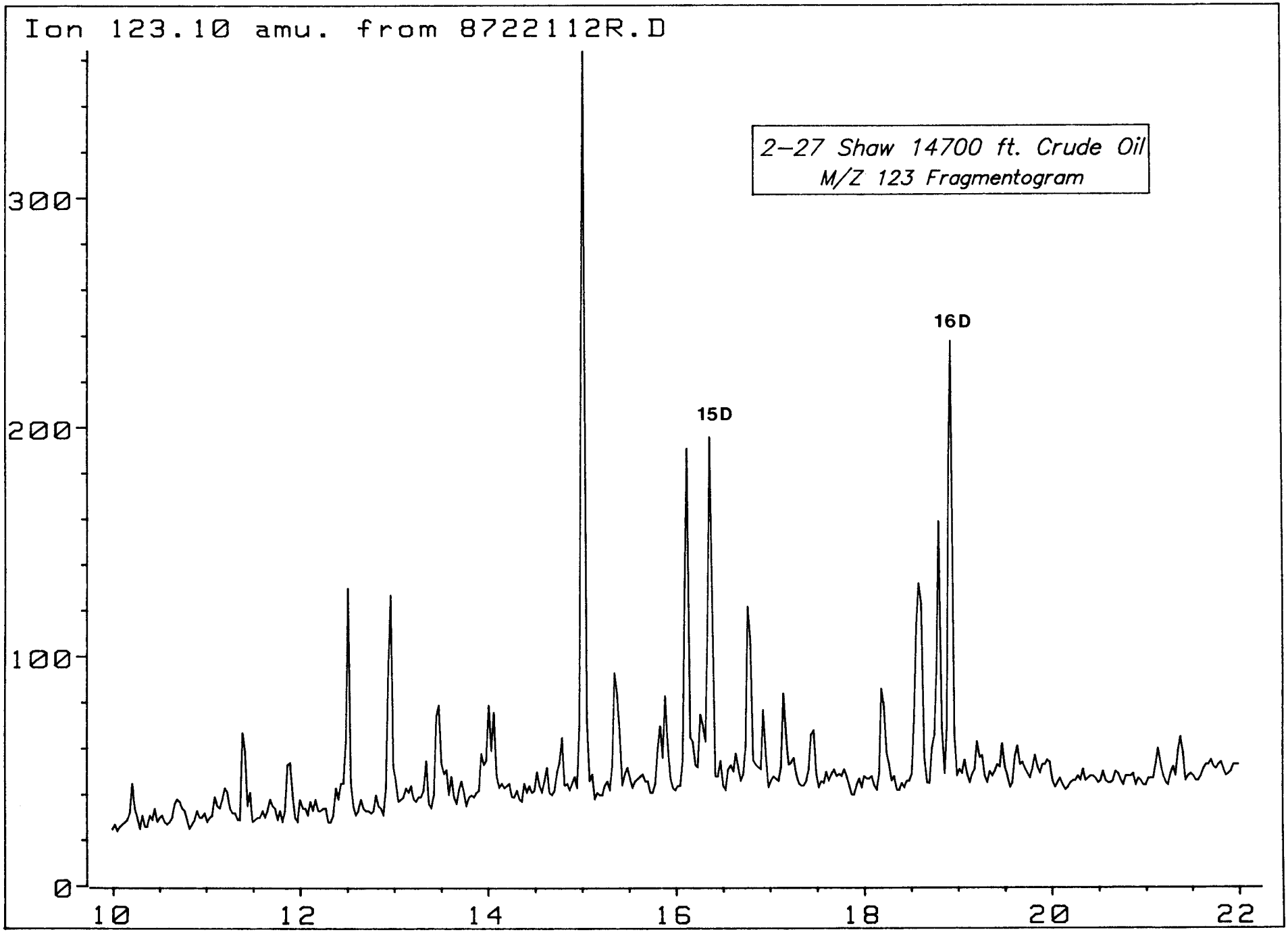

Ion 217.00 amu. from 87221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 217 Fragmentogram
A
B
C
E
G
H
I
J
K
L
M
N
O
P
0
50
100
150
200
44
45
46
47
48
49
50
51
52
53
54

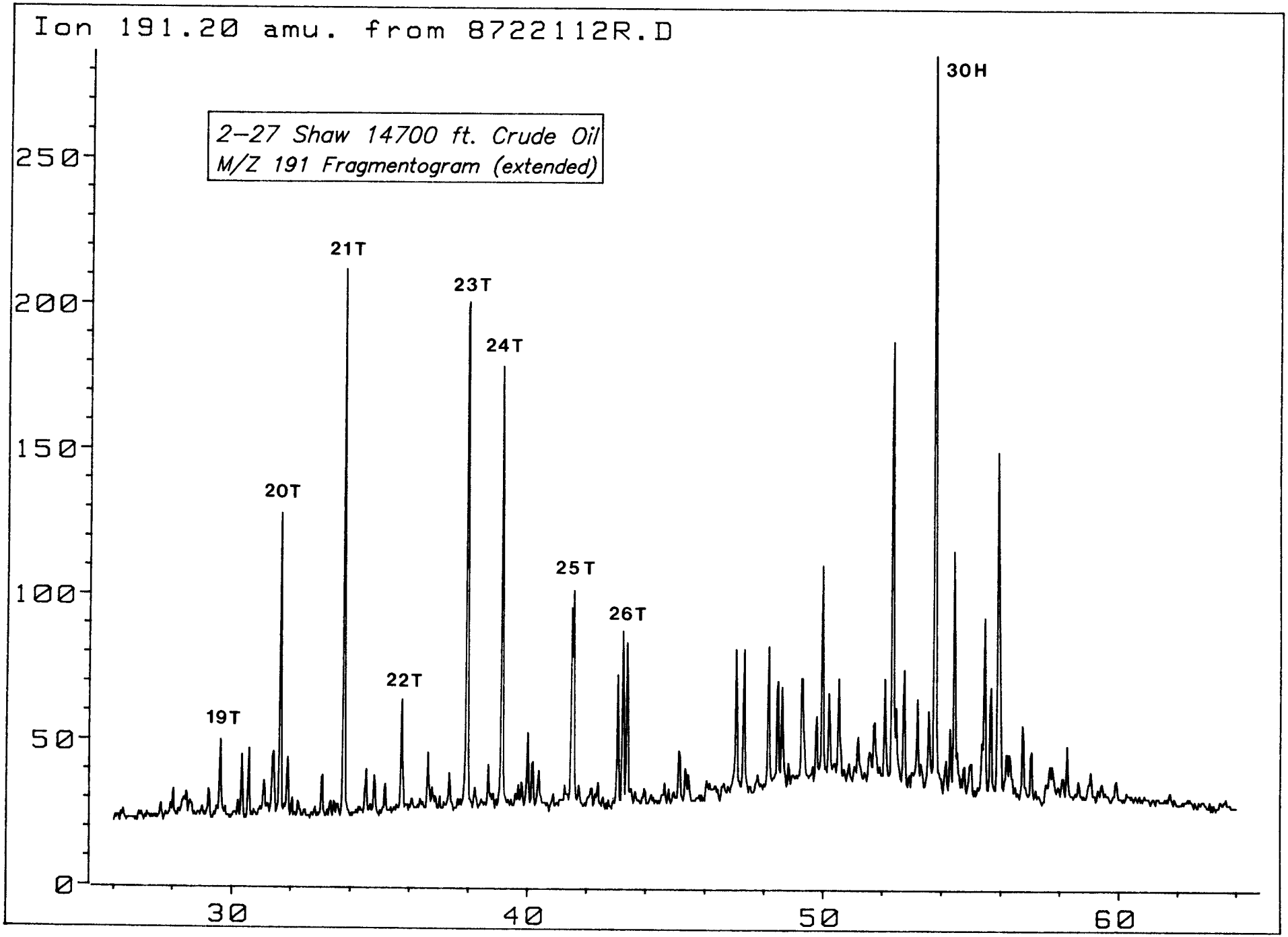

Ion 178.20 amu. from AR221_08.D
Ion 192.20 amu. from AR221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 178 & 192 Fragmentograms
P
9
MP
1
3
2
5000
4000
3000
2000
1000
0
8
10
12
14
16
18
20

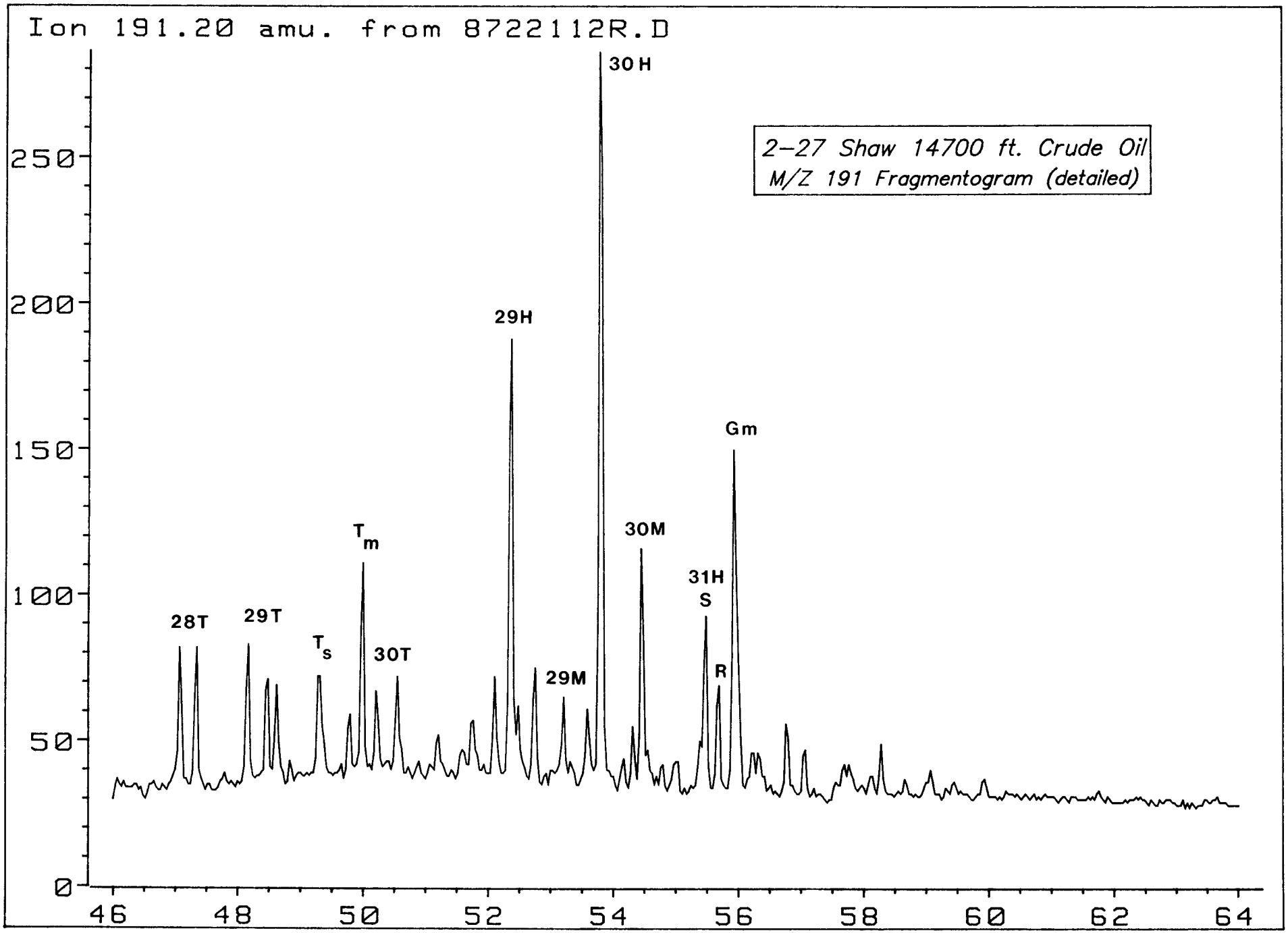

Ion 253.20 amu. from AR221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 253 Fragmentogram
400
300
200
100
0
20
25
30
35
40

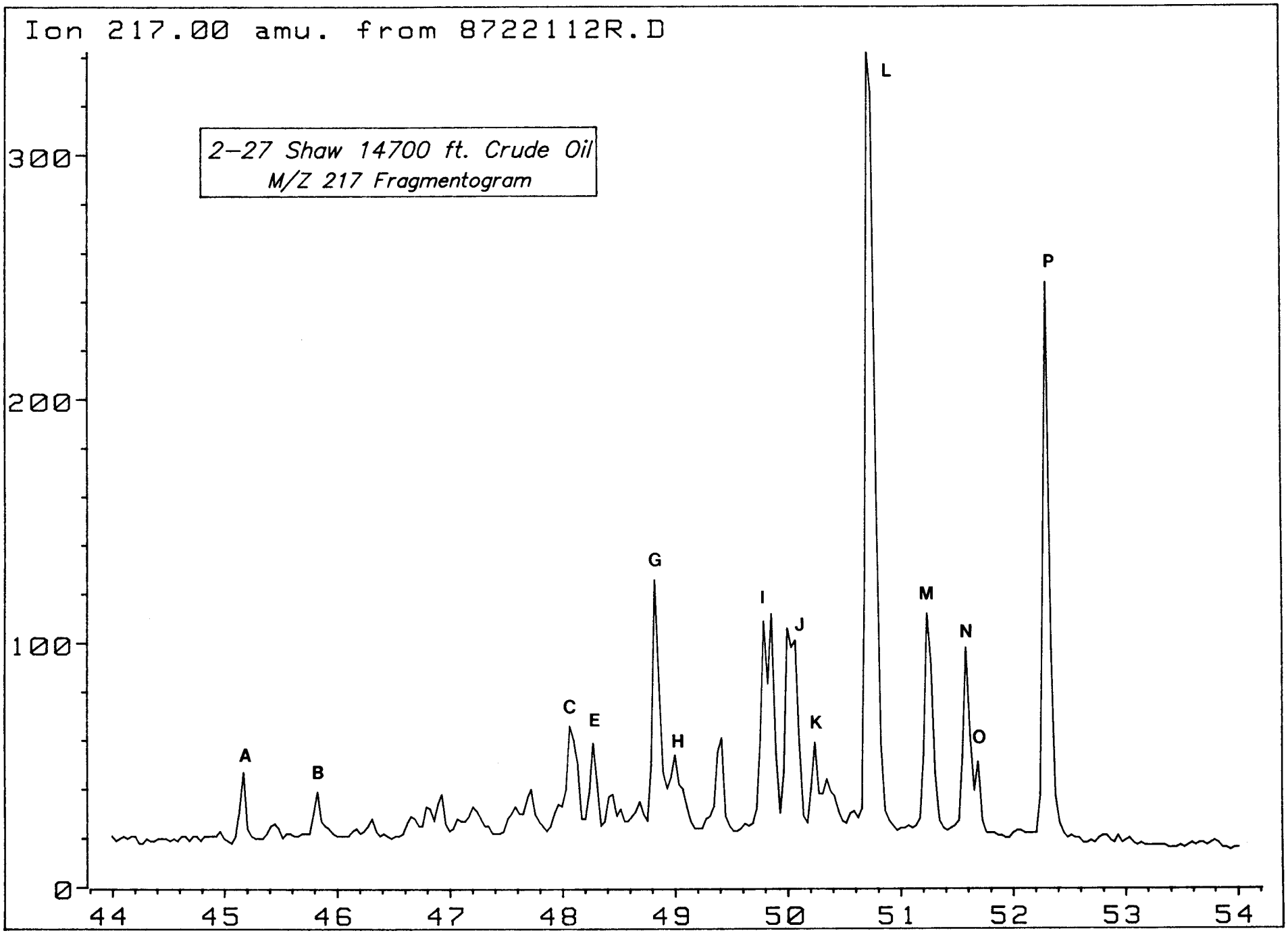

Ion 231.20 amu. from AR221_08.D
2-20 Lamicq 11356-11359 ft. Oil
M/Z 231 Fragmentogram
28TA
180
160
140
120
100
80
60
40
20
0
20
25
30
35
40

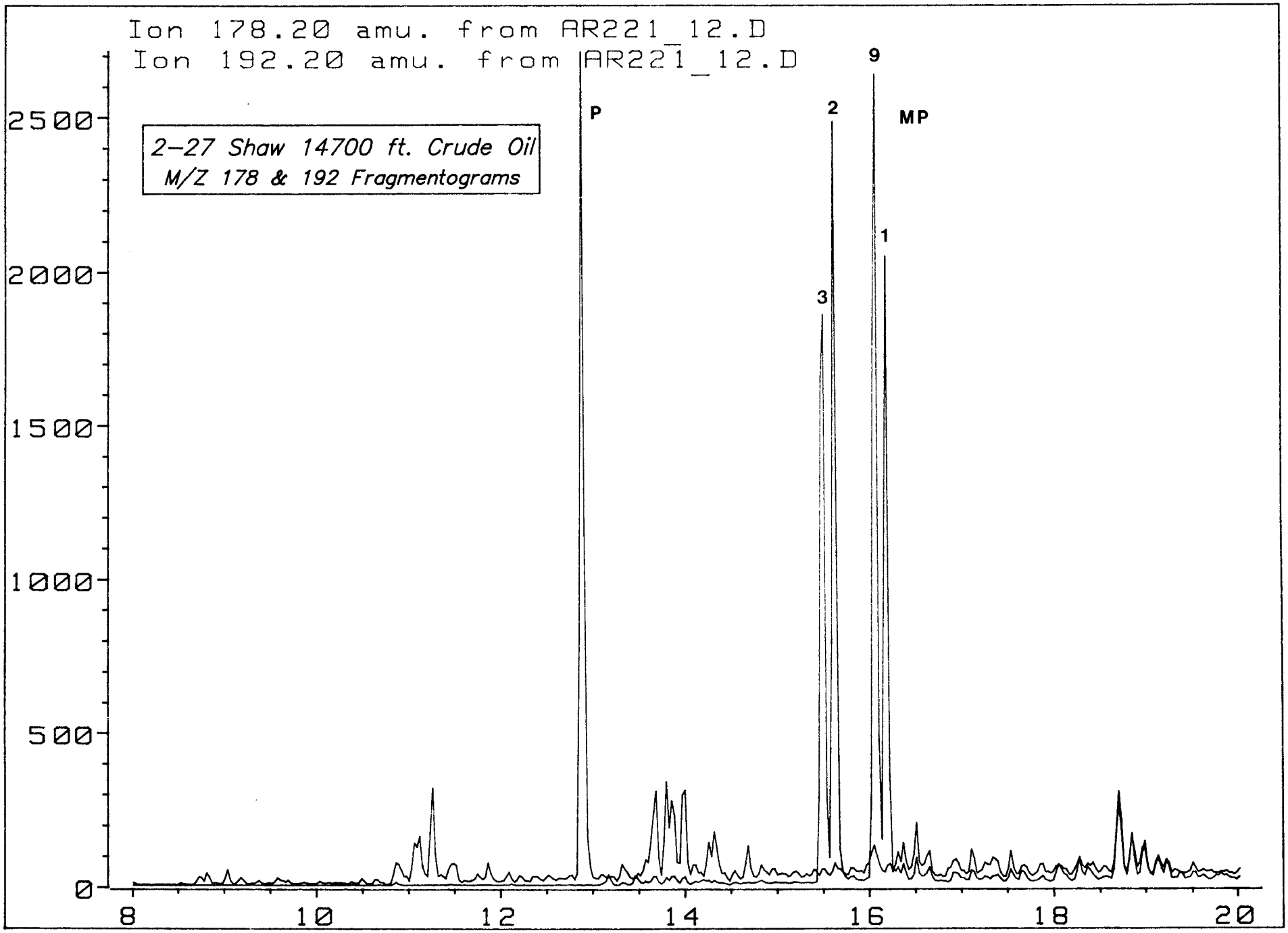

Ion 193.10 amu. from 8722112R.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 193 Fragmentogram
R1
R2
800
700
600
500
400
300
200
100
0
10
12
14
16
18
20
22

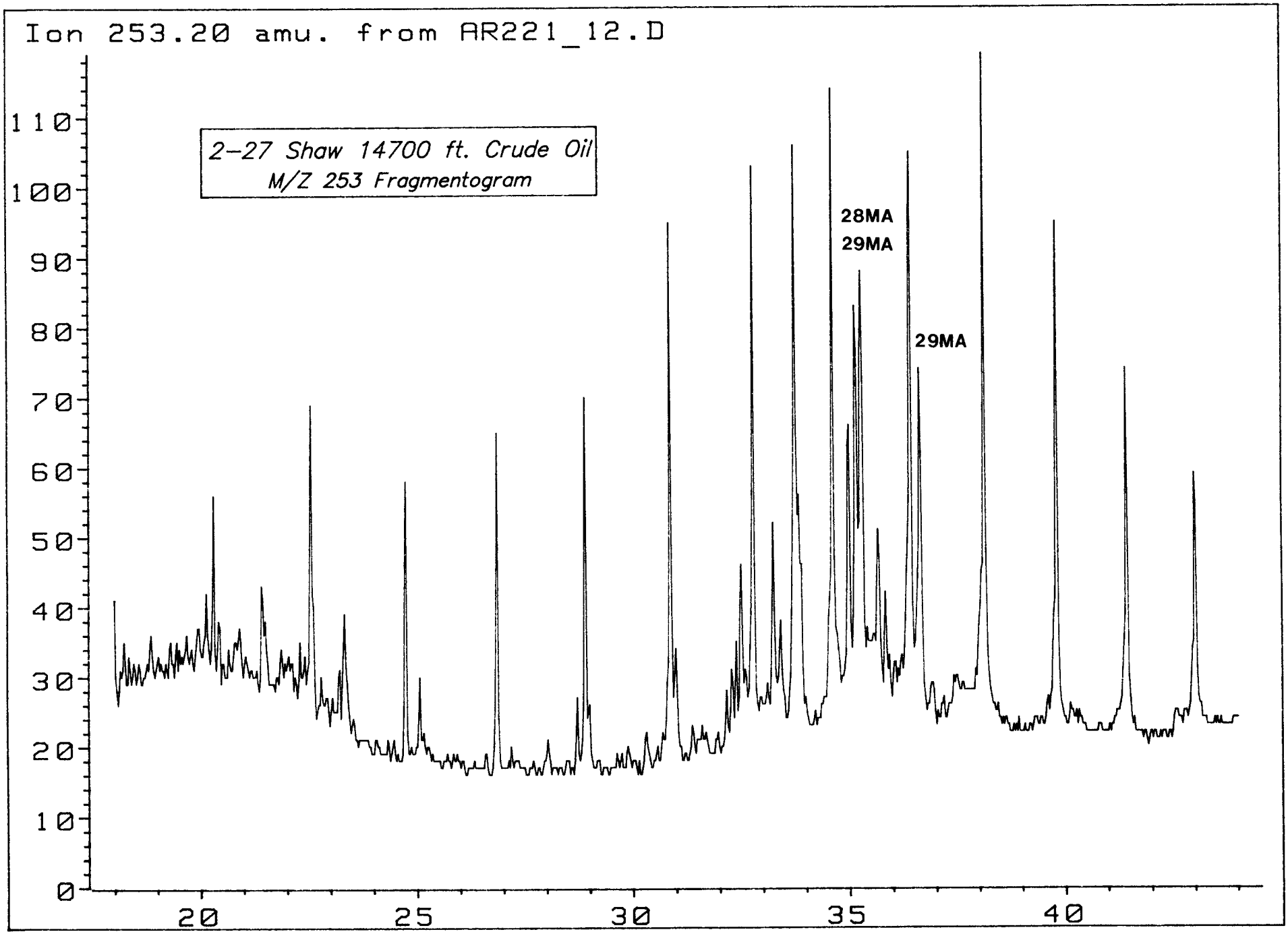

Ion 123.10 amu. from 8722112R.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 123 Fragmentogram
15D
16D
300
200
100
0
10
12
14
16
18
20
22

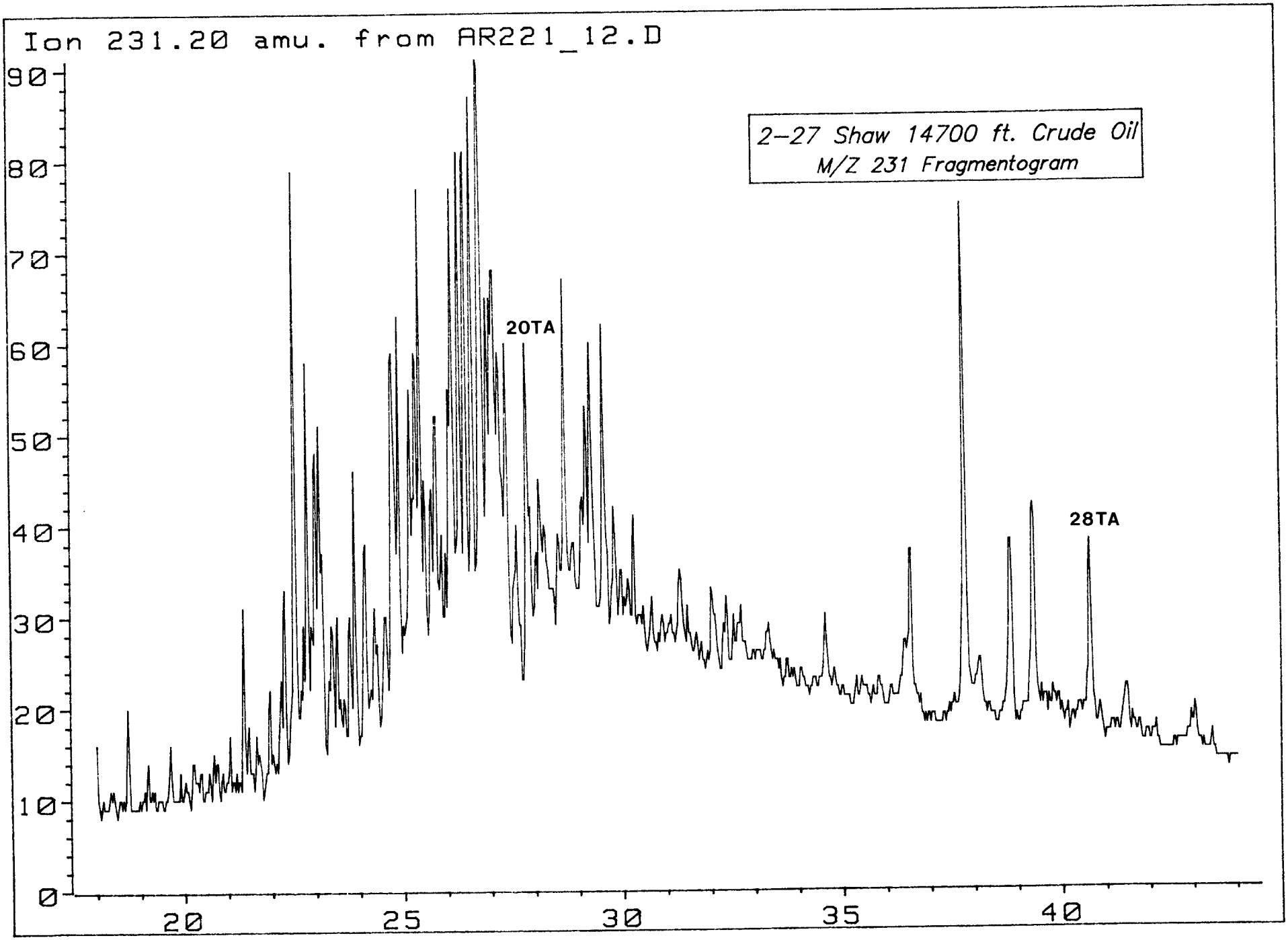

Ion 191.20 amu. from 8722112R.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 191 Fragmentogram (extended)
30H
21T
23T
24T
20T
25T
26T
22T
19T
250
200
150
100
50
0
30
40
50
60


Ion 191.20 amu. from 8722112R.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 191 Fragmentogram (detailed)
30H
29H
Gm
30M
31H
S
R
Tm
28T
29T
Ts
30T
29M
250
200
150
100
50
0
46
48
50
52
54
56
58
60
62
64


Ion 217.00 amu. from 8722112R.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 217 Fragmentogram
300
200
100
0
44
45
46
47
48
49
50
51
52
53
54
A
B
C
E
G
H
I
J
K
L
M
N
O
P


Ion 178.20 amu. from AR221_12.D
Ion 192.20 amu. from AR221_12.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 178 & 192 Fragmentograms
P
3
2
9
1
MP
2500
2000
1500
1000
500
0
8
10
12
14
16
18
20


Ion 253.20 amu. from AR221_12.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 253 Fragmentogram
28MA
29MA
29MA
110
100
90
80
70
60
50
40
30
20
10
0
20
25
30
35
40


Ion 231.20 amu. from AR221_12.D
2-27 Shaw 14700 ft. Crude Oil
M/Z 231 Fragmentogram
20TA
28TA
90
80
70
60
50
40
30
20
10
0
20
25
30
35
40

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: FEE

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
BOREN 3-11A2

2. NAME OF OPERATOR:
DEVON ENERGY PROD CO LP

9. API NUMBER:
43013311920000

3. ADDRESS OF OPERATOR:
P.O. Box 290 8345 North 5125 West, Neola, UT, 84053

PHONE NUMBER:
405 228-4248 Ext

9. FIELD and POOL or WILDCAT:
BLUEBELL

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0660 FSL 0825 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SWSW Section: 11 Township: 01.0S Range: 02.0W Meridian: U

COUNTY:
DUCHESNE

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 12/1/2012	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Recompletion

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please find attached the proposed recompletion plan for the subject well. Thank you.

Approved by the Utah Division of Oil, Gas and Mining

Date: November 08, 2012

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Julie Patrick	405 228-8684	Regulatory Analyst

SIGNATURE	DATE
N/A	10/31/2012

RECEIVED: Oct. 31, 2012

DEVON ENERGY PRODUCTION COMPANY
WORKOVER PROCEDURE
BOREN 3-11A2
SWSW SEC 11, T1S, R2W
BLUEBELL/ALTAMONT FIELD
DUCHESNE COUNTY, UTAH

OBJECTIVE:
Complete additional Lower Green River pay with a 2 stage frac.

JUSTIFICATION:
Currently the Boren 3-11 A2 is producing from existing Wasatch intervals only, using a straddle packer assembly and one way flow through bridge plug. The well currently makes 15 BOPD, 275 BWPD, and 15 MCFD.

In hopes of adding production the remaining Lower Green River pay will be completed with a 2 stage frac. The well will be restored to its current configuration in hopes of isolating known water zones.

WELL DATA:

API No.	43-013-31192		
TD:	14622	PBTD:	14586
Completion Date:	1988		
Surface casing:	10 ¾" set at 4560'.		
Intermediate casing:	7 5/8" 29.7 # set at 13000'.		
Liner:	5 ½" 20# S95/P110 FL4S from 12745-14622		

Perforations:

WELL HISTORY:

02-08-88 Perforated 13870-14575', 33 intervals, 185', 370 holes.

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

03-25-88 Acidized perforations 13870-14575' with 10000 gals 7.5 % acid with 800 ball sealers and 2000 lbs of BAF for diversion. Fair results. AIR 6.5 BPM at 9000 psi.

04-05-88 Perforated 13274-13854, 9 intervals, 487', 487 holes. Set CIBP at 13895'.

04-13-88 Ran production log with well flowing 200 BOPD, 0 BWPD and 200 MCFGPD with 3100 psi FTP. All production from the interval 13,295-13,310'.

06-23-88 Acidized perforations 13274-13854' with 20000 gals 7.5% acid, 1250 SCF/BBl of CO2, 750 ball sealers, 1000 lbs of BAF. AIR 13 BPM at 8800 psi. Saw several breaks and good diversion.

06-25-88 Ran production log with well flowing 552 BOPD, 72 BWPD and 562 MCFGPD.

13,274-13,334	Major oil production
13,368-13,382	Minor oil production
13,500-13,600	Possible water & gas

01-29-90 Drilled out CIBP at 13895' and set CIBP at 13450'.

02-01-90 Perforated 12186-13248', 53 intervals, 304', 608 holes.

10-24-90 Acidized perforations 12186-13458' with 4000 gals 15% HCL with 6000 lbs of rock salt, 6000 lbs of wax beads, 6000 lbs of BAF, and 1600 1.1 SG balls for diversion. Noted good diversion. AIR 12 BPM at 8000 psi.

11-10-90 Installed pumping unit and put on rod pump.

01-00-92 Shut in for repairs on Gary gas plant.

04-30-94 Lowered seating nipple to pump deeper.

10-31-96 Installed 900 Rotaflex pumping unit.

03-11-0 Production dropped, changed out pump, production still off after the pump change.

04-18-0 Pull pump and tubing, ran a production log with the well in static condition. The well was gassing slightly while logging.

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

12306-12318	33% oil entry
12558-12572	Gas entry with possible oil
12834-12838	Thief taking fluid from below, estimated 45 BWPD
12902-12910	23 BWPD moving up
12944-12950	27 % water entry, 22 BPD moves up, 45 BPD moves down
13150-13176	22 % oil entry
13212-13228	13 % oil entry
Below 13228	Thief taking 45 BWPD from above, possible small oil entry.

Tagged up at 13228' with the logging tool. Fluid level while logging at 9900'. Could not quantify oil entries, but the percentages give the relative size of the entries. The oil cut at the top of the perforated intervals was less than 5%.

04-20-0 Returned well to production. Lowered SN from 10,550' to 11,022'.

08-29-0 Moved in workover rig, tested anchors

09-01-0 Set an Arrow one-way plug at 12,120', fill and test casing to 1500 psi.

09-05-0 Perforate Upper Wasatch interval 11,130-12,028' (26 intervals,211',227 holes.)

09-05-0 BJ Services acidized with 13,000 gals 15% HCL with 350 1.1 SG balls. Balled off with 361 bbls pumped, lost pressure, assumed one way failed.

09-12-0 Ran tracer log with well in static condition, noted all fluid entry was moving down hole past the one-way plug at 12,120'.

09-13-0 Swabbed through one-way to make sure not plugged off.

09-14-0 Ran and set another one-way plug at 12,090'.

09-16-0 Returned to production from perforations 11,130- 13,418' Note that the plug set at 13,450' in 1990 is set in the perforated interval 13,428-13,458' so the perforations below the plug may be in communication with the perforations above the plug.

10-30-2000 Finished running a "Y" tool assembly to determine the source of the water.

11-16-2000 Run production log with the well pumping 31 BOPD and 200 BWPD

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

11587 – 11594	Possible fluid entry
11856 – 11900	5 – 10% of the oil entry
Below 12,090	90-95% of the oil and 100% of the water from below the one-way plug.

01-13-01 Set an RBP with ball catcher at 12080'.

01-15-01 Acidize perforations 11856-12028' with 8000 gals 15% HCL with additives and 84 balls. AIR 10 BPM, AIP 7500 psi. Noted several breaks 150 bbls into the acid job. Communicated to annulus right after finishing flush. Reverse circulate annulus. Set packer at 11018' above all perforations.

01-18-01 Unable to release RBP with ball catcher at 12080'

01-20-01 Caliper logged casing from 11650-11100', several oval spots, worst at 11466 to 11480' with minimum ID of 6 ¾", other oval spots at 11305-11310 and 11367-11373.

01-30-01 Finished washing over and fishing the RBP and ball catcher.

02-05-01 Perforated Lower Green River interval 10742-11004', 14 intervals, 100 feet, 128 holes. Set RBP with ball catcher at11075'.

02-07-01 Acidize perforations 10742-11004' with 6000 gals 15% HCL with additives and 200 balls. AIR 7.8 BPM, AIP 2433 psi. Observed good diversion early in the job, lost suction during the job, no diversion noted after.

02-12-01 Unable to latch up on RBP and ball catcher.

02-16-01 Finished washing over the ball catcher and released plug.

02-21-01 Put on production from all perforations above 13450'.

03-21-01 Ran plug and packer to isolate perforations and swab test, unable to set plug.

03-23-0 Milled out scale from 10860-11118'.

03-25-01 Attempted to set plug and packer, unable to release from plug.

03-29-01 Attempt to set different tools, unable to set, tight spots in the area.

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

03-30-01	Mill out scale rings from 1830-10875'.
03-31-01	Set plug at 11055', packer at 10937', swab test perforations 10954-11004', no entry swabbed dry.
04-01-01	Move packer, swab test perforations 10837-11004, 15 BPH, 45% oil, FFL 10000'.
04-03-01	Swab test perforations 10742-11004', 35 BPH, 5% oil, FFL 4800'.
04-04-01	Set packer isolation assembly from 10712-10815' isolating the perforations 10742-10796
04-06-01	Put on pump.
09-19-02	MIRU, start pulling rods and tubing.
09-21-02	Latched up on Arrowset packer (top of isolation assembly set 04-04-01). Filled and tested annulus to 1000 psi. Unable to release packer.
09-24-02	Worked packer with power swivel, released, TOH, found lugs sheared off on-off tool.
09-25-02	TIH, milled off the top of the inverted on-off tool, cleaned off to top of packer body.
09-26-02	TIH with on-off tool, attempt to release packer, unable to release.
09-27-02	RIH with wireline to cut tubing below packer, unable to get deep enough with chemical cutter. RIH, cut tubing at 10718' with jet cutter. Start TOH.
09-28-02	Finish TOH, TIH with overshot dressed to clean up fish top.
09-29-02	Latched onto fish, TOH with tubing and seal assembly.
10-01-02	Pulled Arrowset packer which had slid down hole to top of the one-way while fishing the seal assembly.
10-02-02	Cleaned out to the top of the one-way plug at 12,090'.
10-04-02	Swab test one-way for entry
10-10-02	Set a Arrowpak packer at 11050', TIH with seal assembly, 11 jts 2 7/8" tubing, Arrowset I packer with inverted on-off tool. Stung into the Arrowpak packer, space out and set top packer with elements at 10,700'.

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

Fill and test annulus to 1000 psi. Released off on-off tool, TOH. Straddle assembly isolates perforations 10742-11004'.

10-14-02 Put on production from 12186-13228'. All below oneway.

02-09-05 1.90" side string leaking. Replaced entire string with 2-1/16" tubing.

PROCEDURE:

1) RDMO pumping unit.

2) MIRU workover rig with pump and flat tank. Spot frac tanks.

3) POOH with rods and pump, 2 1/16" side string, 2 7/8" tubing, and straddle packer assembly. Top of straddle packer assembly at 10,700'.

4) Pick up RBP and 7" packer, TIH with 2 7/8" tubing to 10,700', hydrotest tubing to 10,000 psi. Set bridge plug at 10,700'.

5) Load backside to 1000 psi. Pressure test plug to frac treating pressure (~8,500 psi, reference Halliburton job design). Hold for 10 minutes and monitor pressure.

6) Release packer and POOH.

7) MIRU wireline to perforate first stage of Lower Green River, 10,665-10,370'. Reference perf sheet.

8) TIH with 2 7/8 tubing and 7" treating packer. Set packer at 10,330'.

9) Establish injection rate and acidize first stage of Lower Green River with 4,000 gal 15% HCl and 60 frac balls for diversion.

10) Swab test interval to determine rate and oil cut, swab until pH is 5 or greater. Discuss results with OKC.

11) If results are favorable TIH with 4 ½" frac string and 7" treating packer to 10,350'.

12) MIRU HES to frac Stage 1 of the LGR. Test all surface lines to 8,500 psi. Frac as per Halliburton job design.

13) Flowback stage 1 until pressure depletes.

14) POOH and lay down 4 1/2" frac string. TIH with RBP, 7" packer, and 2 7/8" tubing to 10,360'. Set RBP, set packer, load backside to 1,000 psi, and pressure test RBP to frac treating pressure (~8,500 psi, reference Halliburton job design).

15) If RBP holds POOH with packer.

RECEIVED: Oct. 31, 2012

Boren 3-11 A2, RECOMPLETION

16) MIRU wireline and RIH. Perforate Stage 2 of LGR, 10,349'-9,896'.

17) RDMO wireline.

18) TIH with 2 7/8" tubing and 7" treating packer. Set packer at 9,840'.

19) Establish injection rate and acidize first stage of Lower Green River with 4,000 gal 15% HCl and 60 frac balls for diversion.

20) Swab test interval to determine rate and oil cut, swab until pH is 5 or greater. Discuss results with OKC.

21) If results are favorable TIH with 4 ½" frac string and 7" treating packer to 9,850.

22) MIRU HES to frac Stage 2 of the LGR. Test all surface lines to 8,500 psi. Frac as per Halliburton job design.

23) Flowback stage 2 until pressure depletes.

24) POOH with 4 ½" frac string.

25) TIH with 2 7/8" tubing and retrieve RBP's at 10,360' and 10,700'.

26) Run production equipment, put well on pump, RDMO.

RECEIVED: Oct. 31, 2012

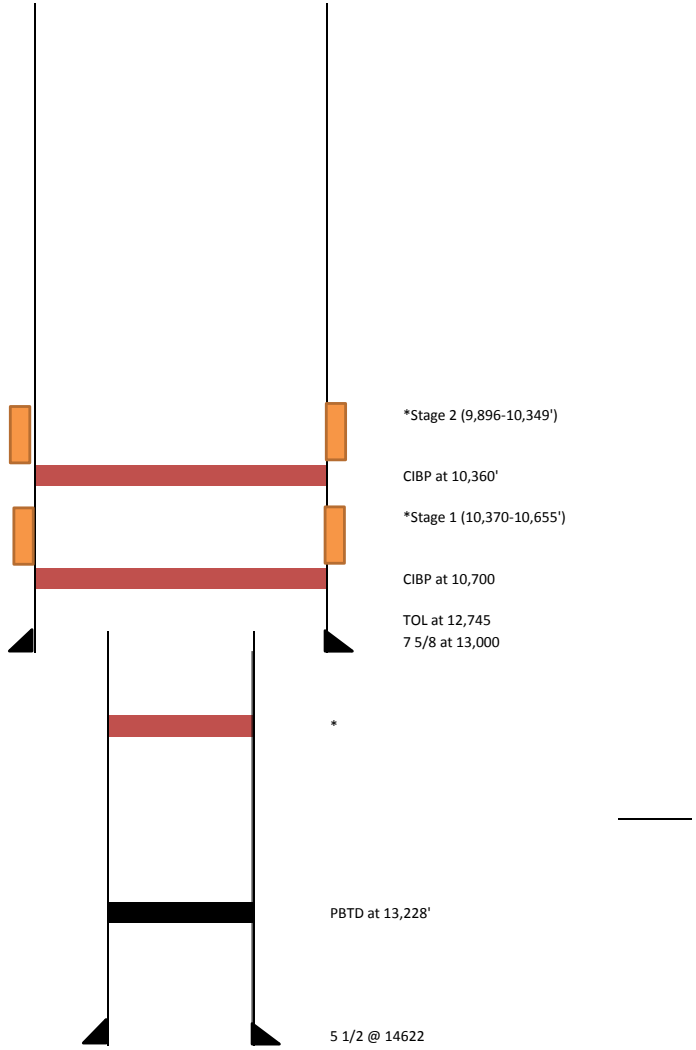
BOREN 3-11 A2 PROPOSED PERFS

Reference Schlumberger CSU Field Log 12/29/1987

	INTERVAL	DEPTH		FEET	SPF	HOLES	Comments
	STAGE 1						
		Top	Bottom				
	PLUG	10,700	10,702				
	1	10,664	10,665	1	4	4	Good oil show at 10,700'. Good bond 10,500-10,700
	2	10,591	10,592	1	4	4	
	3	10,571	10,572	1	4	4	
	4	10,575	10,576	1	4	4	
	5	10,523	10,524	1	4	4	
	6	10,483	10,484	1	4	4	Good oil show at 10,380'
	7	10,453	10,454	1	4	4	Poor Bond 10,150-10,400
	8	10,402	10,403	1	4	4	
	9	10,398	10,399	1	4	4	
	10	10,370	10,371	1	4	4	
TOTAL	**10**		**295**			**40**	
	STAGE 2						
	PLUG	10,360	10,362	2	-	-	
	1	10,348	10,349	1	4	4	
	2	10,328	10,329	1	4	4	
	3	10,300	10,301	1	4	4	
	4	10,170	10,171	1	4	4	Clean sand, marginal oil show
	5	10,129	10,130	1	4	4	
	6	10,077	10,078	1	4	4	Thick sand, limited oil show
	7	10,046	10,047	1	4	4	
	8	9,953	9,954	1	4	4	Thick sand, limited oil show
	9	9,923	9,924	1	4	4	
	10	9,896	9,897	1	4	4	
TOTAL	**10**		**466**			**40**	

Gross Interval (ft)	806
Net Feet of Perforations (ft)	20
Number of Holes	80

WELLBORE DATA
10 3/4 Surface Casing set at 4,560'
7 5/8 29.7# set at 13,000'
5 1/2" 20# S95/P110 FL4S from 12,745'-14,622'
4 1/2" Frac String
PBTD at 13,228' (9-18-2000)



RECEIVED: Oct. 31, 2012

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: FEE

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL
Oil Well

8. WELL NAME and NUMBER:
BOREN 3-11A2

2. NAME OF OPERATOR:
DEVON ENERGY PROD CO LP

9. API NUMBER:
43013311920000

3. ADDRESS OF OPERATOR:
P.O. Box 290 8345 North 5125 West, Neola, UT, 84053

PHONE NUMBER:
405 228-4248 Ext

9. FIELD and POOL or WILDCAT:
BLUEBELL

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
0660 FSL 0825 FWL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
Qtr/Qtr: SWSW Section: 11 Township: 01.0S Range: 02.0W Meridian: U

COUNTY:
DUCHESNE

STATE:
UTAH

11.
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
✓ SUBSEQUENT REPORT Date of Work Completion: 12/28/2012	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
☐ SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Recompletion

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Recomplete to add LGR. Attempt to pull Isolation assembly. Ran casing inspection log, indicates casing parted. We ran into mechanical problems and suspended recompletion operations.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
April 09, 2013

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Julie Patrick	405 228-8684	Regulatory Analyst

SIGNATURE	DATE
N/A	4/9/2013

RECEIVED: Apr. 09, 2013

Division of Oil, Gas and Mining
Operator Change/Name Change Worksheet-for State use only

Effective Date: 11/3/2014

FORMER OPERATOR:	NEW OPERATOR:
Devon Energy Production Company, LP N1275 333 West Sheridan Avenue Oklahoma City, OK 73102-5015	EP Energy E&P Company, LP N3850 1001 Louisiana Street Houston, TX 77002 713-997-5038
CA Number(s):	Unit(s):

WELL INFORMATION:

Well Name	Sec	TWN	RNG	API	Entity	Mineral	Surface	Type	Status
MIKE AND SHELLEY #4-14A2	14	010S	020W	4301351846		Fee	Fee	OW	APD
BOREN 3-11A2	11	010S	020W	4301331192	10785	Fee	Fee	OW	P
CORNABY 2-14A2	14	010S	020W	4301331299	11228	Fee	Fee	OW	P
FLY/DIA L BOREN 1-14A2	14	010S	020W	4301330035	5885	Fee	Fee	OW	S

OPERATOR CHANGES DOCUMENTATION:

1. Sundry or legal documentation was received from the **FORMER** operator on: 11/12/2014
2. Sundry or legal documentation was received from the **NEW** operator on: 11/12/2014
3. New operator Division of Corporations Business Number: 2114377-0181

REVIEW:

1. Surface Agreement Sundry from **NEW** operator on Fee Surface wells received on: 11/12/2014
2. Receipt of Acceptance of Drilling Procedures for APD/New on: 12/18/2014
3. Reports current for Production/Disposition & Sundries: 1/16/2015
4. OPS/SI/TA well(s) reviewed for full cost bonding: 1/14/2015
5. UIC5 on all disposal/injection/storage well(s) approved on: N/A
6. Surface Facility(s) included in operator change: N/A
7. Inspections of PA state/fee well sites complete on (only upon operators request): N/A

NEW OPERATOR BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: N/A
2. Indian well(s) covered by Bond Number: N/A
3.State/fee well(s) covered by Bond Number(s): 400JU0708

DATA ENTRY:

1. Well(s) update in the **OGIS** on: 1/20/2015
2. Entity Number(s) updated in **OGIS** on: 1/20/2015
3. Unit(s) operator number update in **OGIS** on: N/A
4. Surface Facilities update in **OGIS** on: N/A
5. State/Fee well(s) attached to bond(s) in **RBDMS** on: 1/20/2015
6. Surface Facilities update in **RBDMS** on: N/A

LEASE INTEREST OWNER NOTIFICATION:

1. The **NEW** operator of the Fee (Mineral) wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 1/20/2015

COMMENTS:

Per review by Dustin Doucet, FLY/DIA Boren 1-14A2 must be producing by 4/1/2015, or full cost bonding will be required.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5. LEASE DESIGNATION AND SERIAL NUMBER: See Attached Well List
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
7. UNIT or CA AGREEMENT NAME:
8. WELL NAME and NUMBER: See Attached Well List
9. API NUMBER:
10. FIELD AND POOL, OR WILDCAT: Bluebell/Altamont

1. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ OTHER See Attached Well List

2. NAME OF OPERATOR: EP Energy E&P Company, L.P

3. ADDRESS OF OPERATOR: 1001 Louisiana Street CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 997-5038

4. LOCATION OF WELL
FOOTAGES AT SURFACE:
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:
COUNTY: Duchesne/Uintah
STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☑ NOTICE OF INTENT (Submit in Duplicate)	☐ ACIDIZE	☐ DEEPEN	☐ REPERFORATE CURRENT FORMATION
Approximate date work will start:	☐ ALTER CASING	☐ FRACTURE TREAT	☐ SIDETRACK TO REPAIR WELL
	☐ CASING REPAIR	☐ NEW CONSTRUCTION	☐ TEMPORARILY ABANDON
	☐ CHANGE TO PREVIOUS PLANS	☐ OPERATOR CHANGE	☐ TUBING REPAIR
	☐ CHANGE TUBING	☐ PLUG AND ABANDON	☐ VENT OR FLARE
☐ SUBSEQUENT REPORT (Submit Original Form Only)	☐ CHANGE WELL NAME	☐ PLUG BACK	☐ WATER DISPOSAL
Date of work completion:	☐ CHANGE WELL STATUS	☐ PRODUCTION (START/RESUME)	☐ WATER SHUT-OFF
	☐ COMMINGLE PRODUCING FORMATIONS	☐ RECLAMATION OF WELL SITE	☑ OTHER: CHANGE OF OPERATOR
	☐ CONVERT WELL TYPE	☐ RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Effective 11/03/2014, Change of Operator from Devon Energy Production Company, LP, to EP Energy E&P Company, LP, is responsible under the terms and conditions of the leases for operations conducted on the leased lands or a portion thereof under their Blanket Well Surety Bond #400JU0708.

Attached is a list of wells that are associated with this Change of Operator.

Devon Energy Production Company, LP
333 West Sheridan Avenue
Oklahoma City, OK 73102-5015

John D. Raines
Vice President

NAME (PLEASE PRINT) Clay A. Carrell TITLE Executive Vice President
SIGNATURE DATE 11/10/14

(This space for State use only)
APPROVED
JAN 20 2015
DIV. OIL GAS & MINING
BY: Rachel Medina

RECEIVED
NOV 12 2014
Div. of Oil, Gas & Mining

(5/2000) (See Instructions on Reverse Side)

Devon Energy Production Company, LP

Exisiting Well List for Fee Leases

Well Name	API #	Legal Location	Producing Status	Well Type	Lease Type	Field	State	County
BOREN 3-11A2	430133119200	011-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
CORNABY 2-14A2 (RECOMP)	430133129900	014-001S-002W	Producing	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE
BOREN 1-14A2	430133003500	014-001S-002W	Shut-in	OIL	FEE	BLUEBELL ALTAMONT	UT	DUCHESNE