



CELSIUS ENERGY COMPANY

79 SOUTH STATE STREET • P.O. BOX 11070 • SALT LAKE CITY, UTAH 84147 • PHONE (801) 530-2600

September 30, 1985

Marathon Oil Company
P.O. Box 2659
Casper, WY 82602

Attn: Carl L. Bassett

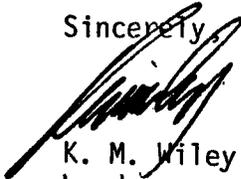
Re: Designation of Operator
NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 21
T-36-S, R-26-E

Gentlemen:

Per your request, please find enclosed four original executed Designation of Operators covering the captioned lands.

If we can be of further assistance, please feel free to contact the undersigned.

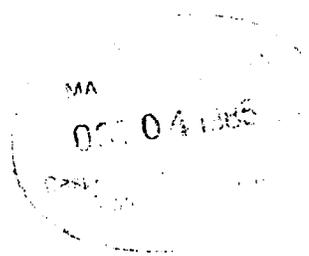
Sincerely,



K. M. Wiley
Landman

KMW/sdg

Enclosures



SUPERVISOR, OIL AND GAS OPERATIONS:

DESIGNATION OF OPERATOR

The undersigned is, on the records of the Bureau of Land Management, holder of oil and gas lease

DISTRICT LAND OFFICE: Moab District Office
SERIAL NO.: U-43653

and hereby designates

NAME: Marathon Oil Company
ADDRESS: 800 Werner Ct., Box 2659
Casper, WY 82602

as his operator and agent, with full authority to act in his behalf in complying with the terms of the lease and regulations applicable thereto and on whom the supervisor or his representative may serve written or oral instructions in securing compliance with the Oil and Gas Operating Regulations with respect to (describe acreage to which this designation is applicable):

Township 36 South, Range 26 East, SLM
Section 21: NE $\frac{1}{4}$ SW $\frac{1}{4}$
Containing 40.00 acres, more or less
San Juan County, Utah

It is understood that this designation of operator does not relieve the lessee of responsibility for compliance with the terms of the lease and the Oil and Gas Operating Regulations. It is also understood that this designation of operator does not constitute an assignment of any interest in the lease.

In case of default on the part of the designated operator, the lessee will make full and prompt compliance with all regulations, lease terms, or orders of the Secretary of the Interior or his representative.

The lessee agrees promptly to notify the oil and gas supervisor of any change in the designated operator.

ATTEST:

CELSIUS ENERGY COMPANY

Cornis V. Halloran
Secretary

W. F. Oline
W. F. Oline (Signature of lessee)
Vice President, Exploration

September 25, 1985
(Date)

P. O. Box 11070 - Salt Lake City, Utah 84147
(Address)



P.O. Box 2659
Casper, Wyoming 82602
Telephone 307/577-1555

November 27, 1985

RECEIVED
NOV 27 1985

State of Utah
Division of Oil, Gas and Mining
Attn: Mr. John Baza
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

DIVISION OF
OIL, GAS & MINING

"Registered Mail Return Receipt Requested"

Re: Exception to the location for the proposed well South East
Bug #1-21 located NE SW 1980' FSL & 1780' FWL, Section
21, T36S, R26E, SLM, San Juan County, Utah

Dear Mr. Baza:

Persuant to Rule C-3 (c) of the Oil and Gas Conservation General Rules and Regulations Orders, Marathon Oil Company is requesting that the unorthodox location for South East Bug #1-21 be approved by the State of Utah, Division of Oil, Gas and Mining.

Originally, this location was staked 1980' FSL and 1980' FWL. At this site a deep ravine, having potential for extreme amounts of water, was present. Due to this topographic feature, the location was moved 200' directly west and the well site was determined to be 1980' FSL and 1780' FWL of Section 21, T36S, R26E. All leases within a 660' radius are owned by Marathon Oil Company. Please refer to the attached map which shows Marathon's fee lease holding to the west of the proposed location.

Also enclosed please find three completed "Applications for Permit to Drill" and the Archeological Clearance Report for this well.

Water to support the drilling of this proposed well will be obtained from a private individual who resides in Colorado. His name, address, and phone number are contained within the APD.

Your cooperation in dealing with this project is greatly appreciated.

Sincerely,

A handwritten signature in cursive script that reads "Doyle L. Jones".

Doyle L. Jones
District Production Manager

DLJ:FMK:mrt
Enclosures

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

5. Lease Designation and Serial No.

Federal U-43653

6. If Indian, Allottee or Tribe Name

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL

DEEPEN

PLUG BACK

7. Unit Agreement Name

b. Type of Well

Oil Well

Gas Well

Other

8. Farm or Lease Name

South East Bug

2. Name of Operator

Marathon Oil Company

9. Well No.

1-21

3. Address of Operator

P.O. Box 2659, Casper, Wyoming 82602

10. Field and Pool, or Wildcat

Wildcat Undesignated

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface NE SW 1980' FSL & 1780' FWL

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DIVISION OF
OIL, GAS & MINING

11. Sec., T., R., M., or Bk. and Survey or Area

Sec. 21, T36S, R26E

14. Distance in miles and direction from nearest town or post office*

Approximately 16 miles Southwest of Dove Creek, Colo.

12. County or Parrish 13. State

San Juan Utah

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

.460'

16. No. of acres in lease

700.77

17. No. of acres assigned to this well

160

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

N/A

19. Proposed depth

6544'

20. Rotary or cable tools

Rotary

21. Elevations (Show whether DF, RT, GR, etc.)

6512' Ungraded GL

22. Approx. date work will start*

4th Quarter .85

23.

PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
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Please refer to Items #4A, #4B, and #6 of Drilling Operations Plan

Please find the following Attachments:

1. Surveyor's Plat
2. Drilling Operations Plan and 13 Point Surface Use Plan
3. Maps and Diagrams
4. Designation of Operator Form issued by Celsius

The person responsible for the APD is Frank Krugh, Marathon Oil Company

Office: (307) 577-1555
Home: (307) 235-4506

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: 12/3/85

BY: *John P. Bore*

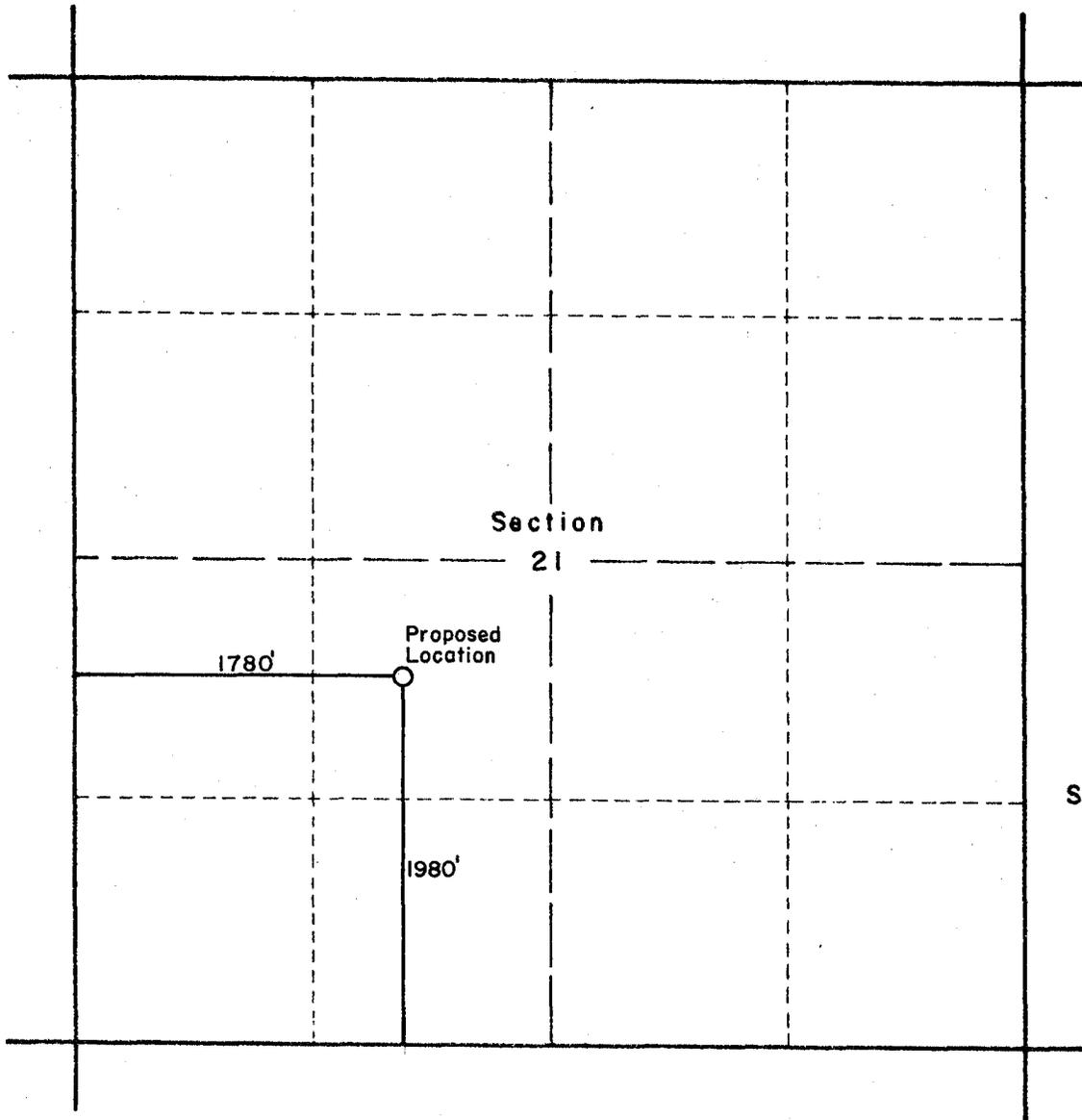
IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true depths. Give blowout preventer program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

24. Signed: *Doyle L. Jones* Title: District Production Manager Date: November 27, 1985

(This space for Federal or State office use)

Permit No. 43-037-31231 Approval Date

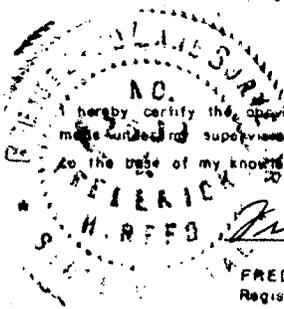
Approved by: _____ Title: _____ Date: _____
Conditions of approval, if any:



Scale: 1" = 1000'

WELL LOCATION: MARATHON OIL COMPANY-SOUTH EAST BUG NO. 1-21

Located 1980 feet North of the South line and 1780 feet East of the West line of Section 21,
 Township 36 South, Range 26 East, Salt Lake Meridian,
 San Juan County, Utah.
 Existing ground elevation determined at 6512 feet based on U.S.G.S. datum.



I hereby certify the above plat represents a survey made under my supervision and that it is accurate to the best of my knowledge and belief.

Frederick H. Reed
 FREDERICK H. REED
 Registered Land Surveyor

MARATHON OIL COMPANY Casper, Wyoming	
WELL LOCATION PLAT SOUTH EAST BUG NO. 1-21 Sec. 21, T.36 S., R.26 E. San Juan County, Utah	
CLARK-REED & ASSOC. Durango, Colorado	DATE: OCT. 11, 1985 FILE NO: 85039

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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
 Marathon Oil Company

3. ADDRESS OF OPERATOR
 P.O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
 At surface NE SW 1980' FSL & 1780' FWL
 At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 16 miles Southwest of Dove Creek, Colo.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 460'
 16. NO. OF ACRES IN LEASE 700.77

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. N/A
 17. NO. OF ACRES ASSIGNED TO THIS WELL 160

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6512' Ungraded GL
 20. ROTARY OR CABLE TOOLS Rotary

22. APPROX. DATE WORK WILL START* 4th Quarter 85

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please refer to Items #4A, #4B, and #6 of Drilling Operations Plan				

5. LEASE DESIGNATION AND SERIAL NO. U-43653
 6. IF INDIAN, ALLOTTEE OR TRIBE NAME
 7. UNIT AGREEMENT NAME
 8. FARM OR LEASE NAME South East Bug
 9. WELL NO. 1-21
 10. FIELD AND POOL, OR WILDCAT Wildcat
 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 21, T36S, R26E
 12. COUNTY OR PARISH San Juan
 13. STATE Utah

RECEIVED
NOV 27 1985
DIVISION OF OIL, GAS & MINING

Please find the following attachments:

1. Surveyor's Plat
2. Drilling Operations Plan and 13 Point Surface Use Plan
3. Maps and Diagrams
4. Designation of Operator Form issued by Celsius

The person responsible for the APD is Frank Krugh, Marathon Oil Company

Office: (307) 577-1555
 Home : (235-4506

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. SIGNED Doyle E. Jones TITLE District Production Manager DATE November 27, 1985

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions On Reverse Side

MARATHON OIL COMPANY
Southeast Bug
Drilling Operations Plan
1,980' FSL, 1,780' FWL, Section 21, T36S, R26E
San Juan County, Utah
Elevation: 6,500' K.B. (Est.)
6,485' G.L. (Est.)
November 12, 1985

1. Geologic name of surface:

Carmel

2. Estimated tops of important geologic markers:

<u>Formation</u>	<u>Depth (K.B.)</u>	<u>Datum</u>
Entrada	965'	5,535'
Navajo	1,146'	5,354'
Kayenta	1,518'	4,982'
Chinle	1,895'	4,605'
Shinarump	2,575'	3,925'
Moenkopi	2,661'	3,839'
Cutler	2,736'	3,764'
Honaker Trail	4,731'	1,769'
Paradox	5,999'	801'
Upper Ismay	5,869'	631'
Hovenweep	5,925'	575'
Lower Ismay	6,006'	494'
Gothic	6,059'	441'
Upper Desert Creek	6,115'	385'
Lower Desert Creek	6,159'	341'
Chimney Rock	6,203'	297'
Akah	6,219'	291'
T.D. (325' into salt)	6,544'	- 44'

3. Estimated depths of anticipated water, oil, gas or other mineral bearing formations:

<u>Formation</u>	<u>Depth (K.B.)</u>	<u>Possible Content</u>
Navajo	1,146'	Fresh Water
Cutler	2,736'	Brine
Honaker Trail	4,731'	Gas
Lower Ismay	6,006'	Gas
Lower Desert Creek*	6,159'	Oil

* Primary Objective

4a. The casing program including the size, grade, weight, whether new or used, and a setting depth of each string:

<u>Min. Hole Size</u>	<u>Casing O.D.</u>	<u>Grade</u>	<u>Weight</u>	<u>Setting Depth</u>	<u>New or Used</u>	<u>Cplg</u>
17 1/4"	16"	Thinwall Steel Pipe		60'	New	N/A
12 1/4"	9 5/8"	K-55	36#	1,900'	New	ST&C
8 3/4"	5 1/2"	K-55	17#	5,380'	New	ST&C
		N-80	17#	6,544'	New	LT&C

4b. The cementing program including type, amounts, and additives:

9 5/8" Surface Casing

Cement Height: 1,900'

Lead Slurry: $1,400' \times .3132 \text{ ft}^3/\text{ft} \times 2 = 877 \text{ ft}^3$
Light cement with 1/4 pound per sack 2% CaCl₂.

Weight: 12.7 ppg
Yield: 1.84 ft³/sack
Water Requirement: 9.9 gal/sack
Sacks: 476 sacks

Tail Slurry: $500' \times .3132 \text{ ft}^3/\text{ft} \times 2.0 = 313 \text{ ft}^3$
Class "B" with 1/4 pound per sack flocele and 2% CaCl₂.

Weight: 15.6 ppg
Yield: 1.18 ft³/sack
Water Requirement: 5.2 gal/sack
Sacks: 265 sacks

Casing Equipment will include a float shoe, a float collar, and three centralizers. WOC time will be minimum of 6 hours.

5 1/2" Production Casing

Preflush: 20 Barrels

Cement Height: 4,644'

Lead Slurry: $3,944' \times .2526 \text{ ft}^3/\text{ft} \times 1.25 = 1,245 \text{ ft}^3$
Light cement with 1/4 pound per sack flocele, fluid loss additive, and retarder for four hour pumping time.

Weight: 12.7 ppg
Yield: 1.84 ft³/sack
Water Requirement: 9.9 gal/sack
Sacks: 677 sacks

Tail Slurry: $700' \times .2526 \times 1.25 = 221 \text{ ft}^3$
Class "B" with 1/4 pound per sack flocele, fluid loss additive and retarder for four hour pumping time.

Weight: 15.6 ppg
Yield: 1.18 ft³/sack
Water Requirement: 5.2 gal/sack
Sacks: 187 sacks

Casing Equipment will include a float shoe, float collar, and centralizers across the Desert Creek. Wire scratchers will be run across the Desert Creek and the casing will be reciprocated during cementing.

5. B.O.P. specification and testing: (see the attached schematic diagram for size and pressure ratings):

One dual ram BOP with pipe rams, blind rams, and an annular preventer will be used. All equipment will have a minimum working pressure of 3,000 psi. The accumulator will be of sufficient size to open and close all BOP stack components without operating the pump. Operation of the BOP will be checked daily. The blind rams, pipe rams, and annular preventer will be pressure tested to 1,000 psi prior to drilling out of the surface casing. After drilling casing shoe and five feet of additional formation, a shoe test will be performed to 13.0 ppg equivalent mud weight or leakoff, whichever comes first.

6. Mud program and anticipated pressures:

<u>From</u>	<u>To</u>	<u>Type Mud</u>	<u>Weight</u>	<u>Water Loss</u>
0'	1,600'	Spud	8.5-9.0	No Control
1,500'	2,736' Cutler	Gel/Water	8.5-9.0	No Control
2,736' Cutler	5,500' Upr. Ismay	Gel/Water	9.0-10.0	10.0-12.0 cc's
5,500'	T.D.	Saturated Salt Mud	10.0-12.0	<10 cc's

The mud will be converted to a saturated salt system prior to drilling into the lower salt section.

The high pressured lower Desert Creek formation may require a 12.0 ppg mud to safely control bottom hole pressure.

7a. Type of drilling tools and auxiliary equipment:

A kelly cock will be used and a full opening safety valve will be available on the rig floor.

The mud system will include a desander/desilter, gas buster or degasser.

A manual adjustable choke will be used.

A single shot drift indicator will be used.

7b. Deviation Control:

<u>From</u>	<u>To</u>	<u>Maximum Distance Between Surveys</u>	<u>Maximum Deviation From Vertical</u>	<u>Maximum Change Per 100' of Depth</u>
0'	1,600'	250'	1°	1°
1,600'	T.D.	500'	5°	1°

8. Sample, logging, testing, and coring program:

A two man logging unit will be used from the Honaker Trail to T.D. Samples will be taken every 10'.

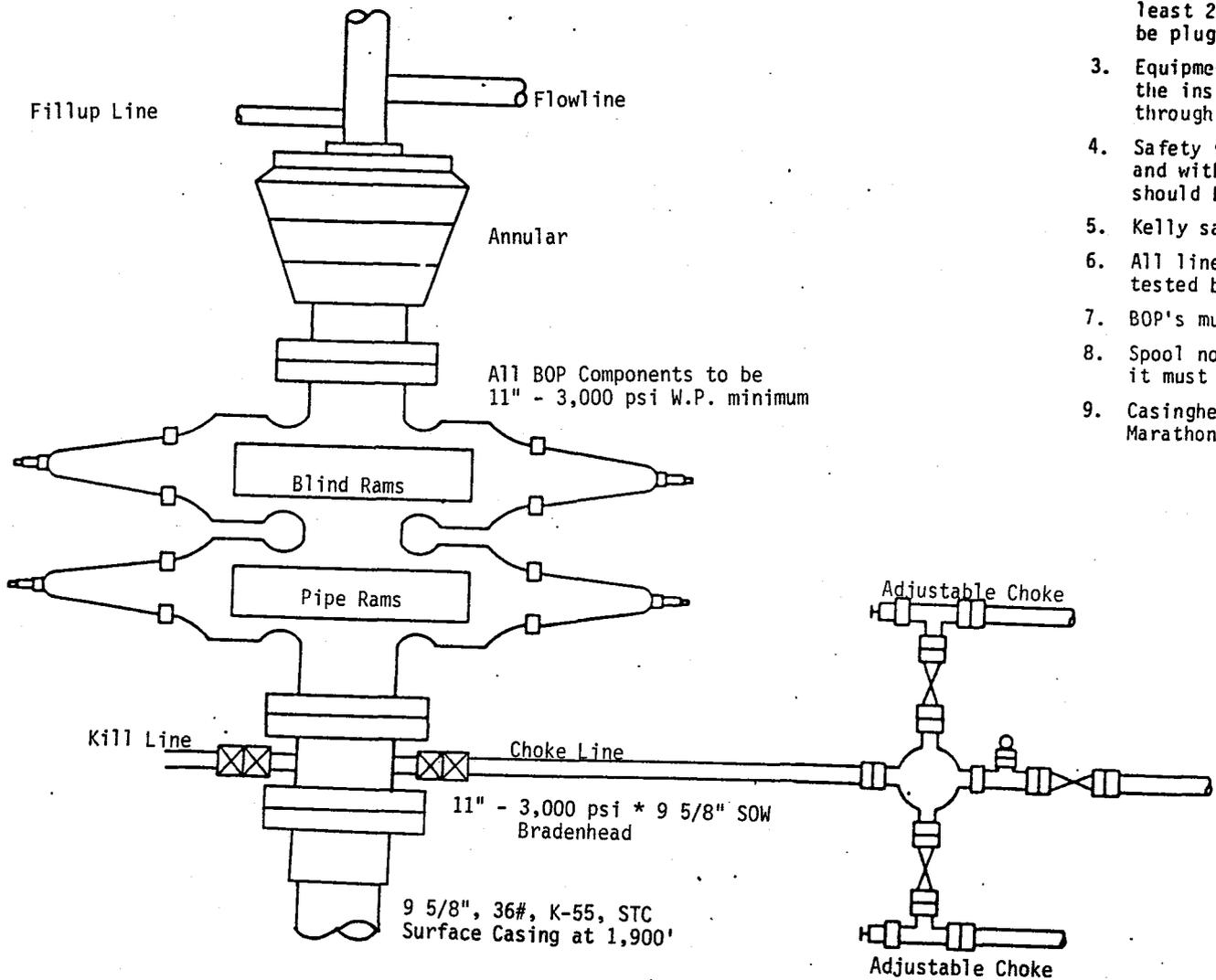
One 60' core will be cut in the Lower Desert Creek.

One DST will be run in the Lower Desert Creek.

Logging will include the following:

- 1) GR-DLL-SFL from T.D. to casing shoe with GR to surface.
- 2) GR-CNL-FDC from T.D. to casing shoe.
- 3) GR-BHC Sonic from T.D. to casing shoe.

Southeast Bug



1. Blowout preventers, master valve, plug valve and all fittings must be in good condition. Use new API Seal Rings.
2. All fittings (gates, valves, etc.) to be of equivalent pressure rating as preventers. Valves to be flanged and at least 2" unless otherwise specified. Valves next to BOP to be plug type and nominal 3".
3. Equipment through which bit must pass shall be as large as the inside diameter of the casing that is being drilled through.
4. Safety valve must be available on rig floor at all times and with proper connections. The I.D. of safety valves should be as great as I.D. of tool joints on drill pipe.
5. Kelly safety valve installed, same working pressure as BOP's.
6. All lines and controls to preventers must be connected and tested before drilling out of surface pipe.
7. BOP's must be fluid operated, complete with accumulator.
8. Spool not required, but when side outlet on BOP's is used, it must be below bottom ram.
9. Casinghead and casinghead fittings to be furnished by Marathon Oil Company.

Southeast Bug
CASING DESIGN

CASING	API/NON-API DRIFT	SETTING DEPTH	SECTION LENGTH	TENSION - 1,000 lb.			COLLAPSE				BURST		
				STRENGTH	FORCE	S.F.	STRENGTH	FORCE	REDUCED STRENGTH	S.F.	STRENGTH	FORCE	S.F.
<u>SURFACE</u>													
9 5/8", 36#, K-55, STC	8.765"	1,900'	1,900'	423	68.4	6.18	2,020	939	2,020	2.15	3,520	1,284	2.74
<u>PRODUCTION</u>													
5 1/2", 17#, K-55, STC	4.767"	5,380'	5,380'	252	9.6	2.63	4,910	4,364	4,910	1.125	5,320	3,000	1.77
5 1/2", 17#, N-80, LTC	4.767"	6,544'	1,164'	397	4.6	86.30	6,280	5,308	6,280	1.18	7,740	3,000	2.58

MOAB DISTRICT

CONDITIONS OF APPROVAL FOR PERMIT TO DRILL

Company Marathon Oil Company Well Name S. E. Bug #1-21
Location Sec. 21 , T. 36 S., R. 26 E. Lease No. U- 43653
NE SW 1980' FS L, 1780' FW L

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

A. DRILLING PROGRAM.

1. Surface Formation and Estimated Formation Tops: Refer to Item #2 in attachment "Drilling Operations Plan."
2. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones Are Expected to be Encountered:

	<u>Formation</u>	<u>Zone</u>
Expected oil zones:	Refer to Item #3 in attachment	
Expected gas zones:	<u>"Drilling Operations Plan."</u>	
Expected water zones:	_____	
Expected mineral zones:	_____	

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling, will be recorded by depth, cased, and cemented. All oil and gas shows will be tested to determine commercial potential.

3. Pressure Control Equipment: Refer to Item #5 in attachment "Drilling Operations Plan."

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventor controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs.

4. Casing Program and Auxiliary Equipment: _____
Anticipated cements tops will be reported as to depth, not the expected number of sacks.
Refer to Items #4A, #4B, #7A, and #7B in attachment "Drilling Operations Plan."
5. Mud Program and Circulating Medium: Refer to Item #6 in
attachment "Drilling Operations Plan."
6. Coring, Logging and Testing Program: Refer to Item #8 in
attachment "Drilling Operations Plan."

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. Two copies of all logs, core descriptions, core analysis, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. If requested, samples (cuttings, fluids, and/or gases) will be submitted to the District Manager.

7. Abnormal Conditions, Bottom Hole Pressures and Potential Hazards:
Refer to Item #9 in attachment "Drilling Operations Plan."

8. Anticipated Starting Dates and Notifications of Operations

The operator will contact the San Juan Resource Area at 801-537-2201, 48 hours before beginning any dirt work.

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the San Juan Area Manager, a minimum of 24 hours before spudding. A Sundry Notice (Form 3160-5) will be sent w/in 24 hours after spudding, reporting the spud date and time. The Sundry will be sent to the District Manager. If the spudding is on a weekend or holiday, the Sundry will be submitted on the following regular work day.

In accordance with Onshore Oil and Gas Order No. 1, this well will be reported on Form 9-329 "Monthly Report of Operations," starting with the month in which operations begin and continue each month until the well is physically plugged and abandoned. This report will be sent to the BLM District Office, P.O. Box 970, Moab, Utah 84532.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Resource Area in accordance with requirements of NTL-3A.

If a replacement rig is planned for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed, for prior approval of the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given by the District Petroleum Engineer.

If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 business days following the date on which the well is placed on production.

No well abandonment operations will begin without the prior approval of the District Manager. In the case of newly drilled dry holes or failures, and in emergencies, oral approval will be obtained from the District Petroleum Engineer. A "Subsequent Report of Abandonment" (Form 3160-5), will be filed with the District Manager, within 30 days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Office. This preliminary approval will not exceed 30 days or 50 MCF gas. Approval to vent/flare beyond this initial test period will require District Office approval pursuant to guidelines in NTL-4A.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The following information will be permanently beaded-on with a welding torch: Fed, Well number, location by $\frac{1}{4}$ section, township and range, Lease number.

A first production conference will be scheduled within 15 days after receipt of the first production notice. The San Juan Area Manager will schedule the conference.

Other: _____

B. THIRTEEN POINT SURFACE USE PLAN

1. Existing Roads:

- a. Location of proposed well in relation to town or other reference point: See Diagram "A"
- b. Proposed route to location: See Diagram "A" color coded red and copy of Surveyor's Plat of Proposed Access.
- c. Plans for improvement and/or maintenance of existing roads: The existing roads, County road #348 and #349 will be maintained in as good or better shape than they now exist.
The maximum total disturbed width will be 20 feet.
- d. An encroachment permit will be obtained from the San Juan County Road Dept., (301) 587-2231, ext. 43.
- e. Other: Other associated Right-of-ways have been discussed and agreed upon by the private land owner and Marathon Oil Company

2. Planned Access Roads:

- a. The maximum total disturbed width will be 30 feet.
- b. Maximum grade: 2%
- c. Turnouts: None will be needed
- d. Location (centerline): Road not flagged due to crops in field.
- e. Drainage: Culverts will be placed where needed
- f. Surface Materials: Native Material
- g. Other: Access road was discussed and agreed upon by the private landowner and Marathon Oil Company.

Surface disturbance and vehicular travel will be limited to the approved location and approved access route.

3. Location of Existing Wells: See Diagram "A"

4. Location of Tank Batteries and Production Facilities:

All permanent (on site for 6 months or longer) above ground facilities (including pump jacks) will be painted a flat, nonreflective, earthtone color to match the standard environmental colors, as determined by the Rocky Mountain 5-State Interagency Committee. All facilities will be painted within 6 months of

installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) will be excluded. The color will be Sandstone.

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain $1\frac{1}{2}$ times the storage capacity of the battery.

All loading lines will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and 500 feet downstream of the meter run or any production facilities. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place before any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the San Juan Area Manager. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply:

All water needed for drilling purposes will be obtained from:

Mr. James Posey
P.O. Box 5
Dove Creek, Colorado 81324
Phone: (303) 677-2338

6. Source of Construction Material:

Pad Construction material will be obtained from: Native Material.

If other material is needed, it will be supplied by the dirt contractor.

7. Methods of Handling Waste Disposal:

The reserve pit (~~will~~/will not) be lined with commercial bentonite sufficient to prevent seepage. At least half of the capacity will be in cut.

Three sides of the reserve pit will be fenced with four strands of barbed wire before drilling starts. The fourth side will be fenced as soon as the drilling is completed. The fence will be kept in good repair while the pit is drying.

A burning permit is required for burning trash between May 1 and October 31. This can be acquired by contacting the State Fire Warden, John Baker, at (301) 587-2705.

8. Ancillary Facilities:

Camp facilities (~~XXXXX~~/will not) be required. They will be located: _____

9. Well Site Layout:

The reserve pit will be located: Northwest side

The top 6 inches of soil material will be removed from the location and stockpiled separate from the trees on the South side. Topsoil along the access will be reserved in place.

Access to the well pad will be from: North

10. Reclamation:

- a. Immediately on completion of drilling, all trash and debris will be collected from the location and surrounding area. All trash and debris will be disposed of in the trash pit and will then be compacted and buried under a minimum of two feet of compacted soil.
- b. All reclamation work will be discussed and agreed upon by the private surface owner and Marathon Oil Company.

(Please refer to the attached surface agreement signed by Mr. Edward T. Searle and Mr. Grady H. Rogers.)

11. Surface Ownership: Private - please see attachment for Name & Address
Mineral Ownership: Federal
12. Other Information: An Archeological Report for the private
surface is attached.
-
-
-

There will be no change from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor will be provided with an approved copy of the surface use plan.

If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the San Juan Resource Area Office will be contacted. All people who are in the area will be informed by the operator/holder that they are subject to prosecution for disturbing archaeological sites or picking up artifacts. Salvage or excavation of identified archaeological sites will be done by a BLM approved archaeologist only if damage occurs.

This permit will be valid for a period of one year from the date of approval. After permit termination a new application will be filed for approval for any future operations.

Your contact with the District Office is: Greg Noble
Office Phone: 801-259-6111 Address: P.O. Box 970, Hoab UT 84532

Resource Area Manager's address and contacts:
Address: P.O. Box 7, Monticello, UT 84535

Your contact is: Rich McClure
Office Phone: 801-587-2201

13. Lessee's or Operator's Representative and Certification

Representative

Name: Guy Whitlock
Address: P.O. Box 2659, Casper, WY 82602
Phone No.: (307) 577-1555

Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by

Marathon Oil Company
Operator's Name

and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

November 27, 1985
Date

Dogge L Jones
District Production Manager
Name and Title

***Please see the attached "Designation of Operator" from Celsius Energy Company.

ON-SITE

DATE: October 8, 1985

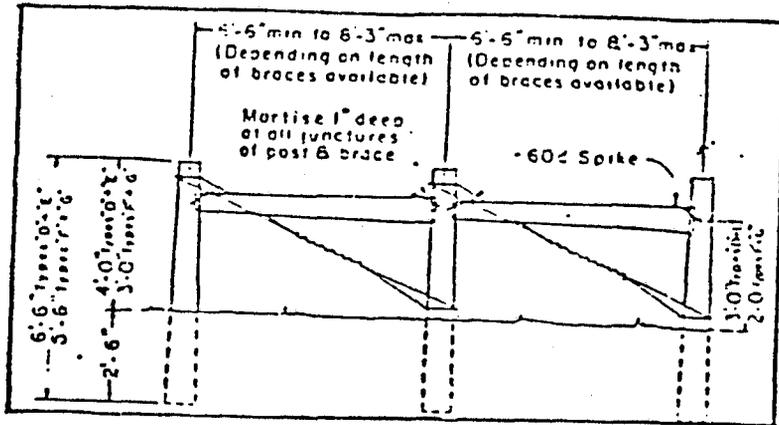
PARTICIPANTS:

Patrick Harden
Jim Perkins & Lou Jobe
Guy Whitlock, Jim VanGilder,
Frank Krugh
Carl Bassett, Debbie Steele,
Joe Kruger
Jim Posey

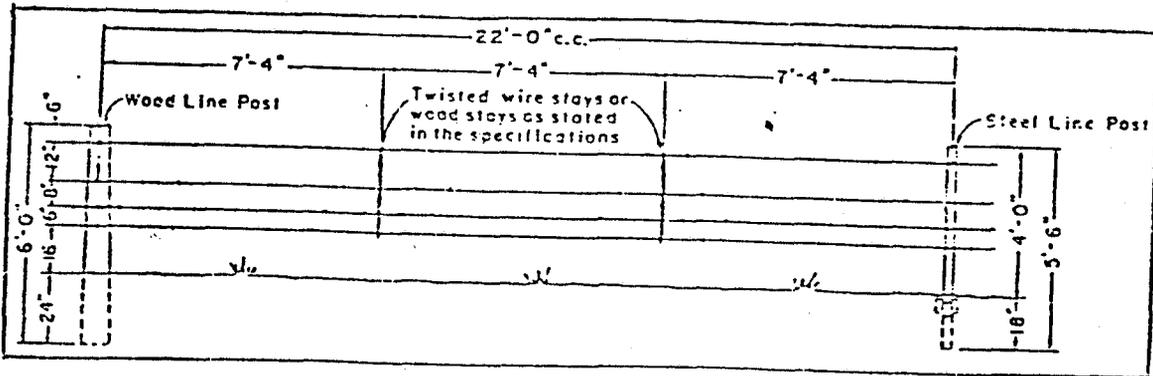
REPRESENTING:

La Plata Archeologist
Clark Reed & Associates-Surveyors
Marathon Oil Company
Marathon Oil Company
Private Surface Owner Representative -
Present Lessee

PANEL AT GATES & CATTLEGUARDS



FENCE



South East Bug #1-21

NE SW Section 21, T36S, R24E, San Juan Co., Utah

Surface Owners

The access road and the proposed location will be on privately owned surface. Mr. Grady H. Rogers and Mr. Edward T. Searle are Co-Trustees for Mr. Clifford Wright under a Trust Agreement dated September 18, 1979. Their addresses are:

Mr. Edward T. Searle
P.O. Box 198
Durango, Colorado 81301
Phone: (303) 247-2130

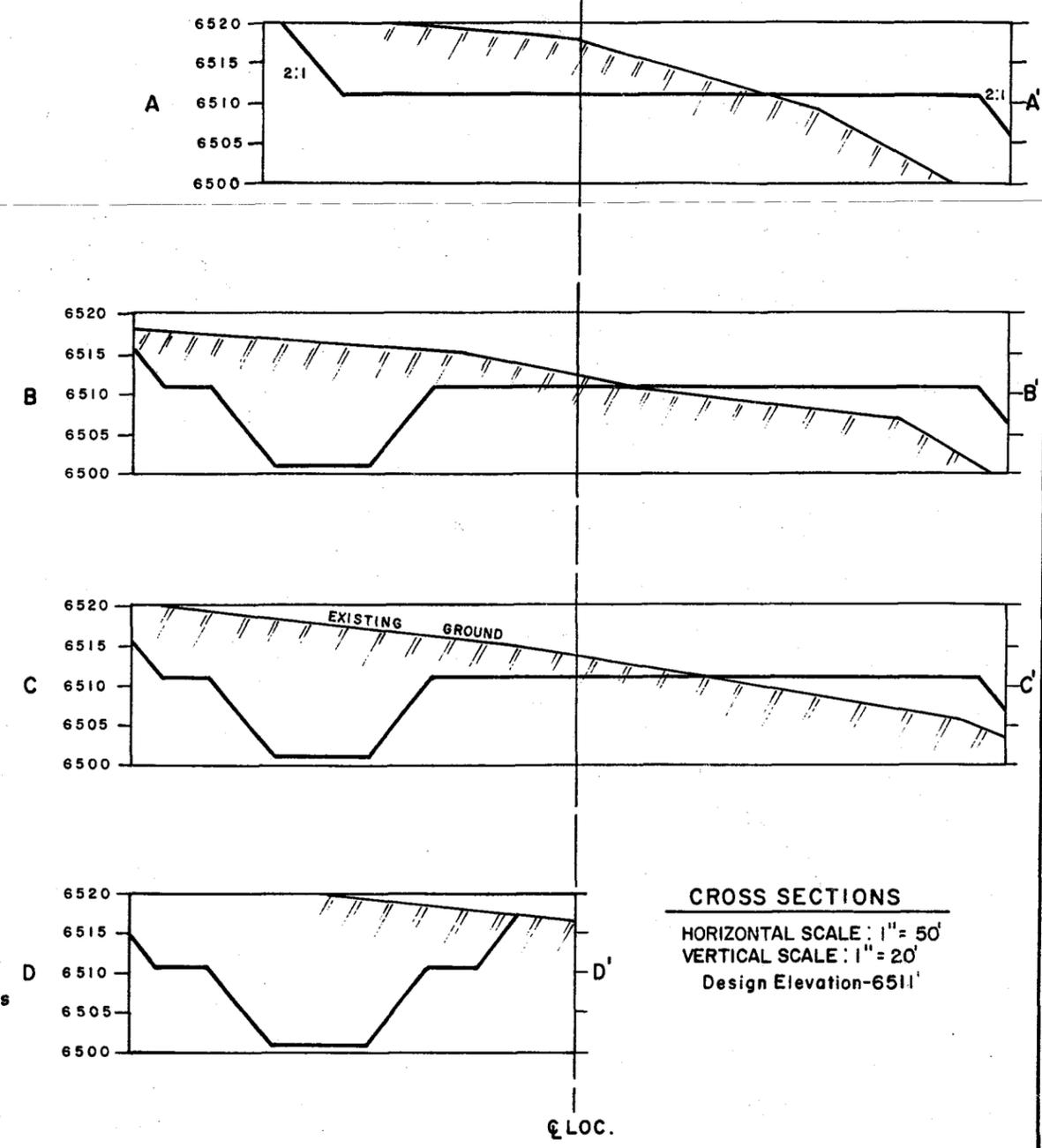
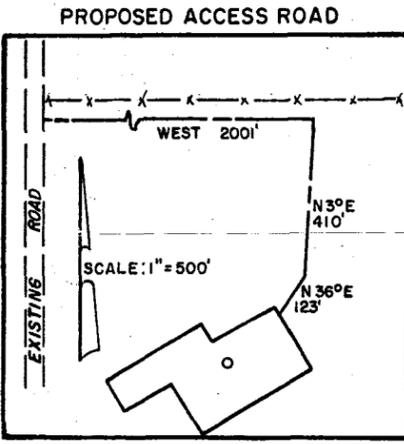
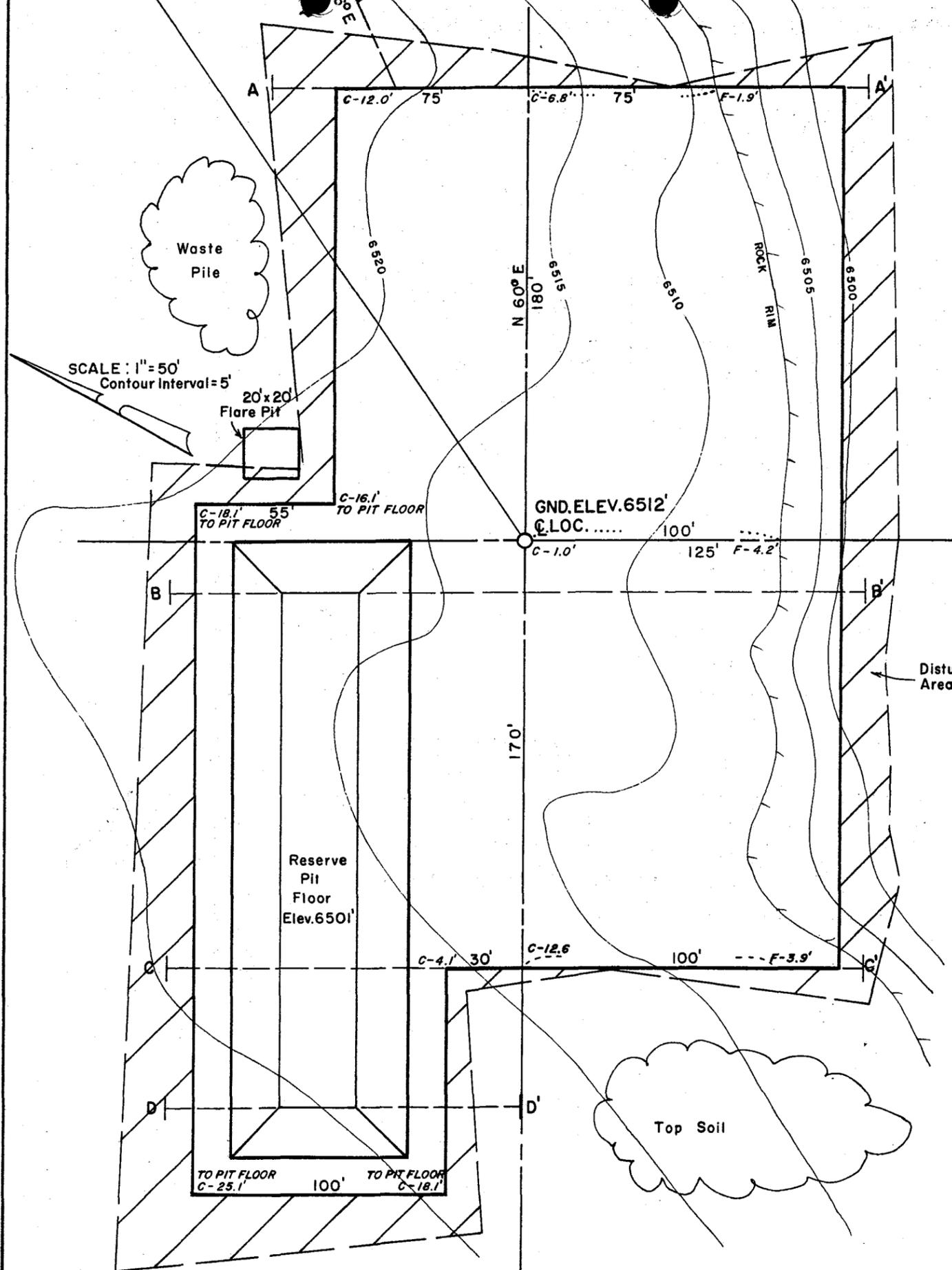
Mr. Grady H. Rogers

Attached please find the surface agreement signed by Mr. Edward T. Searle and Mr. Grady H. Rogers.

B.M. N 26° E 270' ELEV. 6522.9'

Access Road

MARATHON OIL CO. - SOUTH EAST BUG NO. 1-21
 NE/4, SW/4, SEC. 21, T. 36 S., R. 26 E., S.L.M., SAN JUAN COUNTY, UTAH



TOTAL VOLUMES
 CUT = 16,271 CU. YDS.
 FILL = 5,712 CU. YDS.
 TOP SOIL = 1,651 CU. YDS.
 WASTE = 8,908 CU. YDS.
 Reserve Pit Capacity = 20,036 Barrels

CROSS SECTIONS
 HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 20'
 Design Elevation-6511'

MARATHON OIL COMPANY Casper, Wyoming	
WELL SITE PLAN SOUTH EAST BUG NO. 1-21 Sec. 21, T. 36 S., R. 26 E. San Juan County, Utah	
CLARK-REED & ASSOC., INC. DURANGO, COLORADO	DATE: OCT. 8, 1985 FILE NO.: 85039

QUINTANA PETROLEUM CORPORATION

1050 SEVENTEENTH STREET
SUITE 400
DENVER, COLORADO 80265
(303) 628-9211

November 20, 1985

Marathon Oil Company
P. O. Box 2659
Casper, WY 82602
Attention: Ron Nelson

Re: Proposed Acreage Swap
T36S-R26E
San Juan County, Utah

Gentlemen:

Confirming my telephone conversation with Mr. Carl Bassett, this letter will confirm our recommendation to our respective managements that Corbin J. Robertson ("Robertson") and Santa Fe Energy Company ("Santa Fe") enter into the following transaction:

1. To assign to Marathon Oil Company 100% of Robertson's and Santa Fe's right, title, and interest in and to Oil and Gas Lease dated February 22, 1983, between James C. Wright, Trustee for the Clifford Wright Trust and Essie J. Wright Trust, as lessor, and Husky Oil Company, as lessee, recorded March 28, 1983, at Book 647, Page 254, INSOFAR as said lease covers the following described lands:

Township 36 South, Range 26 East, S.L.M.
Section 20: SE/4, SE/4SW/4
Section 21: W/2SW/4
San Juan County, Utah

2. Concurrently with Number One above, Marathon will assign a 100% interest in and to the Reva B. Long, et al, lease dated October 29, 1985, as yet unrecorded, INSOFAR as said lease covers the following described land:

Township 36 South, Range 26 East, S.L.M.
Section 22: NW/4NE/4
San Juan County, Utah

3. Said assignments would be made without warranty of title, express or implied. No overriding royalty interests will be reserved in either assignment.

4. Assignments to Robertson and Santa Fe should be made as follows:

Corbin J. Robertson (50%)
P. O. Box 3331
Houston, TX 77253

Santa Fe Energy Company (50%)
One Security Park
7200 I-40 West
Amarillo, TX 79106

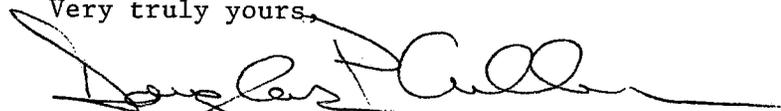
Please send the assignment to the undersigned for handling.

5. Said assignments shall be made free of charge to Robertson, Santa Fe or Marathon.
6. Marathon agrees to pay the rentals for the lease to be assigned to them (the Wright Lease) and Santa Fe Energy will pay the rentals for the lease to be assigned from Marathon (the Long Lease).
7. Should Marathon renew the Wright Lease referred to in No. 1 above within six (6) months of the expiration of said lease, Marathon shall offer a one-third interest in said lease to Robertson and Santa Fe, insofar and only insofar as the renewal lease covers lands in Sections 29 and 30 of the captioned Township.
8. Marathon agrees to supply logs and other requested geological information on their well in the SW/4 of Section 21 to Robertson and also to Santa Fe. Said parties agree to supply Marathon with similar information should Robertson or Santa Fe Energy Company drill a well in the NW/4 of Section 22 of the captioned Township.

By copy of this letter to Dick Frazey at Santa Fe Energy Company, I asked that they confirm all the terms and conditions of this letter.

Thank you very much for making this transaction with us, and please call if you should have any questions.

Very truly yours,



Douglas R. Cullen
Landman

DPC/kmc

cc: Dick Frazey
Santa Fe Energy Company

3. For and in consideration for the use of these roads crossing Owners' lands, Permittee agrees to pay Owners as follows:

A. For the use of One Hundred Fifty Three and 58/100 (153.58) rods, Permittee hereby agrees to pay Owners the total sum of Ten Dollars (\$10.00) per rod used for the first year of this Agreement and Ten Dollars (\$10.00) per rod used each year thereafter for so long as permittee so desires the use of this right-of-way.

B. Permittee agrees that should their operations be discontinued with no further exploration planned for the area, then they will leave the road, and any culverts, and/or surfacing for the use of the Owners. It being understood herein that Owners shall accept any and all liability for said road upon Permittee's withdrawal.

4. Permittee shall be liable to the Owners for all damages done to fences, gates, grasses, forage and growing crops and other improvements to Owners' lands caused by Permittee's activities.

5. Permittee shall recognize and not interfere with the rights of the Owners to occupy, use, and cultivate Owners' lands and otherwise use the same for all purposes as long as such occupancy, use, and cultivation is not inconsistent with the right-of-way herein granted.

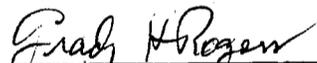
6. At all times the Permittee will defend, indemnify and hold harmless the Owners from any and all liability on account of its actions occasioned by or arising out of the activities of the Permittee or its employees, agents and representatives hereunder.

7. Permittee shall attempt to notify Owners before it commences initial entry onto or the making of any improvements upon or beginning construction upon the roads subject hereto.

8. Permittee shall not blade, doze, disturb, or travel upon the surface of any other parcel of Owners' land, except the subject parcel described herein, without having first obtained the prior written consent of the Owners.

9. Permittee shall instruct its employees, agents and contractors to limit to a reasonable and safe speed the rate of speed of their vehicles traveling on the road subject hereto not to exceed thirty (30) miles per hour. Permittee shall use its best efforts to enforce such requirement.
10. None of the Permittee's employees, agents, representatives, contractors, nor any other person under the direction or control of the Permittee shall be permitted to carry firearms while on the Owners' property; nor will said employees, agents, representatives, contractors, or other persons be permitted to fish on Owners' property or use Owners' property in any manner whatsoever, except they may use the subject road as access to Permittee's operations.
11. All road operations and activities conducted under the terms of this Agreement shall give due consideration to the enhancement and propagation of wildlife and wildlife habitat in accordance with existing local, state and Federal laws, rules and regulations.
12. In the event of a breach, Permittee or Owners shall notify the other in writing and provide a reasonable opportunity for the other party to remedy such breach.

IN WITNESS WHEREOF, the parties have caused this Right-of-Way Road Agreement to be executed as of the day and year first above written.



Grady H. Rogers,
Co-Trustee



Edward T. Searle,
Co-Trustee

MARATHON OIL COMPANY,
Permittee

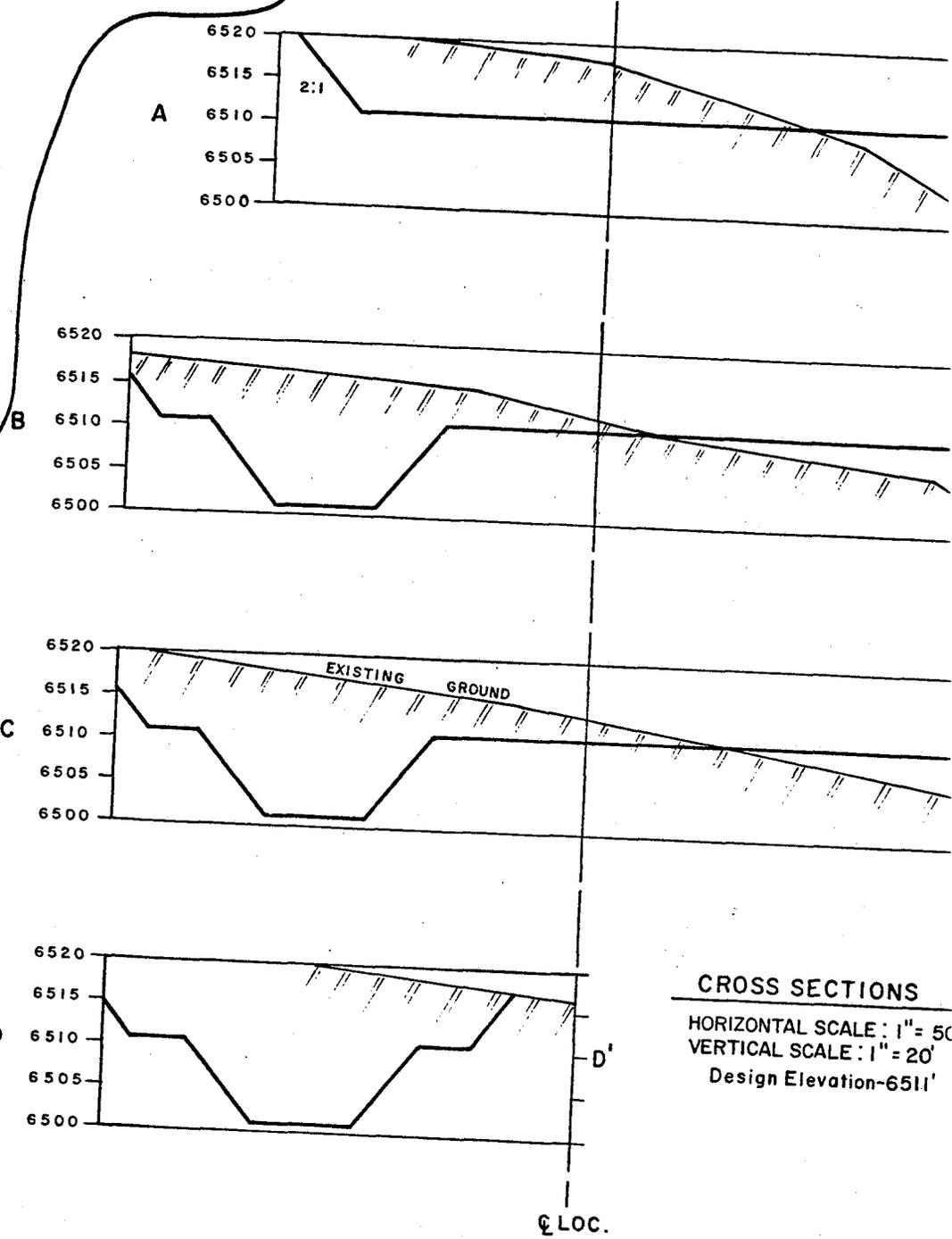
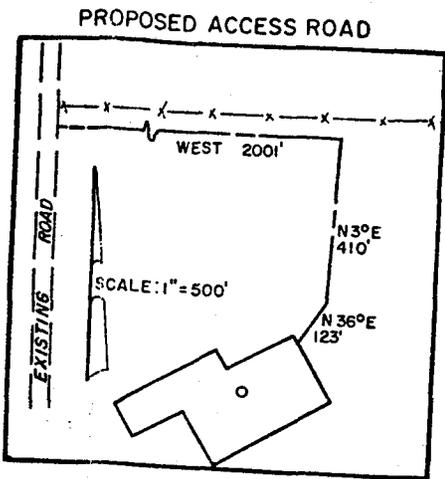
By: 

W. C. Sylvester
Attorney-in-Fact



MARATHON OIL CO. - SOUTH EAST BUG NO. 1-21
 NE/4, SW/4, SEC. 21, T. 36 S., R. 26 E., S.L.M., SAN JUAN COUNTY, UTAH

EXHIBIT "A"



TOTAL VOLUMES

CUT = 16,271 CU. YDS.
 FILL = 5,712 CU. YDS.
 TOP SOIL = 1,651 CU. YDS.
 WASTE = 8,908 CU. YDS.
 Reserve Pit Capacity = 20,036 Barrels

CROSS SECTIONS

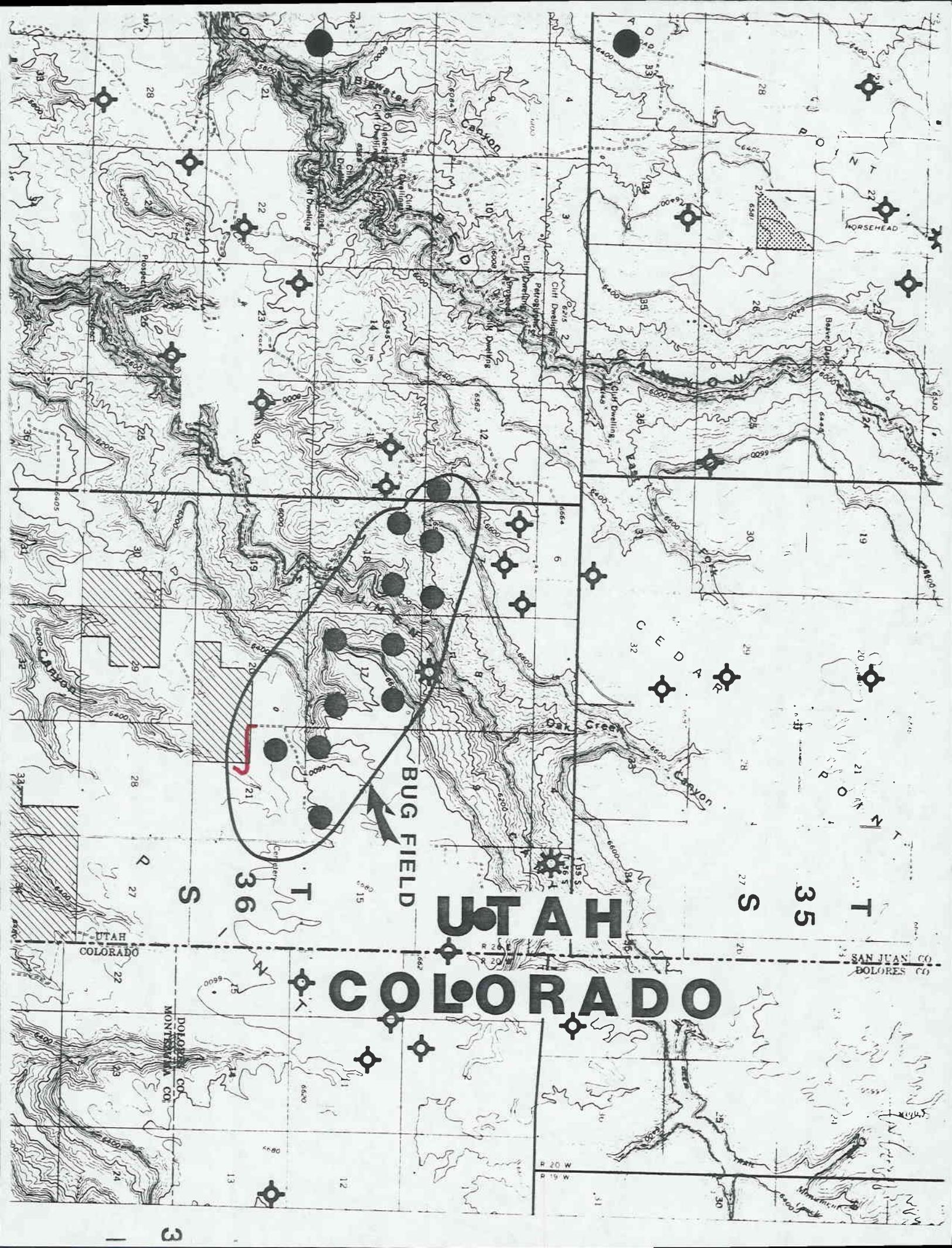
HORIZONTAL SCALE: 1" = 50'
 VERTICAL SCALE: 1" = 20'
 Design Elevation-6511'

MARATHON OIL COMPANY
 Casper, Wyoming

WELL SITE PLAN
 SOUTH EAST BUG NO. 1-21
 Sec. 21, T. 36 S., R. 26 E.
 San Juan County, Utah

CLARK-REED & ASSOC., INC.
 DURANGO, COLORADO

DATE: OCT. 8, 198
 FILE NO.: 85039



BUG FIELD

UTAH
COLORADO

SAN JUAN CO
DOLORES CO

DOLORES CO
MONTAGANA CO

UTAH ACKNOWLEDGMENTS

Individual Acknowledgment

STATE OF Colorado
COUNTY OF Montezuma } ss.

On the 15th day of November, 1985, personally appeared before me Grady
H. Rogers, the signer of the above instrument, who duly acknowledged to me that
he executed the same.

My Commission expires 2/88

Beverly A. Smith
Notary Public

Residing at 14175 Co Rd 28
Delores, Co. 81323



UTAH ACKNOWLEDGMENTS

Individual Acknowledgment

STATE OF COLORADO
COUNTY OF LA PLATA } ss.

On the 20 day of NOV., 1985, personally appeared before me
EDWARD T. SEARLE, the signer of the above instrument, who duly acknowledged to me that
he executed the same.

My Commission expires 5-29-88

William L. [Signature]
Notary Public

~~Residing at~~ 1999 CR 240
Durango CO



WELL SITE
SURFACE AND DAMAGE AGREEMENT

FOR AND IN CONSIDERATION OF FIVE HUNDRED (\$500.00)Dollars, to Grady H. Rogers and Edward T. Searle, Co-trustees for Clifford Wright separately and Essie J. Wright, AKA Essie Wright, separately under each of the Trust Agreements dated September 18, 1979 and that certain District Court document recorded at Book 668 pages 56 and 57 in San Juan County, Utah records (Grantors) in hand paid, the receipt of which is hereby acknowledged, do hereby grant and convey to MARATHON OIL COMPANY, its successors and assigns, the right to construct a drill site for drilling an oil/gas well to be located on the following described land:

T. 36 S., R. 26 E., San Juan County, Utah - Sec. 21: NE $\frac{1}{4}$ SW $\frac{1}{4}$

including flow lines to and from the well, erection of tanks, construction or installation of anything else necessary to the drilling, completion, or production of said well, and ingress and egress thereto, whether upon the lands herein specifically described or not.

It is further agreed that consideration in the total amount of ^{Five Thousand Five Hundred} \$ / (\$5,500.00) for above well site be tendered within 10 days after actual dirt work is commenced on said site.

Marathon Oil Company agrees to fence pits and other dangerous areas as may be necessary to protect livestock in the area and to keep its site in good order.

At any site where Marathon does not discover oil, gas, or hydrocarbons of commercial quantity, and determines it to be a "dry hole", Marathon shall fill in, smooth over and clean up the site and shall restore said site to as near its original condition as practical. Marathon shall restore and reseed said area or shall pay a sum of money sufficient to allow the surface owner to reseed and restore the same. All clean up and restoration work on the well site shall be completed by Marathon within six (6) months after termination of drilling or production activities, ~~or as soon as practical~~. Cessation of production shall not constitute termination of production for purposes of this paragraph.

The parties hereto agree that the damages above provided for shall cover all damages reasonably anticipated from drilling, development or production activities on the above described premises.

Marathon Oil Company agrees to consult with surface owner as to the location and approximate size of drill site; however, the final decision will rest solely with Marathon Oil Company. Marathon will advise surface owner as to when dirt work for said well site may be expected to commence.

AGREED TO AND ACCEPTED THIS 13th

BY W. C. Sylvester
Marathon Oil Company



DAY OF November, 19 85

By Grantor(s): Grady H. Rogers
Grady H. Rogers
Co-Trustee

Edward T. Searle
Edward T. Searle
Co-Trustee

UTAH ACKNOWLEDGMENTS

Individual Acknowledgment

STATE OF COLORADO
COUNTY OF LAPLATA } ss.

On the 20 day of NOV, 1985, personally appeared before me
Edward T. Seale, the signer of the above instrument, who duly acknowledged to me that
he executed the same.

My Commission expires 5-29-88

William L. Noto
Notary Public

Residing at 1999CR 240
Durango



UTAH ACKNOWLEDGMENTS

Individual Acknowledgment

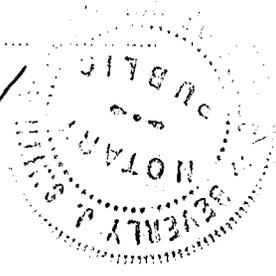
STATE OF Colorado
COUNTY OF Montezuma } ss.

On the 12th day of November, 1985, personally appeared before me Tracy
H. Rogers, the signer of the above instrument, who duly acknowledged to me that
he executed the same.

My Commission expires 2/88

Beverly A. Smith
Notary Public

Residing at 14175 Co Rd 28,
Doloris, Co. 81321



SAN JUAN COUNTY ROAD DEPARTMENT

Application for Right-of-Way Encroachment Permit

DATE: October 14, 1985

TO: Road Supervisor
San Juan County Road Department

Application is hereby made by: (1) Marathon Oil Company

Address (2): P.O. Box 2659, Casper, Wyoming 82602

Telephone Number: 307-577-1555 for permission to do the following:

(3) To utilize San Juan County roads and right-of-ways during the

construction, drilling, and maintenance of our S.E. Bug #1-21 well located

NE SW Sec. 21, T36S, R26E, San Juan County, Utah.

(4) Location: From Dove Creek, Colorado, travel 13 miles Southwest to the

Utah boarder. Then travel along County road #348 for 1-3/4 miles and then

follow County road #349 for 1 mile to the well access road

City ---- County San Juan State Utah

or U. S. Highway No. ---- Milepost No. Not Available

in accordance with the attached plan. (5)

(6) Construction will begin on or about November 1 19 85

and will be completed on or before December 1 19 85

If the proposed installation requires breaking of the pavement, give the following information:

a. Type of pavement: N/A

b. The opening to be made will be N/A feet long

by N/A feet wide and N/A feet deep.

c. A bond in the amount of \$ ----- has been posted with

Telephone No. -----

to run of a term of three (3) years after completion of work to guarantee satisfactory performance.

(7) If this permit is granted, we agree to comply with all conditions, restriction, and regulations as contained in the "Regulations for the Control nad Protection of State Highway Rights-of-Way", approved by the Utah State Road Commission on October 8, 1962, and all revisions thereto or Regulations adopted by the San Juan County Commission.

(8) In approving this application and locations of utilities, and effort will be made to approve only locations that will not be effected in the event that San Juan County changes the roadway. But, in situations in which the utility has to be moved, this moving shall be done by the utility company or paid for by the company.

(9) For any and all applications requesting authority to Vibroseise, applicants shall:

a. Provide map showing where vibroseising will take place.

b. Agree to repair any damages or replace any property damaged.

c. Take full responsibility or proper flagging and traffic control.

d. Agree that widening done in the area of dirt roads shall done on the dirt road rather than in the bar ditch to minimize damage.

e. Provide a schedule of the planned work and estimated dates of completion.

f. Attach written permission form all adjacent fee-title owners.

g. The San Juan County Commission has authorized the San Juan County Road Superintendent (or his Assignees) to issue permits.

(10) San Juan County can only grant permission to the extent that the County has the authority to do so and the permission granted hereunder is limited to the interest of authority actually owned by San Juan County and no warranties of ownership or authority to grant permission is expressed or implied by the granting of this permit.

Frank W. Hugh
BY: _____
Regulatory Coordinator
TITLE _____

To be filled in by Road Supervisor.

(1) Permit should be granted

Permit should not be granted _____

(2) Additional requirements which should be imposed.

Mark Stenger
ROAD SUPERVISOR

INSTRUCTIONS

(1) *Application for this permit should be made in duplicate by whoever will actually do the work whether it be the owner or a contractor.

(2) Mailing address of applicant.

(3) State fully and completely the type or installaion, type of construction, width, thickness, drainage data, etc., where applicable. If pole line, give the following information: number of poles, total length of line, type of wire, character of service, vertical clearance over roadway, and voltage of power line.

(4) If pipe line or buried cable, give the follwing information: Type of service, size and length of line, depth of trench, kind of pipe, (sewer, gas, oil, water supply, etc.) or conduit, and if pipe is to be driven or if pavement will be broken. All fluid lines requires encasement with suitable material. The size and length of encasement shall be satisfactory to the State Department of Transportation, San Juan County Road Supervisor or his agent.

(5) Give distance from some geographical point such as intersecting highways, city, or coporate limits. Give city, county, and state or U. S. route number.

(6) Attach two (2) copies of a plan showing proposed location of structures with reference ot pavement and right-of-way lines. If installation crosses the highway, show cross section of present roadway and proposed installation.

(7) Give anticipated dates for beginning and for completion of proposed installation.

Note: A fee of five (5) dollars will be charged for all Right-of-Way Encroachments Permits, except those obtained for pole lines, and buried cable lines. This Permit fee, where applicable, should be submitted with the application. The costs of inspection are included in the Right-of-Way Encroachment Permit fee, except for pole lines, pipe lines, and buried cable lines which shall be billed for the inspection.

ARCHEOLOGICAL SURVEY OF
MARATHON OIL COMPANY'S
SE BUG #1-21 WELL PAD,
SAN JUAN COUNTY, UTAH

LAC REPORT 8596

by
Patrick L. Harden

LA PLATA ARCHEOLOGICAL CONSULTANTS, INC.
P.O. BOX 783
DOLORES, COLORADO 81323
(303) 882-4933

OCTOBER 10, 1985

Federal Antiquities Permit
85UT57626

State Permit
85-U-30-647p

Prepared For:
Marathon Oil Company
P.O. Box 2659
Casper, Wyoming 82602

ABSTRACT

An archeological survey of Marathon Oil Company's SE Bug #1-21 well pad was conducted by personnel of La Plata Archeological Consultants, Inc. on October 8, 1985. The project is located on privately owned land, with Federal minerals involved, in San Juan County, Utah. An area 660 X 660 feet (ten acres) surrounding the pad center stake and a 100' wide corridor along ca. 1200' of access road were archeologically surveyed. Most of the access route is in a cultivated field. No cultural resources were found in the area and archeological clearance for the project is recommended.

INTRODUCTION

The archeological survey for Marathon Oil Company' SE Bug #1-21 well pad and access road was requested by Mr. Frank Krugh of Marathon Oil. The survey was conducted by Patrick Harden of La Plata Archeological Consultants, Inc. of Dolores, Colorado on October 8, 1985 in conjunction with the project area inspection. Persons attending the inspection included Mr. Krugh (Marathon), Jim Perkins (Reed Surveying), and Harden (LAC). Mr. Jim Posey, the land owner, was also present, but did not actually inspect the well pad area at the time.

The proposed project consists of the construction of a well pad ca. 325 X 275' in size, and an access road ca. 20' wide and ca. 1200' in length. The access will join an improved road

to the west of the pad. All but about 100' of the access is in a cultivated field.

The well pad is located in the NE $\frac{1}{4}$, SW $\frac{1}{4}$ of section 21, T36S, R26E, San Juan County, Utah. The area is included on the Monument Canyon, Utah-Colo. 15' series topographic map (1957).

PHYSIOGRAPHY AND ENVIRONMENT

The well pad is located on Bug Point in relatively level terrain immediately to the west of the head of Lake Canyon. The Canyon is shallow at this point and bounded by low ridges. The access road is also on level to gently sloping terrain.

Vegetation is a mature pinyon-juniper plant community, with pinyon, juniper, sagebrush, rabbitbrush, cedar weed, mountain mahogany, yucca, bunch grasses, and some oakbrush in the canyon.

Sediments consist of aeolian sandy loam, with sandstone bedrock exposed along the edges of the Canyon.

EXAMINATION PROCEDURES

Prior to the field investigations a file search was requested through the Division of State History, but the results of this request are still not available. It is assumed that no sites have been previously recorded in the area since none were found during the survey.

On-the-ground survey consisted of walking a series of transects spaced 15 meters apart across an area 660 X 660 feet (ten acres) surrounding the well pad center stake. The pad was staked

MONUMENT CANYON, UTAH-CO
(1957)

CEDAR

Access Route

SE BUG #1-21

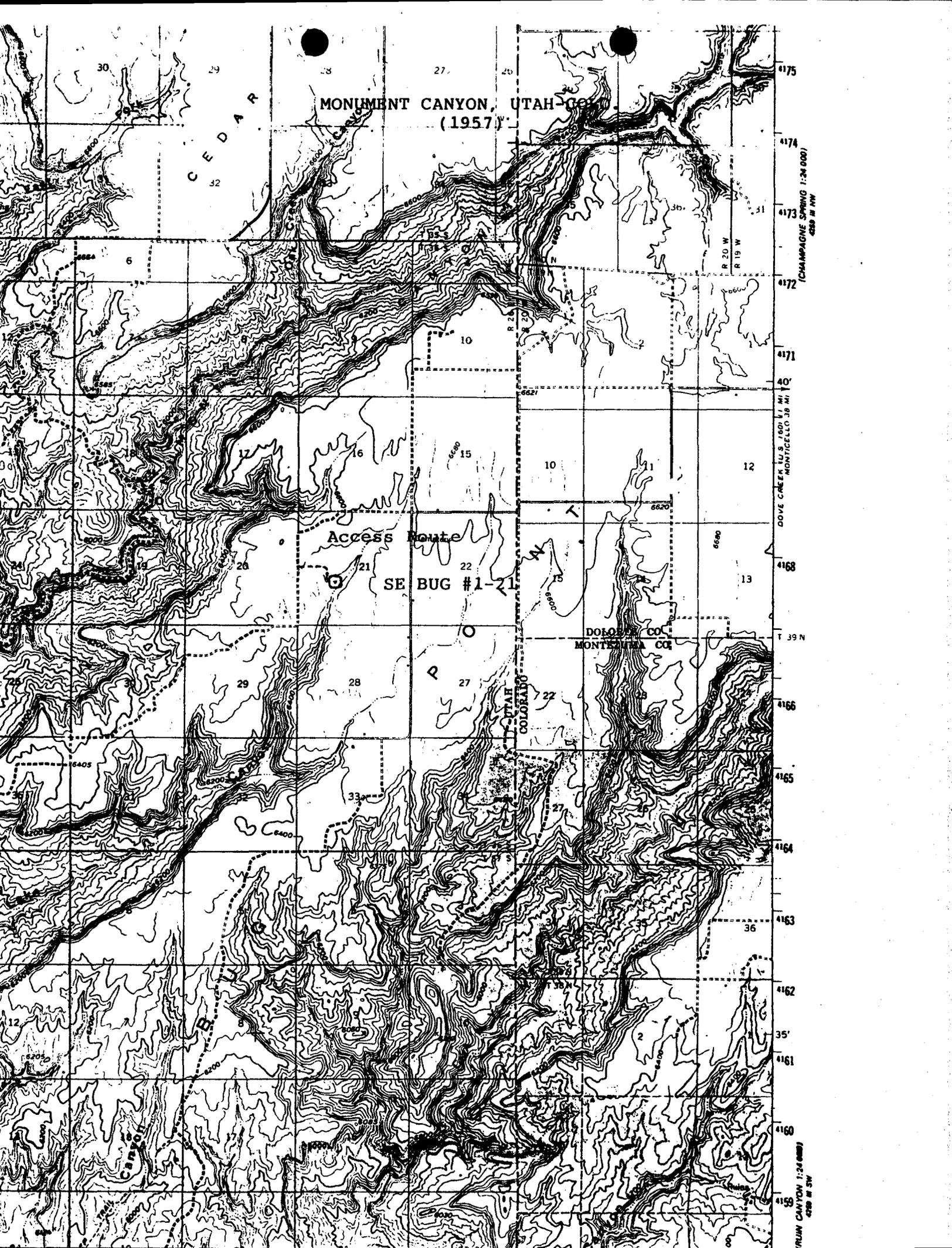
DOLORES CO
MONTEZUMA CO

UTAH
COLORADO

(CHAMPAGNE SPRING 1:24 000)
428 M NW

DOVE CREEK U.S. 1601 L. 1/2 M. N.
MONTICELLO 38 M. N.

TRUMAN CANYON 1:24 000
428 M SW



during the survey.

SURVEY RESULTS

No cultural resources were found during the survey. The nature of the sediments (shallow with bedrock exposed) make the possibility of buried cultural deposits being present unlikely.

CONCLUSION

The archeological survey of the SE Bug #1-21 well pad and access road was conducted by personnel of La Plata Archeological Consultants, Inc. on October 8, 1985. The project is a development planned by Marathon Oil Company on privately owned land in San Juan County, Utah. Federal minerals are involved in the project. An area 660 X 660' surrounding the pad center stake and a 100' wide corridor along ca. 1200' of access road were archeologically surveyed. No cultural resources were found in the area and archeological clearance for the project is recommended.

OPERATOR Marathon Oil Co DATE 12-6-85

WELL NAME South East Bug 1021

SEC NE SW 21 T 36S R 26E COUNTY New Jun

43-037-31231
API NUMBER

Field
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

160 acre - NE/4 - R under Cause 186-3

Water - Colorado

APPROVAL LETTER:

SPACING: A-3 _____ UNIT

c-3-a 186-3 10/23/80
CAUSE NO. & DATE

c-3-b

c-3-c

STIPULATIONS:

EB



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

December 9, 1985

Marathon Oil Company
P. O. Box 2659
Casper, Wyoming 82602

Gentlemen:

Re: Well No. South East Bug 1-21 - NE SW Sec. 21, T. 36S, R. 26E
1980' FSL, 1780' FWL - San Juan County, Utah

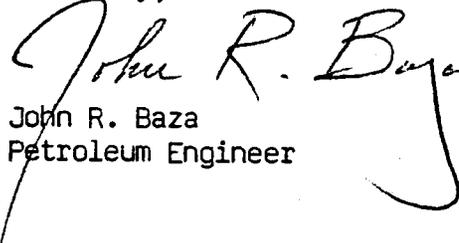
Approval to drill the above-referenced oil well is hereby granted in accordance with the Order of Cause No. 186-3 dated October 23, 1980.

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

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. 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.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, General Rules.
5. 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 43-037-31231.

Sincerely,



John R. Baza
Petroleum Engineer

as
Enclosures
cc: Branch of Fluid Minerals

C'D MDO NOV 29 1985 7:45 A.M.
Casper Division
Production United States



P.O. Box 2659
Casper, Wyoming 82602
Telephone 307/577-1555

November 27, 1985

RECEIVED

DEC 18 1985

State of Utah
Division of Oil, Gas and Mining
Attn: Mr. John Baza
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

**DIVISION OF OIL
GAS & MINING**

"Registered Mail Return Receipt Requested"

Re: Exception to the location for the proposed well South East Bug #1-21 located NE SW 1980' FSL & 1780' FWL, Section 21, T36S, R26E, SLM, San Juan County, Utah

Dear Mr. Baza:

Persuant to Rule C-3 (c) of the Oil and Gas Conservation General Rules and Regulations Orders, Marathon Oil Company is requesting that the unorthodox location for South East Bug #1-21 be approved by the State of Utah, Division of Oil, Gas and Mining.

Originally, this location was staked 1980' FSL and 1980' FWL. At this site a deep ravine, having potential for extreme amounts of water, was present. Due to this topographic feature, the location was moved 200' directly west and the well site was determined to be 1980' FSL and 1780' FWL of Section 21, T36S, R26E. All leases within a 660' radius are owned by Marathon Oil Company. Please refer to the attached map which shows Marathon's fee lease holding to the west of the proposed location.

Also enclosed please find three completed "Applications for Permit to Drill" and the Archeological Clearance Report for this well.

Water to support the drilling of this proposed well will be obtained from a private individual who resides in Colorado. His name, address, and phone number are contained within the APD.

Your cooperation in dealing with this project is greatly appreciated.

Sincerely,

Doyle L. Jones
Doyle L. Jones
District Production Manager

DLJ:FMK:mrt
Enclosures

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIP DATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985
7:45 A.M.

REC'D MDO NOV 29 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL DEEPEN PLUG BACK

RECEIVED

b. TYPE OF WELL

OIL WELL GAS WELL OTHER

SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR

Marathon Oil Company

DEC 18 1985

3. ADDRESS OF OPERATOR

P.O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface
NE SW 1980' FSL & 1780' FWL
At proposed prod. zone

**DIVISION OF OIL
GAS & MINING**

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approximately 16 miles Southwest of Dove Creek, Colo.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)

460'

16. NO. OF ACRES IN LEASE

700.77

17. NO. OF ACRES ASSIGNED TO THIS WELL

160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

N/A

19. PROPOSED DEPTH

6544'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6512' Ungraded GL

22. APPROX. DATE WORK WILL START*

4th Quarter 85

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please refer to Items #4A, #4B, and #6 of Drilling Operations Plan				

Please find the following attachments:

1. Surveyor's Plat
2. Drilling Operations Plan and 13 Point Surface Use Plan
3. Maps and Diagrams
4. Designation of Operator Form issued by Celsius

The person responsible for the APD is Frank Krugh, Marathon Oil Company

Office: (307) 577-1555
Home : (235-4506)

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. SIGNED Doyle L Jones TITLE District Production Manager DATE November 27, 1985

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY Kenneth V. Rhea TITLE Acting DISTRICT MANAGER DATE 16 DEC 1985

CONDITIONS OF APPROVAL, IF ANY:

FLARING OR VENTING OF
GAS IS SUBJECT OF NTL 4-A
DATED 1/1/80

*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.

State of Utah - DDCM

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

RECEIVED NOV 29 1985 7:45 A.M.
SUBMIT IN TRIPLICATE (Other instructions on reverse side)

5. Lease Designation and Serial No. Federal U-43653
6. If Indian, Allottee or Tribe Name
7. Unit Agreement Name
8. Farm or Lease Name South East Bug
9. Well No. 1-21
10. Field and Pool, or Wildcat Wildcat
11. Sec., T., R., M., or Blk. and Survey or Area

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 Marathon Oil Company

3. Address of Operator P.O. Box 2659, Casper, Wyoming 82602

4. Location of Well (Report location clearly and in accordance with any State regulations) At surface NE SW 1980' FSL & 1780' FWL

At proposed prod. zone

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DEC 18 1985
DIVISION OF OIL
GAS & MINING

12. County or Parrish San Juan 13. State Utah
Sec. 21, T36S, R26E

14. Distance in miles and direction from nearest town or post office* Approximately 16 miles Southwest of Dove Creek, Colo.

15. Distance from proposed* location to nearest property or lease line, ft. 460'
16. No. of acres in lease 700.77
17. No. of acres assigned to this well 160

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft. N/A
19. Proposed depth 6544'
20. Rotary or cable tools Rotary

21. Elevations (Show whether DF, RT, GR, etc.) 6512' Ungraded GL
22. Approx. date work will start* 4th Quarter '85

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
--------------	----------------	-----------------	---------------	--------------------

Please refer to Items #4A, #4B, and #6 of Drilling Operations Plan

Please find the following Attachments:

1. Surveyor's Plat
2. Drilling Operations Plan and 13 Point Surface Use Plan
3. Maps and Diagrams
4. Designation of Operator Form issued by Celsius

The person responsible for the APD is Frank Krugh, Marathon Oil Company

Office: (307) 577-1555
Home: (307) 235-4506

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. Signed: *Doyle L. Jones* Title: District Production Manager Date: November 27, 1985
(This space for Federal or State office use)

Permit No. Approval Date

Approved by Title Date
Conditions of approval, if any:

NAME	ACTION CODE(S)	INTL
NORM		<i>7</i>
TAMI		
VICKY		
CLAUDIA		
STEPHANE		
CHARLES		
RULA	<i>2</i>	<i>Rm</i>
MARY ALICE		
CONNIE		
MILLIE		
PAM	<i>FILE</i>	

Required Action Code

1. Data Entry
2. Filming
3. Posting
 - a. Card Index
 - b. File Label
 - c. Lists
4. Bonding Verification
5. Other (See Norm)



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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

AA

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

December 19, 1985

TO: John R. Baza, Petroleum Engineer
FROM: Patrick deGruyter, Oil and Gas Field Specialist
RE: Marathon Oil Company, Well No. South East Bug #1-21, Sec.21,
T.36S, R.26E

An Application for Permit to Drill the above referenced well was submitted on November 27, 1985 and approved by the DOGM on December 9, 1985. This well is to be located on private surface. The minerals are Federal.

According to the APD, the well is to be drilled to a depth of 6544'. The last 1000' are to be drilled using a saturated salt mud. The reserve pit was not required to be lined.

In a telephone conversation with Rich McClure/BLM San Juan Resource Area Monticello, on the afternoon of December 16, 1985, he indicated to me that the BLM had not participated in an onsite prior to approval of this APD. He indicated that the feeling of many at the BLM, including his immediate supervisor Robert Turri, is that it is not the place of the BLM to be stipulating what can or can't be done on private surface.

I made an informal inspection of the proposed location on December 17, 1985 and noted the following. The location construction was nearly completed. The reserve pit had been dug and inspection revealed it to be underlain by a tight shaley layer and therefore not requiring a liner.

In this particular case no problem was encountered due to the lack of a pre-drill onsite inspection of the location. This does however point out the need to develop a policy for dealing with future well locations involving Federal minerals and private surface.

sb
0127T-26

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31231

NAME OF COMPANY: MARATHON OIL

WELL NAME: SOUTH EAST BUG 1-21

SECTION NE SW 21 TOWNSHIP 36S RANGE 26E COUNTY San Juan

DRILLING CONTRACTOR Veco

RIG # 5

SPUDDED: DATE 12-22-85

TIME 11:00 PM

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Frank Krugh

TELEPHONE # 307-577-1555

DATE 12-23-85 SIGNED AS

Drill Stem Tests

DST #1

Formation: Honaker Trail

Date: 1-7-86

Packers set: 5166' and 5160'

IF 10 min., ISI 30 min., FF 60 min., FSI 120 min.

Recovered approximately 80' slightly gas cut mud.

DST #2

Formation: Upper Desert Creek

Date: 1-14-86

Packer set: 6103' and 6109'

IF 10 min., ISI 30 min., FF 85 min., FSI 170 min.

Gas to Surface 10 min. on FF

Recovered 182' of gas cut mud.

BHT = 126° F, gas rate estimated at 55 MCFD

Sample Chamber, pressure at surface 145 PSIG, 550 cc mud.

DST #3

Formation: Desert Creek

Date: 1-18-86

Packers set: 6246' and 6229'

IF 10 min., ISI 30 min., FF 90 min., FSI 180 min.

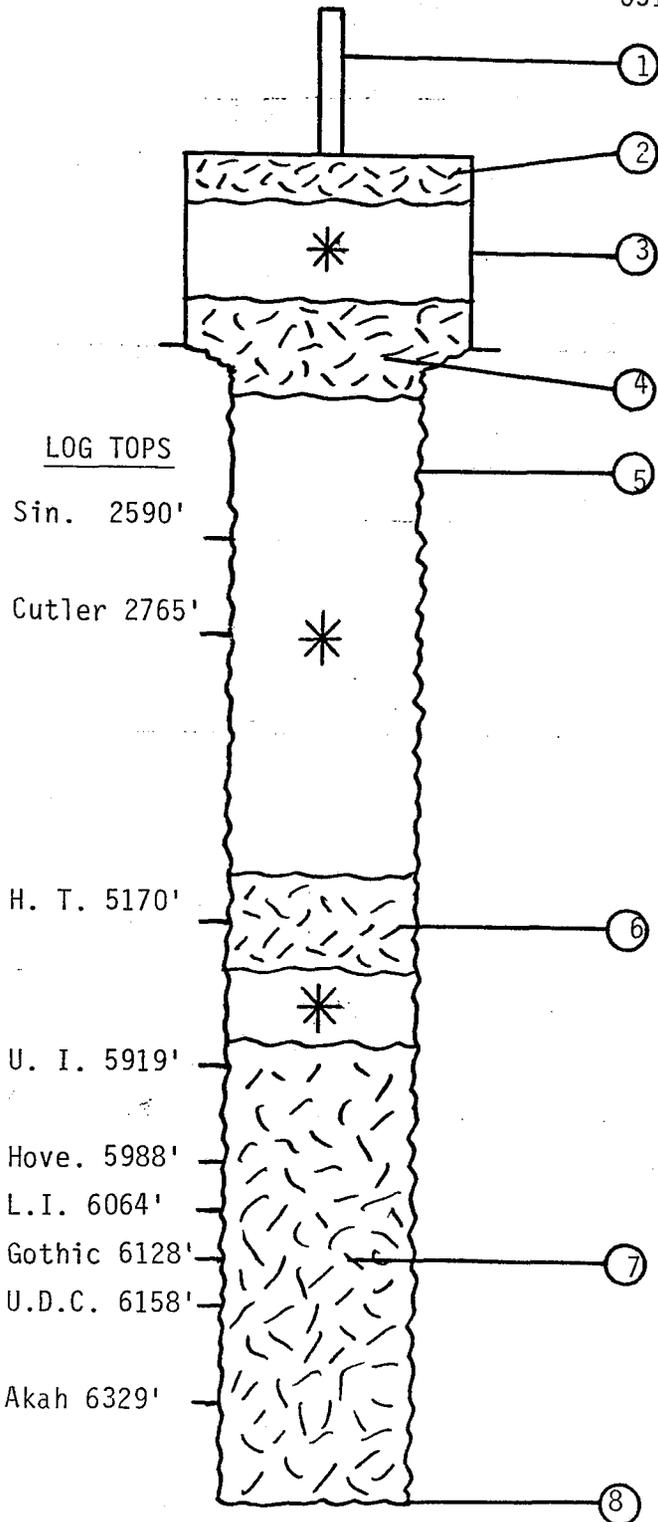
Gas to surface in 60 min on FF

Recovered 200 cc of salt water.

South East Bug #1-21
 Sec. 21, T36S, R26E
 San Juan County, Utah
 All Measurements KB
 6512' GL 6524' KB

DESCRIPTION

1. Dry hole Marker
2. 50' Cement plug to surface
3. 9-5/8" 36# K-55 csg. set at 1901' and cemented to surface with 740 sx.
4. 200' cement plug balanced from 1800' to 2000'.
5. 8-3/4" open hole to TD.
6. 200' Cement Plug from 5070' to 5270'.
7. 855' Cement Plug from 5800' to TD-6655'.
8. TD 6655'.



Procedure was discussed and agreed upon by Mr. Lyn Jackson, BLM, Moab, Utah, and Mr. Frank Krugh, Marathon, Casper, Wyoming, on January 21, 1986.

* Heavy Weight Mud

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

5. LEASE DESIGNATION AND SERIAL NO.

U-43653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

South East Bug

9. WELL NO.

1-21

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 21, T36S, R26E

12. COUNTY OR PARISH

San Juan

13. STATE

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 GAS WELL OTHER

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P.O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface

NE SW 1980' FSL & 1780' FWL

RECEIVED

DEC 30 1985

DIVISION OF OIL
GAS & MINING

14. PERMIT NO.
43-037-31231

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
6512' GL Ungraded

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	<input checked="" type="checkbox"/>

Please See Below

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	<input type="checkbox"/>

(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 above well was spudded at 11:00 PM on December 22, 1985, by Veco Rig #5. This was reported to Arlene Sollis, State of Utah, Division of Oil, Gas and Mining, by Frank Krugh, Marathon, on December 23, 1985.

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

SIGNED [Signature]

TITLE Acting District Production Manager DATE December 23, 1985

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

PRELIMINARY REPORT

RECEIVED

JAN 22 1986

**DIVISION OF OIL
GAS & MINING**

CORE ANALYSIS REPORT

FOR

MARATHON OIL COMPANY

1-21 SE BUG
WILDCAT
SAN JUAN, UTAH

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

MARATHON OIL COMPANY
 # 1-21 SE BUG
 WILDCAT
 SAN JUAN, UTAH

DALLAS, TEXAS
 DATE : 20-JAN-1986
 FORMATION : PARADOX
 DRLG. FLUID: WBM
 LOCATION : NE, SW SEC. 21-T36S-R26E

FILE NO : 38030-003433
 ANALYSTS : DS/EV
 ELEVATION: 6524 KB

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD)		POR. He	FLUID SATS.		GRAIN DEN	DESCRIPTION
		MAXIMUM	90 DEG		OIL	WTR		
DESERT CREEK ZONE CORE # 1 6204-6264								
	6204.0-21.0							LM/SHALE --- NO ANALYSIS
	6221.0-39.0							ANHYDRITE --- NO ANALYSIS
	6239.0-40.0							SHALE --- NO ANALYSIS
1	6240.0-41.0	1.06	0.64	9.3	6.6	59.8	2.77	DOL BRN VFXLN CALC VUG
2	6241.0-42.0	39.	33.	11.2	0.9	51.1	2.81	DOL BRN VFXLN CALC VUG
3	6242.0-43.0	59.	40.	10.3	1.3	40.1	2.82	DOL BRN VFXLN CALC VUG
4	6243.0-44.0	37.	21.	12.1	0.0	54.5	2.85	DOL BRN VFXLN CALC VUG
5	6244.0-45.0	16.	9.80	10.7	0.0	50.6	2.82	DOL BRN VFXLN CALC VUG
6	6245.0-46.0	17.	8.70	11.1	0.0	24.9	2.82	DOL BRN VFXLN CALC VUG
7	6246.0-47.0	5.60	5.36	10.4	0.0	58.0	2.83	DOL BRN VFXLN CALC VUG
8	6247.0-48.0	5.60	5.18	10.9	0.0	43.6	2.83	DOL BRN VFXLN CALC VUG
9	6248.0-49.0	11.	9.32	11.8	0.0	58.2	2.82	DOL BRN VFXLN CALC VUG
10	6249.0-50.0	9.63	8.50	12.4	0.0	54.6	2.81	DOL BRN VFXLN CALC VUG
11	6250.0-51.0	28.	14.	13.4	0.0	63.5	2.83	DOL BRN VFXLN CALC VUG
12	6251.0-52.0	16.	13.	13.8	0.0	65.4	2.83	DOL BRN VFXLN CALC VUG
13	6252.0-53.0	255.	25.	14.4	0.0	52.4	2.82	DOL BRN VFXLN CALC VUG **
14	6253.0-54.0	1177.	149.	15.8	0.0	62.1	2.80	DOL BRN VFXLN CALC VUG **
15	6254.0-55.0	61.	37.	15.1	0.0	63.8	2.83	DOL BRN VFXLN CALC VUG
16	6255.0-56.0	65.	58.	14.3	0.0	48.2	2.83	DOL BRN VFXLN CALC VUG
17	6256.0-57.0	737.	172.	14.9	0.0	55.6	2.82	DOL BRN VFXLN CALC VUG
18	6257.0-58.0	439.	282.	15.9	0.0	61.1	2.80	DOL BRN VFXLN CALC VUG
19	6258.0-59.0	25.	17.	13.0	0.0	53.8	2.81	DOL BRN VFXLN CALC VUG
20	6259.0-60.0	2.31	1.54	10.6	0.0	61.3	2.85	DOL BRN VFXLN CALC VUG
21	6260.0-61.0	7.40	2.50	10.9	0.0	54.1	2.85	DOL BRN VFXLN CALC VUG
22	6261.0-62.0	0.58	0.45	9.0	0.0	53.7	2.83	DOL BRN VFXLN CALC VUG

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

MARATHON OIL COMPANY
 # 1-21 SE BUG

DALLAS, TEXAS
 DATE : 20-JAN-1986
 FORMATION : PARADOX

FILE NO : 38030-003433
 ANALYSTS : DS#EV

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
23	6262.0-63.0	0.05	0.01	5.4	0.0	68.2	2.83	DOL BRN VFXLN CALC
24	6263.0-64.0	0.06	0.01	5.3	0.0	71.5	2.82	DOL BRN VFXLN CALC

** DENOTES FRACTURE PERMEABILITY



CORE LABORATORIES, INC.

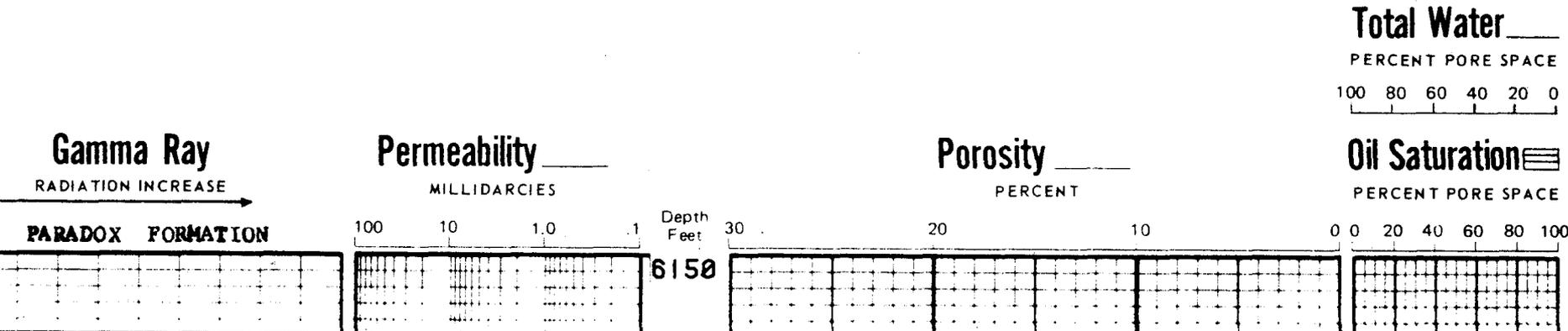
Petroleum Reservoir Engineering

COMPANY MARATHON OIL COMPANY FILE NO. 38030-003433
 WELL # 1-21 SE BUG DATE 20-JAN-1986
 FIELD WILDCAT FORMATION PARADOX ELEV. 6524 KB
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES _____
 LOCATION NE, SW SEC. 21-T36S-R28E

CORRELATION COREGRAPH

These analyses, opinions or interpretations are based on observations and material 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, Inc., (all errors or omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'



DESERT CREEK ZONE
C-1 6204-6264

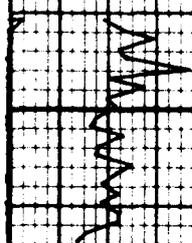
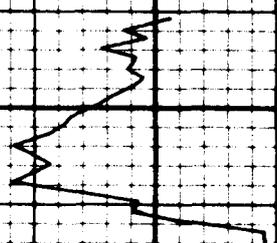
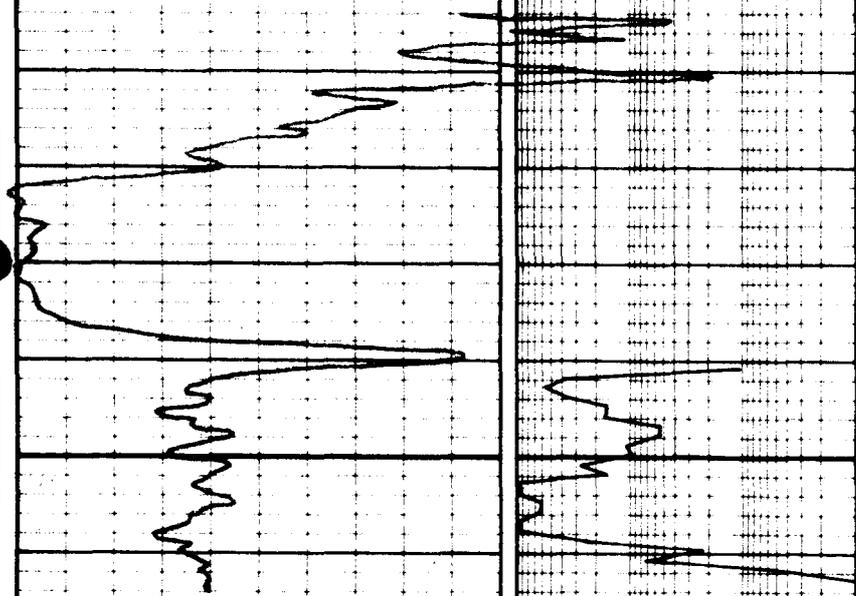
6200

6250

6300

6350

6400



RECEIVED

JAN 27 1986

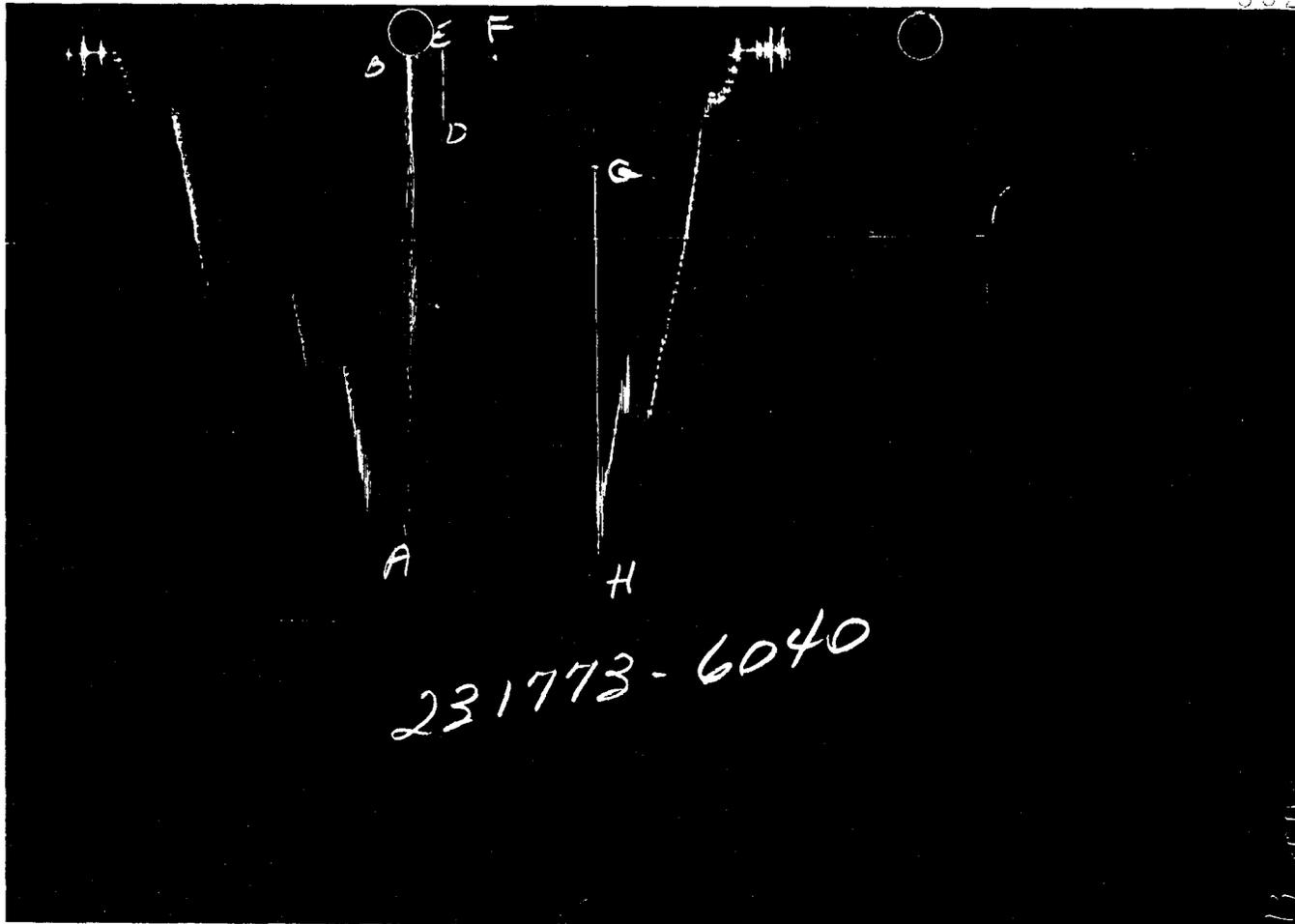
DIVISION OF OIL
GAS & MINING



TICKET NO. 23177300
 21-JAN-86
 FARMINGTON

LEASE NAME	SOUTH EAST BUG	WELL NO.	1-21	TEST NO.	1	TESTED INTERVAL	5166.0 - 5197.0	LEASE OWNER/COMPANY NAME	MARATHON OIL COMPANY
LEGAL LOCATION	21-363-26E	FIELD AREA	WILD CAT	COUNTY	SAN JUAN	STATE	UTAH	IC	
SECT. - TWP. - RANG.									

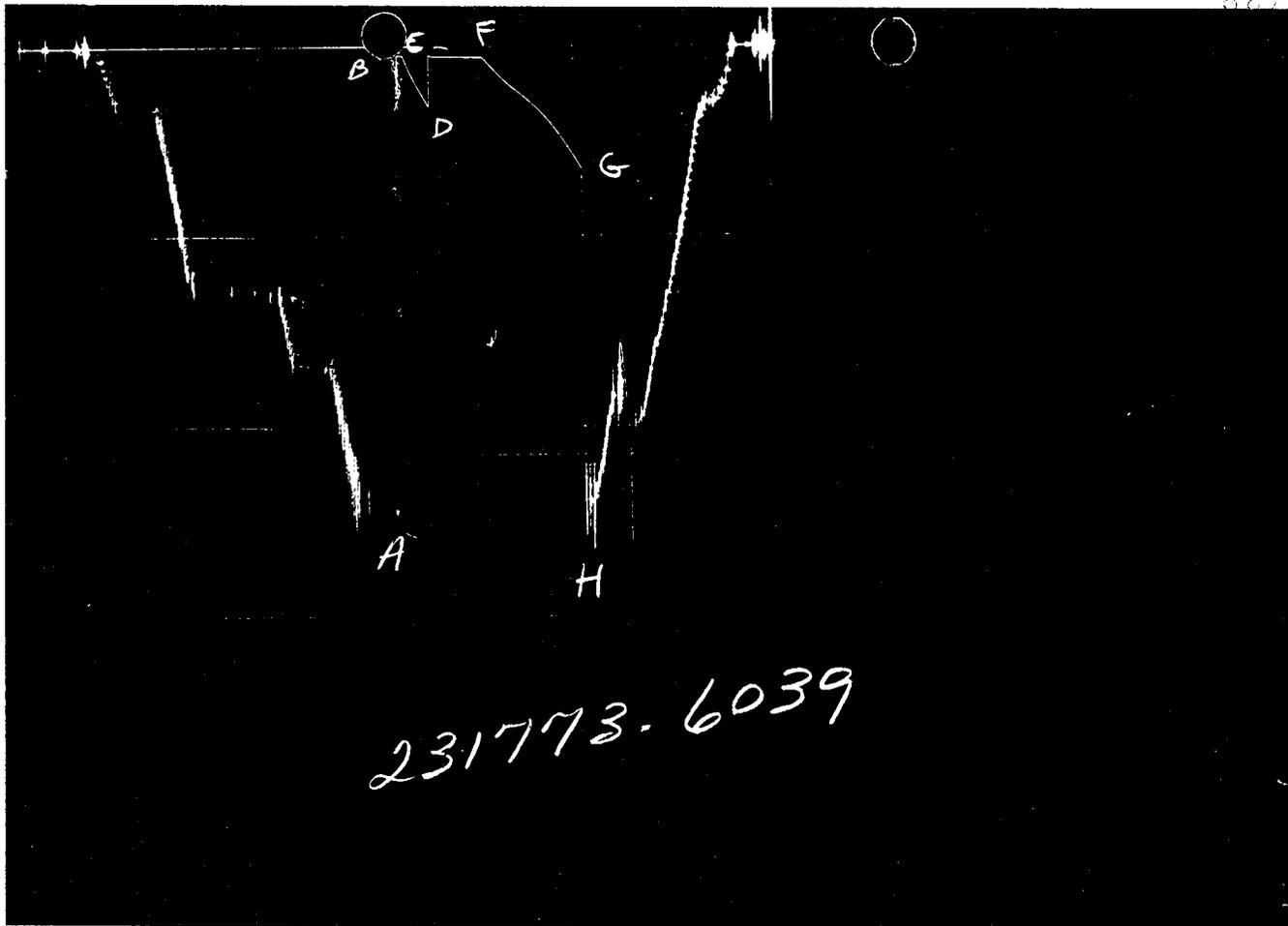
FORMATION TESTING SERVICE REPORT



231773-6040

GAUGE NO: 6040 DEPTH: 5145.0 BLANKED OFF: NO HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2385	2397.6			
B	INITIAL FIRST FLOW	40	21.8			
C	FINAL FIRST FLOW	40	21.1	10.0	11.2	F
C	INITIAL FIRST CLOSED-IN	40	21.1			
D	FINAL FIRST CLOSED-IN	310	296.8	32.0	30.4	C
E	INITIAL SECOND FLOW	40	25.1			
F	FINAL SECOND FLOW	54	29.7	60.0	60.5	F
F	INITIAL SECOND CLOSED-IN	54	29.7			
G	FINAL SECOND CLOSED-IN	620	628.2	120.0	119.9	C
H	FINAL HYDROSTATIC	2358	2391.6			



231773.6039

GAUGE NO: 6039 DEPTH: 5194.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2396	2426.9			
B	INITIAL FIRST FLOW	26	47.7			
C	FINAL FIRST FLOW	26	47.0	10.0	11.2	F
C	INITIAL FIRST CLOSED-IN	26	47.0			
D	FINAL FIRST CLOSED-IN	295	318.9	32.0	30.4	C
E	INITIAL SECOND FLOW	26	44.6			
F	FINAL SECOND FLOW	40	56.4	60.0	60.5	F
F	INITIAL SECOND CLOSED-IN	40	56.4			
G	FINAL SECOND CLOSED-IN	603	641.6	120.0	119.9	C
H	FINAL HYDROSTATIC	2369	2412.6			

EQUIPMENT & HOLE DATA

FORMATION TESTED: HONACA TRAIL
 NET PAY (ft): 18.0
 GROSS TESTED FOOTAGE: 31.0
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 8.750
 ELEVATION (ft): 6511.0 GROUND LEVEL
 TOTAL DEPTH (ft): 5197.0
 PACKER DEPTH(S) (ft): 5160, 5166
 FINAL SURFACE CHOKE (in): _____
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 8.80
 MUD VISCOSITY (sec): 39
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 115 @ 5193.0 ft

TICKET NUMBER: 23177300
 DATE: 01-06-86 TEST NO: 1
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP: FARMINGTON
 TESTER: DAN AULD
 WITNESS: _____
 DRILLING CONTRACTOR: VECO RIG #5

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>MUD PIT</u>	<u>2.120 @ 30 °F</u>	<u>1242 ppm</u>
<u>TOP OF FLUID (D.P.)</u>	<u>2.700 @ 58 °F</u>	<u>606 ppm</u>
<u>SAMPLER</u>	<u>1.800 @ 55 °F</u>	<u>909 ppm</u>
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: 20.0
 cu.ft. OF GAS: 0.142
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: 700.0
 TOTAL LIQUID cc: 700.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F
 GAS/OIL RATIO (cu.ft. per bbl): _____
 GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

80 FEET OF GAS CUT MUD

MEASURED FROM
TESTER VALVE

REMARKS:

TICKET NO: 23177300
 CLOCK NO: 9756 HOUR: 24



GAUGE NO: 6040
 DEPTH: 5145.0

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	21.8			
C 2	11.2	21.1	-0.7		
FIRST CLOSED-IN					
C 1	0.0	21.1			
2	3.0	81.8	60.7	2.4	0.674
3	6.0	109.9	88.8	3.9	0.458
4	9.0	138.8	117.7	5.0	0.351
5	12.0	164.9	143.8	5.8	0.286
6	15.0	189.6	168.5	6.4	0.243
7	18.0	214.3	193.3	6.9	0.211
8	21.0	237.9	216.8	7.3	0.186
9	24.0	262.2	241.1	7.7	0.167
10	27.0	284.6	263.5	7.9	0.151
D 11	30.4	296.8	275.7	8.2	0.136
SECOND FLOW					
E 1	0.0	25.1			
F 2	60.5	29.7	4.6		
SECOND CLOSED-IN					
F 1	0.0	29.7			
2	10.0	73.7	43.9	8.8	0.913
3	20.0	121.5	91.8	15.7	0.661
4	30.0	167.2	137.4	21.1	0.530
5	40.0	205.6	175.8	25.7	0.446
6	50.0	241.6	211.9	29.5	0.386
7	60.0	278.0	248.3	32.7	0.342
8	70.0	321.5	291.8	35.4	0.306
9	80.0	371.0	341.2	37.8	0.278
10	90.0	428.5	398.8	39.9	0.254
11	100.0	490.4	460.7	41.8	0.235
12	110.0	561.4	531.7	43.4	0.218
G 13	119.9	628.2	598.5	44.9	0.204

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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REMARKS:

TICKET NO: 23177300
 CLOCK NO: 13840 HOUR: 24



GAUGE NO: 6039
 DEPTH: 5194.0

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	47.7			
C 2	11.2	47.0	-0.7		
FIRST CLOSED-IN					
C 1	0.0	47.0			
2	3.0	79.0	32.0	2.4	0.676
3	6.0	113.4	66.4	3.9	0.457
4	9.0	144.2	97.2	5.0	0.351
5	12.0	171.1	124.1	5.8	0.286
6	15.0	197.3	150.3	6.4	0.242
7	18.0	223.8	176.8	6.9	0.210
8	21.0	246.1	199.1	7.3	0.186
9	24.0	271.3	224.3	7.7	0.167
10	27.0	294.4	247.4	7.9	0.151
D 11	30.4	318.9	271.9	8.2	0.136
SECOND FLOW					
E 1	0.0	44.6			
F 2	60.5	56.4	11.8		
SECOND CLOSED-IN					
F 1	0.0	56.4			
2	10.0	101.7	45.3	8.8	0.912
3	20.0	149.0	92.6	15.6	0.662
4	30.0	191.8	135.4	21.2	0.530
5	40.0	228.1	171.7	25.7	0.446
6	50.0	264.5	208.1	29.5	0.386
7	60.0	302.0	245.6	32.7	0.341
8	70.0	342.4	286.0	35.4	0.306
9	80.0	390.2	333.8	37.8	0.278
10	90.0	442.9	386.5	39.9	0.254
11	100.0	504.1	447.7	41.8	0.235
12	110.0	571.9	515.5	43.4	0.218
G 13	119.9	641.6	585.2	44.9	0.204

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
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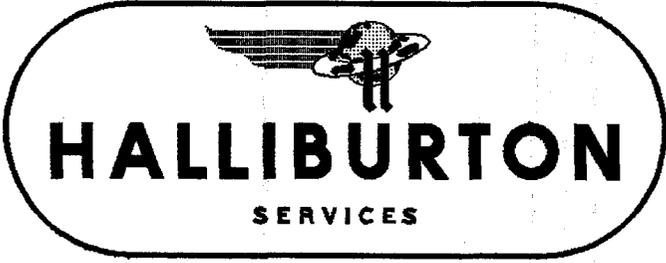
REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4547.0	
3		DRILL COLLARS.....	6.250	2.500	491.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	5039.0
3		DRILL COLLARS.....	6.250	2.500	92.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.750	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	5143.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	5145.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	5160.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	5166.0
20		FLUSH JOINT ANCHOR.....	5.750	2.500	25.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	5194.0
TOTAL DEPTH						5197.0

EQUIPMENT DATA

SOUTH EAST BAG 1-21 2 6109.0 - 6120.0 MARRATHON OIL COMPANY
LEASE NAME WELL NO. TEST NO. TESTED INTERVAL LEASE OWNER/COMPANY NAME

LEGAL LOCATION 21-365-26E FIELD AREA WILDCAT COUNTY SAN JUAN STATE UTAH BG
SEC. - TYP. - RING.



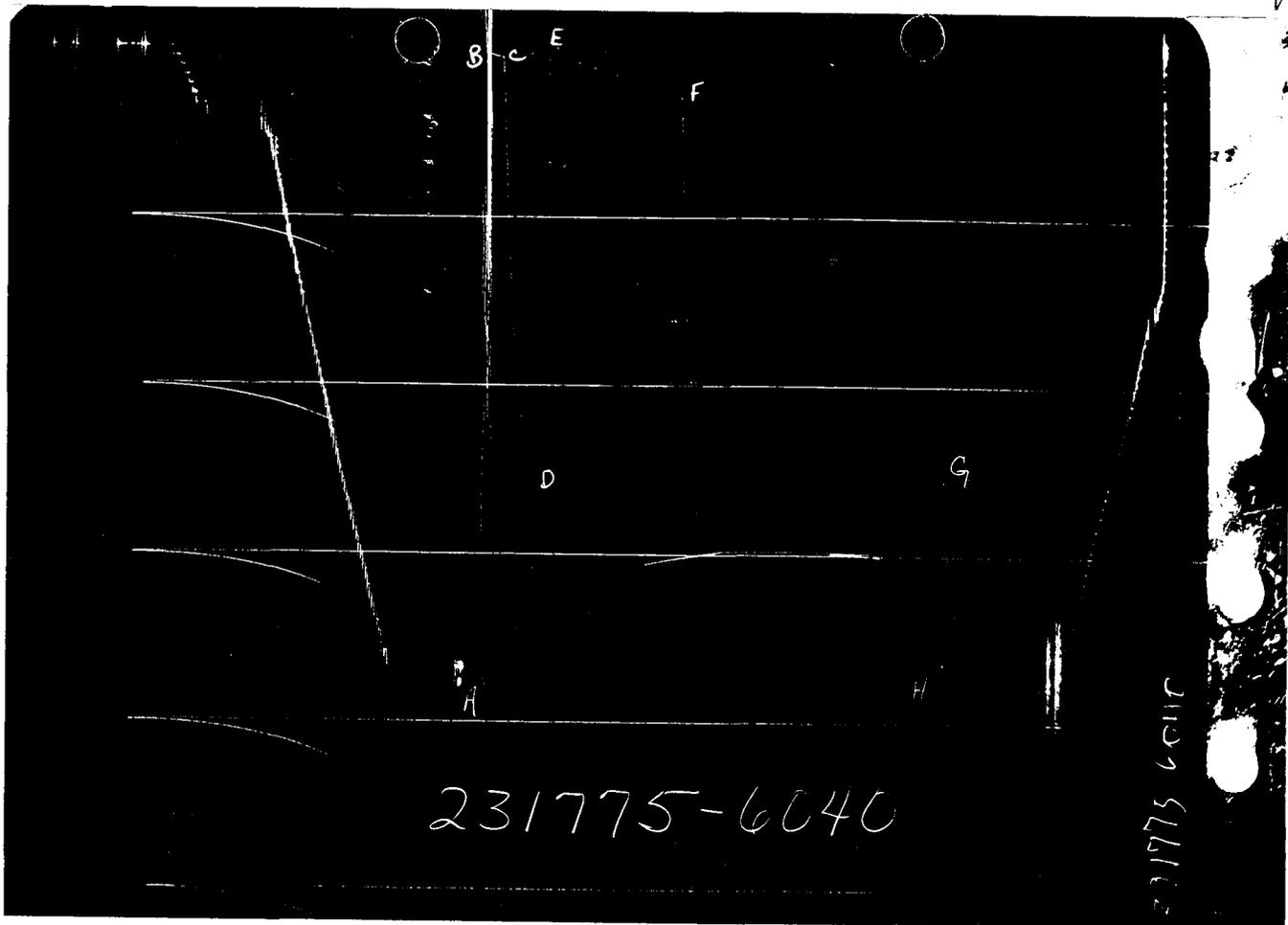
TICKET NO. 23177500
20-JAN-86
FARMINGTON

RECEIVED

JAN 27 1986

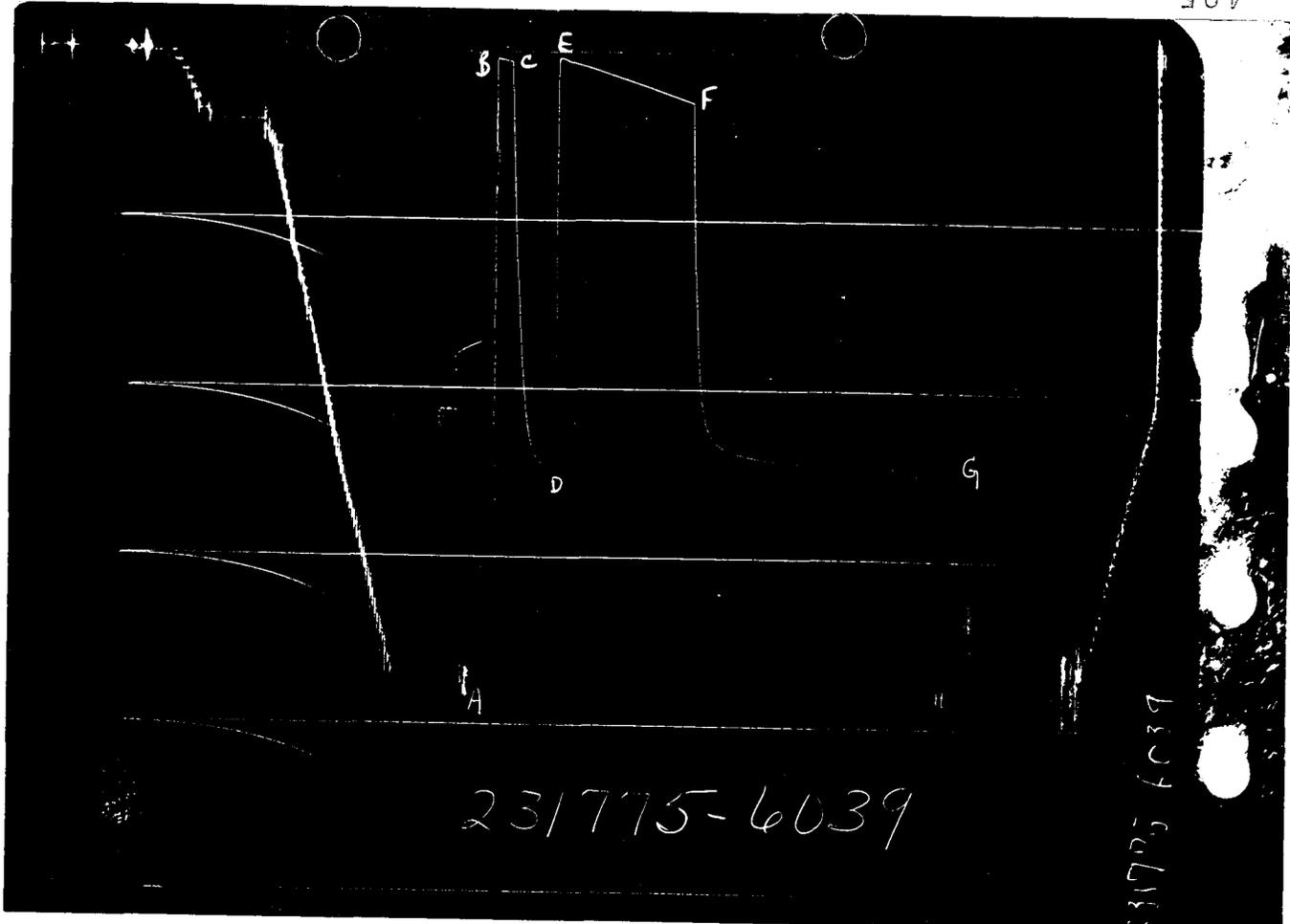
DIVISION OF OIL
& GAS & MINING

FORMATION TESTING SERVICE REPORT



GAUGE NO: 6040 DEPTH: 6088.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3767	3716.0			
B	INITIAL FIRST FLOW	27	20.0			
C	FINAL FIRST FLOW	68	50.4	10.0	9.8	F
C	INITIAL FIRST CLOSED-IN	68	50.4			
D	FINAL FIRST CLOSED-IN	2466	2459.4	30.0	30.2	C
E	INITIAL SECOND FLOW	41	31.1			
F	FINAL SECOND FLOW	311	288.2	85.0	88.3	F
F	INITIAL SECOND CLOSED-IN	311	288.2			
G	FINAL SECOND CLOSED-IN	2466	2450.6	170.0	174.4	C
H	FINAL HYDROSTATIC	3726	3710.8			



GAUGE NO: 6039 DEPTH: 6117.0 BLANKED OFF: YES HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	3763	3733.7			
B	INITIAL FIRST FLOW	40	39.6			
C	FINAL FIRST FLOW	67	57.0	10.0	9.8	F
C	INITIAL FIRST CLOSED-IN	67	57.0			
D	FINAL FIRST CLOSED-IN	2464	2464.6	30.0	30.2	C
E	INITIAL SECOND FLOW	40	34.8			
F	FINAL SECOND FLOW	295	293.7	85.0	88.3	F
F	INITIAL SECOND CLOSED-IN	295	293.7			
G	FINAL SECOND CLOSED-IN	2464	2454.7	170.0	174.4	C
H	FINAL HYDROSTATIC	3736	3730.4			

EQUIPMENT & HOLE DATA

FORMATION TESTED: LOWER ISMAY
 NET PAY (ft): 7.0
 GROSS TESTED FOOTAGE: 11.0
 ALL DEPTHS MEASURED FROM: KB
 CASING PERFS. (ft): 6'
 HOLE OR CASING SIZE (in): 8.750
 ELEVATION (ft): 6525.0
 TOTAL DEPTH (ft): 6120.0
 PACKER DEPTH(S) (ft): 6103. 6109
 FINAL SURFACE CHOKE (in): 0.12500
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 11.40
 MUD VISCOSITY (sec): 48
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 126 @ 6116.0 ft

TICKET NUMBER: 23177500
 DATE: 1-13-86 TEST NO: 2
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP: FARMINGTON
 TESTER: D. AULD
 WITNESS: MR. BARTO
 DRILLING CONTRACTOR: VECO #5

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>0.083 @ 46 °F</u>	<u>_____ ppm</u>
<u>TOP</u>	<u>0.103 @ 58 °F</u>	<u>_____ ppm</u>
<u>SAMPLER</u>	<u>0.060 @ 58 °F</u>	<u>_____ ppm</u>
_____	<u>_____ @ _____ °F</u>	<u>_____ ppm</u>
_____	<u>_____ @ _____ °F</u>	<u>_____ ppm</u>
_____	<u>_____ @ _____ °F</u>	<u>_____ ppm</u>

SAMPLER DATA

Pstg AT SURFACE: 145.0
 cu.ft. OF GAS: 0.944
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: 550.0
 TOTAL LIQUID cc: 550.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F
 GAS/OIL RATIO (cu.ft. per bbl): _____
 GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

ONE BARREL OF GAS CUT MUD

MEASURED FROM
TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE:		CHOKE NIPPLE			TICKET NO: 23177500
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
1-12-86					
2332					ON LOCATION
1-13-86					
0420					PICKED UP TOOL
0455					TOOL TRIPPING IN HOLE
0833	BH	2 OZ			OPENED TOOL
0834		4 OZ			
0835		6 OZ			
0836		8 OZ			
0837		13 OZ			
0838		21 OZ			
0839		30 OZ			
0840		3.5#			
0841		4.5#			
0842		5#			
0843		6#			CLOSED TOOL
0913		12 OZ			OPENED TOOL
0914		15.5#			
0915		17.5#			
0916		19#			
0917		20.75#			
0918		22.5#			
0923		30#			GAS TO SURFACE
0928		39#			
0933	.125	48#			OPENED CHOKE
0938		59#			
0943		67#			
0948		79#			
0953		90#			
0958		103#			
1003		114#			
1008		127#			
1013		140#			
1018		142#			
1023		142#			
1028		142#			
1033		142#			

TICKET NO: 23177500
 CLOCK NO: 14121 HOUR: 12



GAUGE NO: 6040
 DEPTH: 6088.0

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B 1	0.0	20.0			
2	2.0	31.5	11.5		
3	4.0	38.6	7.2		
4	6.0	44.3	5.7		
5	8.0	48.0	3.6		
C 6	9.8	50.4	2.4		
FIRST CLOSED-IN					
C 1	0.0	50.4			
2	1.0	290.9	240.6	0.9	1.049
3	2.0	529.9	479.5	1.6	0.777
4	3.0	788.5	738.1	2.3	0.627
5	4.0	1018.5	968.1	2.8	0.538
6	5.0	1243.7	1193.4	3.3	0.469
7	6.0	1419.6	1369.2	3.7	0.420
8	7.0	1590.8	1540.4	4.1	0.379
9	8.0	1736.2	1685.8	4.4	0.346
10	9.0	1862.4	1812.0	4.7	0.320
11	10.0	1983.2	1932.8	4.9	0.296
12	12.0	2159.3	2108.9	5.4	0.259
13	14.0	2275.6	2225.2	5.8	0.230
14	16.0	2342.5	2292.1	6.1	0.207
15	18.0	2386.4	2336.0	6.3	0.188
16	20.0	2414.0	2363.6	6.6	0.173
17	22.0	2431.8	2381.4	6.8	0.159
18	24.0	2443.1	2392.8	6.9	0.148
19	26.0	2451.3	2400.9	7.1	0.138
20	28.0	2456.5	2406.1	7.2	0.130
D 21	30.2	2459.4	2409.0	7.4	0.122
SECOND FLOW					
E 1	0.0	31.1			
2	4.0	38.3	7.2		
3	8.0	53.5	15.3		
4	12.0	64.2	10.7		
5	16.0	73.9	9.7		
6	20.0	82.9	8.9		
7	24.0	94.7	11.9		
8	28.0	106.1	11.4		
9	32.0	118.8	12.7		
10	36.0	130.3	11.5		
11	40.0	141.6	11.4		
12	44.0	153.8	12.2		
13	48.0	165.0	11.2		
14	52.0	176.7	11.6		
15	56.0	189.4	12.7		
16	60.0	201.0	11.6		
17	64.0	214.5	13.5		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND FLOW - CONTINUED					
18	68.0	226.1	11.6		
19	72.0	239.2	13.1		
20	76.0	251.7	12.4		
21	80.0	263.4	11.8		
22	84.0	276.0	12.6		
F 23	88.3	288.2	12.2		
SECOND CLOSED-IN					
F 1	0.0	288.2			
2	1.0	653.8	365.7	0.9	2.017
3	2.0	1007.9	719.8	1.9	1.707
4	3.0	1308.5	1020.4	2.9	1.526
5	4.0	1549.5	1261.4	3.8	1.408
6	5.0	1731.8	1443.6	4.8	1.310
7	6.0	1880.0	1591.9	5.7	1.236
8	7.0	1982.3	1694.2	6.5	1.176
9	8.0	2064.7	1776.6	7.4	1.123
10	9.0	2120.4	1832.2	8.3	1.074
11	10.0	2161.4	1873.2	9.0	1.035
12	12.0	2223.5	1935.4	10.7	0.962
13	14.0	2260.8	1972.7	12.3	0.902
14	16.0	2286.4	1998.2	13.8	0.852
15	18.0	2304.6	2016.5	15.2	0.809
16	20.0	2319.3	2031.2	16.6	0.770
17	22.0	2330.8	2042.7	18.0	0.737
18	24.0	2340.3	2052.1	19.3	0.706
19	26.0	2347.3	2059.2	20.5	0.679
20	28.0	2354.1	2065.9	21.8	0.653
21	30.0	2360.2	2072.0	23.0	0.630
22	35.0	2371.9	2083.8	25.8	0.580
23	40.0	2381.9	2093.8	28.4	0.538
24	45.0	2389.6	2101.5	30.8	0.503
25	50.0	2396.5	2108.4	33.1	0.471
26	55.0	2401.9	2113.8	35.2	0.444
27	60.0	2407.2	2119.0	37.2	0.421
28	70.0	2414.9	2126.7	40.8	0.380
29	80.0	2421.5	2133.4	44.1	0.347
30	90.0	2426.9	2138.8	46.9	0.320
31	100.0	2431.0	2142.8	49.5	0.297
32	110.0	2434.4	2146.2	51.8	0.277
33	120.0	2438.3	2150.1	54.0	0.259
34	135.0	2441.8	2153.6	56.8	0.237
35	150.0	2445.6	2157.4	59.3	0.218
36	165.0	2448.4	2160.3	61.5	0.203
G 37	174.4	2450.6	2162.4	62.8	0.194

REMARKS:

TICKET NO: 23177500

CLOCK NO: 10445 HOUR: 12



GAUGE NO: 6039

DEPTH: 6117.0

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
FIRST FLOW					
B	1	0.0	39.6		
	2	2.0	44.3	4.7	
	3	4.0	47.2	2.9	
	4	6.0	51.8	4.6	
	5	8.0	54.2	2.4	
C	6	9.8	57.0	2.8	
FIRST CLOSED-IN					
C	1	0.0	57.0		
	2	1.0	322.1	265.1	0.9 1.045
	3	2.0	600.5	543.5	1.6 0.773
	4	3.0	877.9	820.9	2.3 0.631
	5	4.0	1109.1	1052.1	2.8 0.536
	6	5.0	1297.3	1240.3	3.3 0.471
	7	6.0	1513.6	1456.6	3.7 0.421
	8	7.0	1675.5	1618.5	4.1 0.381
	9	8.0	1828.1	1771.1	4.4 0.345
	10	9.0	1943.1	1886.1	4.7 0.320
	11	10.0	2052.9	1996.0	4.9 0.296
	12	12.0	2209.9	2152.9	5.4 0.258
	13	14.0	2306.9	2249.9	5.8 0.230
	14	16.0	2364.4	2307.4	6.1 0.207
	15	18.0	2400.3	2343.3	6.3 0.188
	16	20.0	2423.7	2366.7	6.6 0.173
<input checked="" type="checkbox"/>	17	21.7	2437.1	2380.1	6.7 0.161
	18	22.0	2449.0	2392.0	6.8 0.160
	19	24.0	2451.1	2394.1	6.9 0.148
	20	26.0	2455.9	2398.9	7.1 0.139
	21	28.0	2461.3	2404.3	7.2 0.130
D	22	30.2	2464.6	2407.6	7.4 0.122
SECOND FLOW					
E	1	0.0	34.8		
	2	4.0	40.2	5.4	
	3	8.0	57.1	16.9	
	4	12.0	68.5	11.4	
	5	16.0	77.9	9.4	
	6	20.0	87.4	9.5	
	7	24.0	98.6	11.3	
	8	28.0	110.4	11.8	
	9	32.0	122.8	12.3	
	10	36.0	134.7	11.9	
	11	40.0	146.4	11.7	
	12	44.0	158.3	11.9	
	13	48.0	170.0	11.7	
	14	52.0	182.4	12.5	
	15	56.0	194.4	11.9	

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND FLOW - CONTINUED					
	16	60.0	206.0	11.7	
	17	64.0	219.7	13.7	
	18	68.0	232.2	12.5	
	19	72.0	244.1	11.9	
	20	76.0	257.0	12.9	
	21	80.0	269.2	12.2	
	22	84.0	281.1	11.9	
F	23	88.3	293.7	12.6	
SECOND CLOSED-IN					
F	1	0.0	293.7		
	2	1.0	729.3	435.6	1.0 1.990
	3	2.0	1120.4	826.7	2.0 1.697
	4	3.0	1413.6	1119.9	2.9 1.528
	5	4.0	1649.4	1355.7	3.8 1.411
	6	5.0	1829.0	1535.2	4.8 1.311
	7	6.0	1945.3	1651.6	5.6 1.242
	8	7.0	2042.6	1748.9	6.6 1.175
	9	8.0	2103.9	1810.2	7.4 1.122
	10	9.0	2155.0	1861.3	8.3 1.075
	11	10.0	2193.8	1900.1	9.0 1.035
	12	12.0	2243.7	1950.0	10.7 0.962
	13	14.0	2277.5	1983.8	12.3 0.902
	14	16.0	2298.4	2004.7	13.8 0.852
	15	18.0	2314.6	2020.9	15.2 0.809
	16	20.0	2328.3	2034.6	16.6 0.770
	17	22.0	2338.8	2045.1	18.0 0.736
	18	24.0	2347.5	2053.8	19.3 0.706
	19	26.0	2354.5	2060.8	20.6 0.679
	20	28.0	2361.1	2067.4	21.8 0.654
	21	30.0	2368.0	2074.3	23.0 0.630
	22	35.0	2379.5	2085.8	25.8 0.580
	23	40.0	2388.4	2094.7	28.4 0.538
	24	45.0	2397.0	2103.3	30.9 0.502
	25	50.0	2402.5	2108.8	33.1 0.471
	26	55.0	2408.0	2114.3	35.2 0.444
	27	60.0	2413.2	2119.5	37.2 0.421
	28	70.0	2420.7	2127.0	40.8 0.380
	29	80.0	2426.3	2132.6	44.1 0.347
	30	90.0	2431.7	2138.0	46.9 0.320
	31	100.0	2436.2	2142.4	49.5 0.297
	32	110.0	2439.1	2145.4	51.8 0.277
	33	120.0	2442.9	2149.2	54.0 0.259
	34	135.0	2446.4	2152.7	56.8 0.237
	35	150.0	2449.8	2156.1	59.3 0.218
	36	165.0	2453.0	2159.3	61.5 0.203
G	37	174.4	2454.7	2161.0	62.8 0.194

LEGEND:

STAIR-STEP

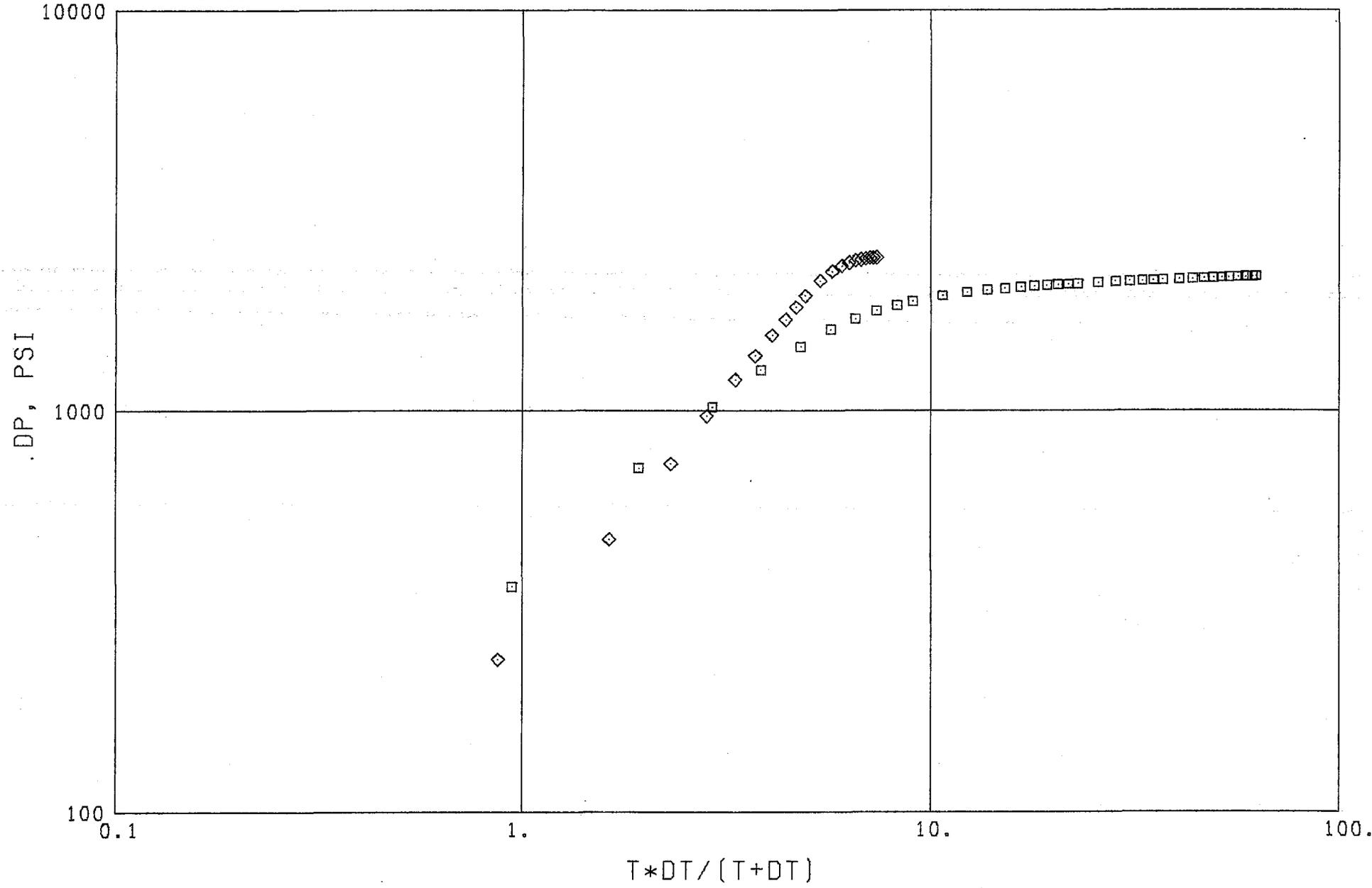
REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5487.0	
3		DRILL COLLARS.....	6.250	2.500	494.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	5982.0
3		DRILL COLLARS.....	6.250	2.500	92.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.870	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	6086.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	6088.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6103.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6109.0
20		FLUSH JOINT ANCHOR.....	5.750	2.500	5.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	6117.0
TOTAL DEPTH						6120.0

EQUIPMENT DATA

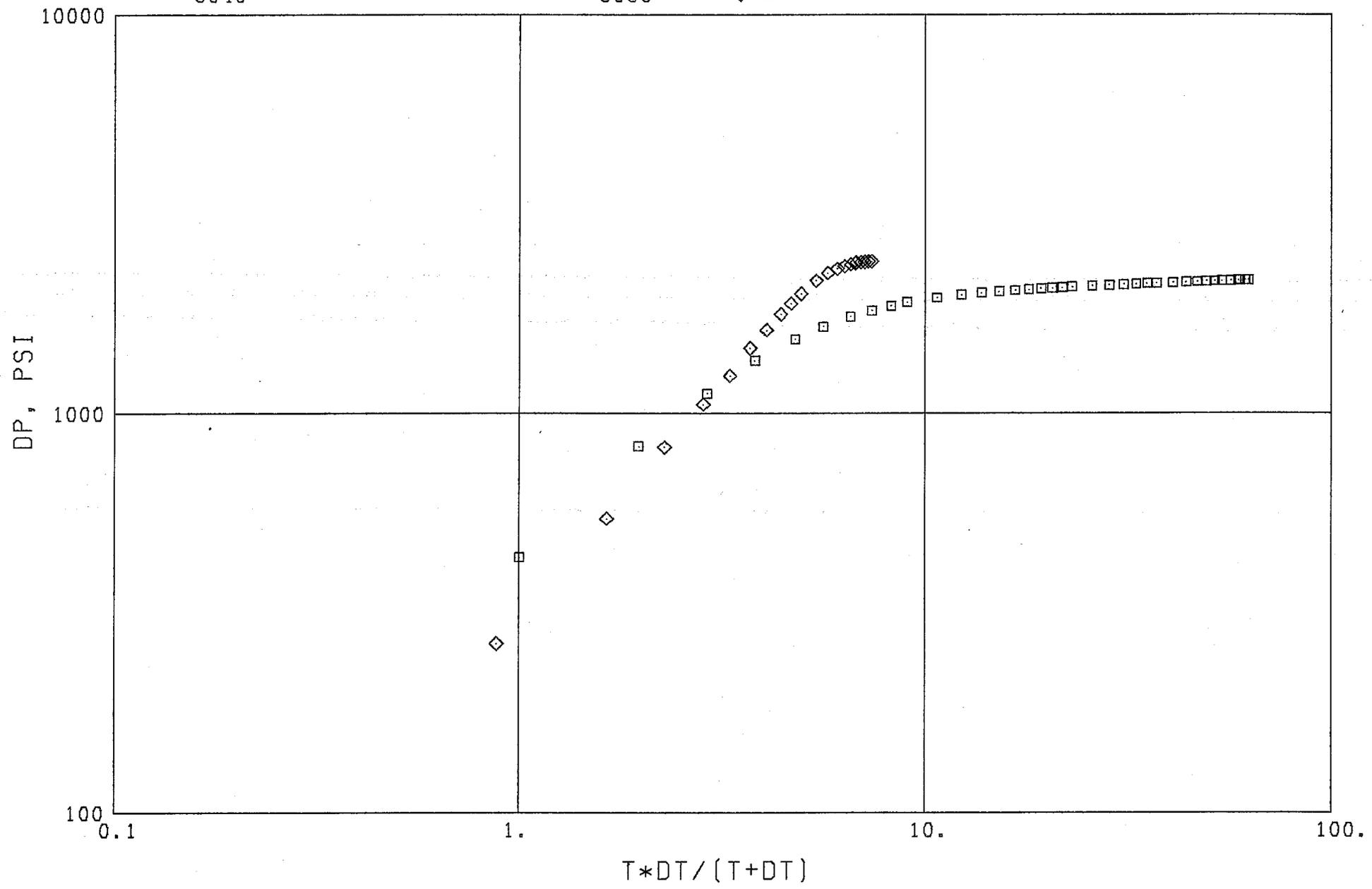
GAUGE NO CIP 1 2
6040 ◇ □

GAUGE NO CIP 1 2
6039 ◇ □



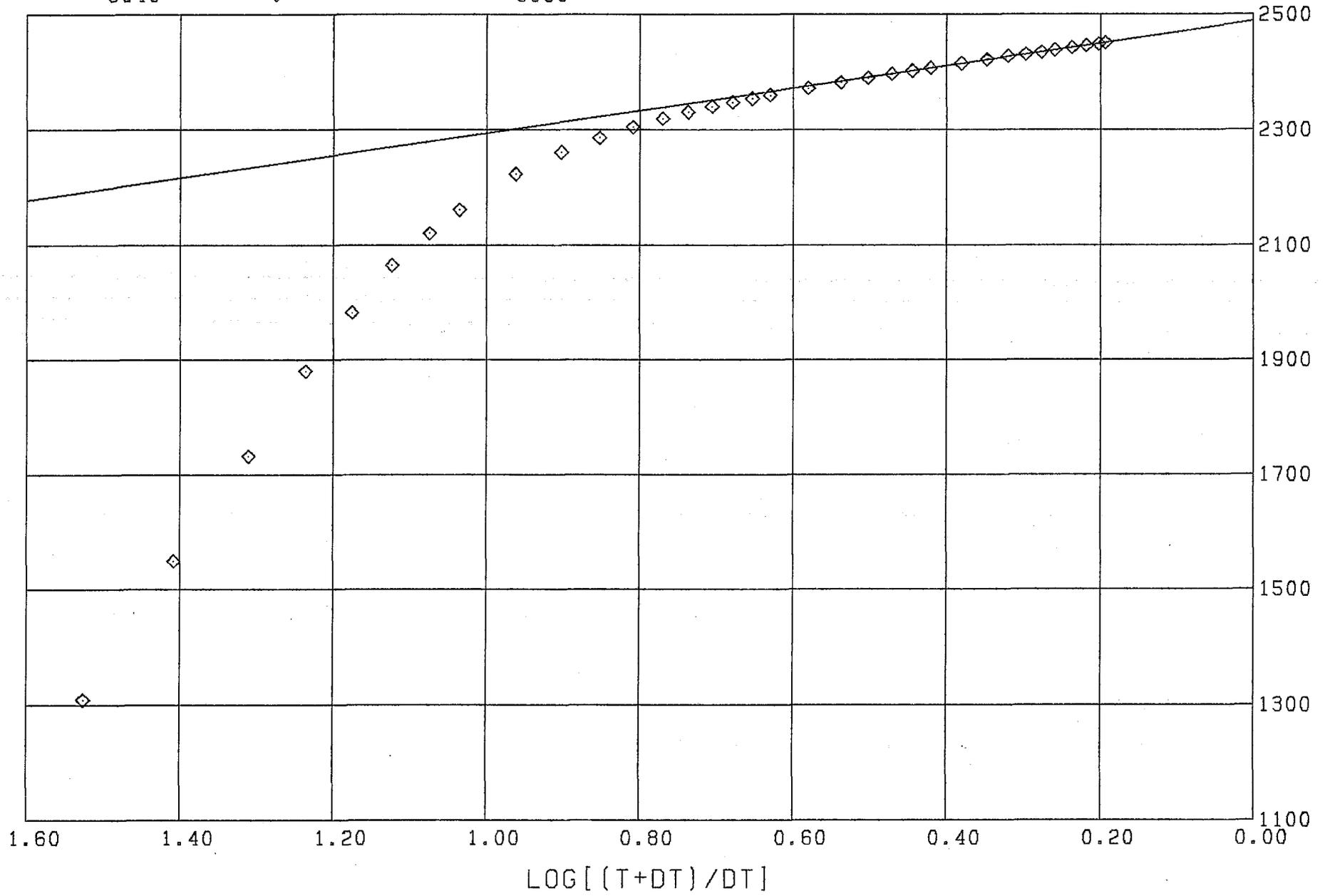
GAUGE NO CIP 1 2
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GAUGE NO CIP 1 2
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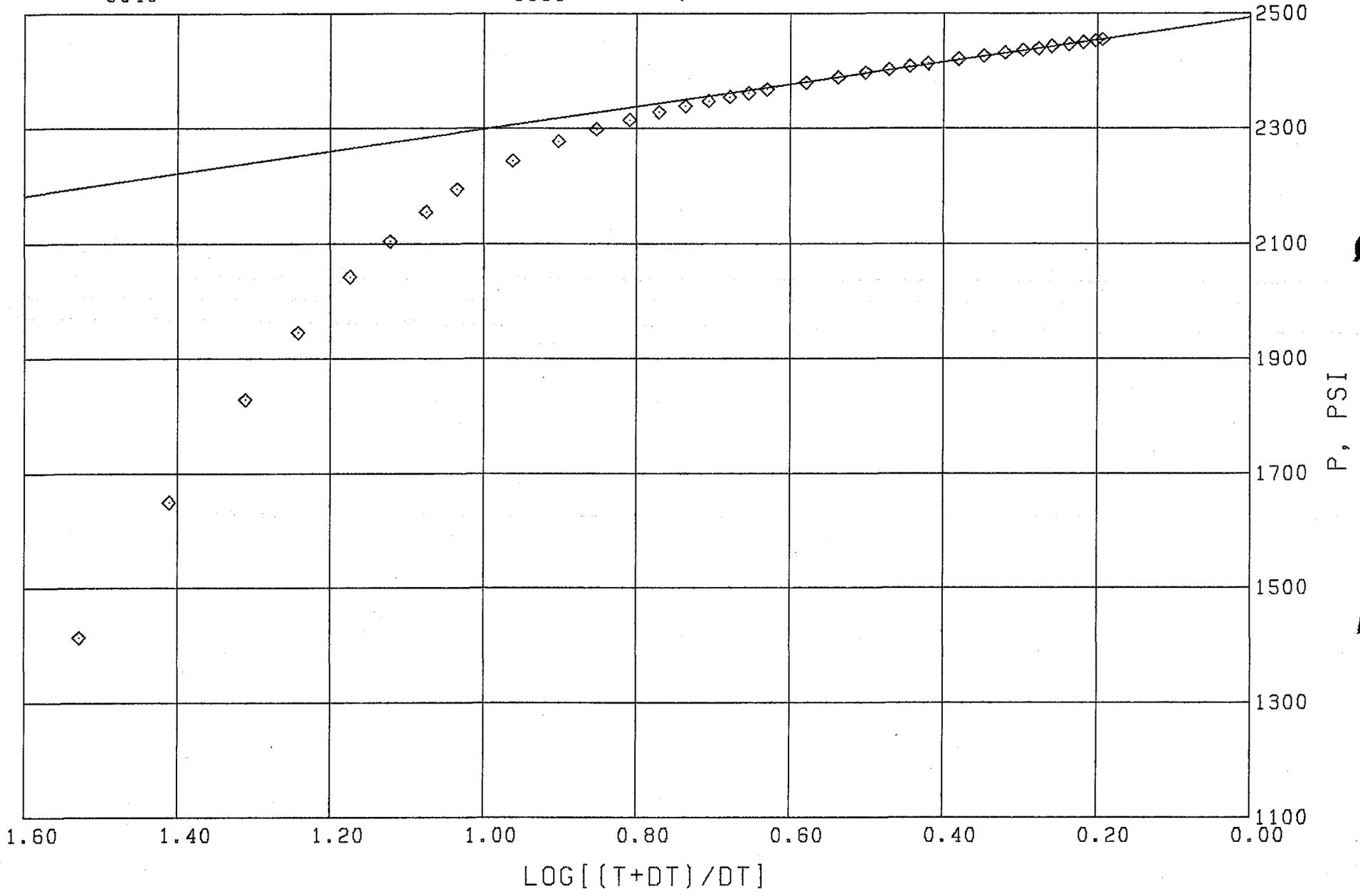
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GAUGE NO CIP 1 2
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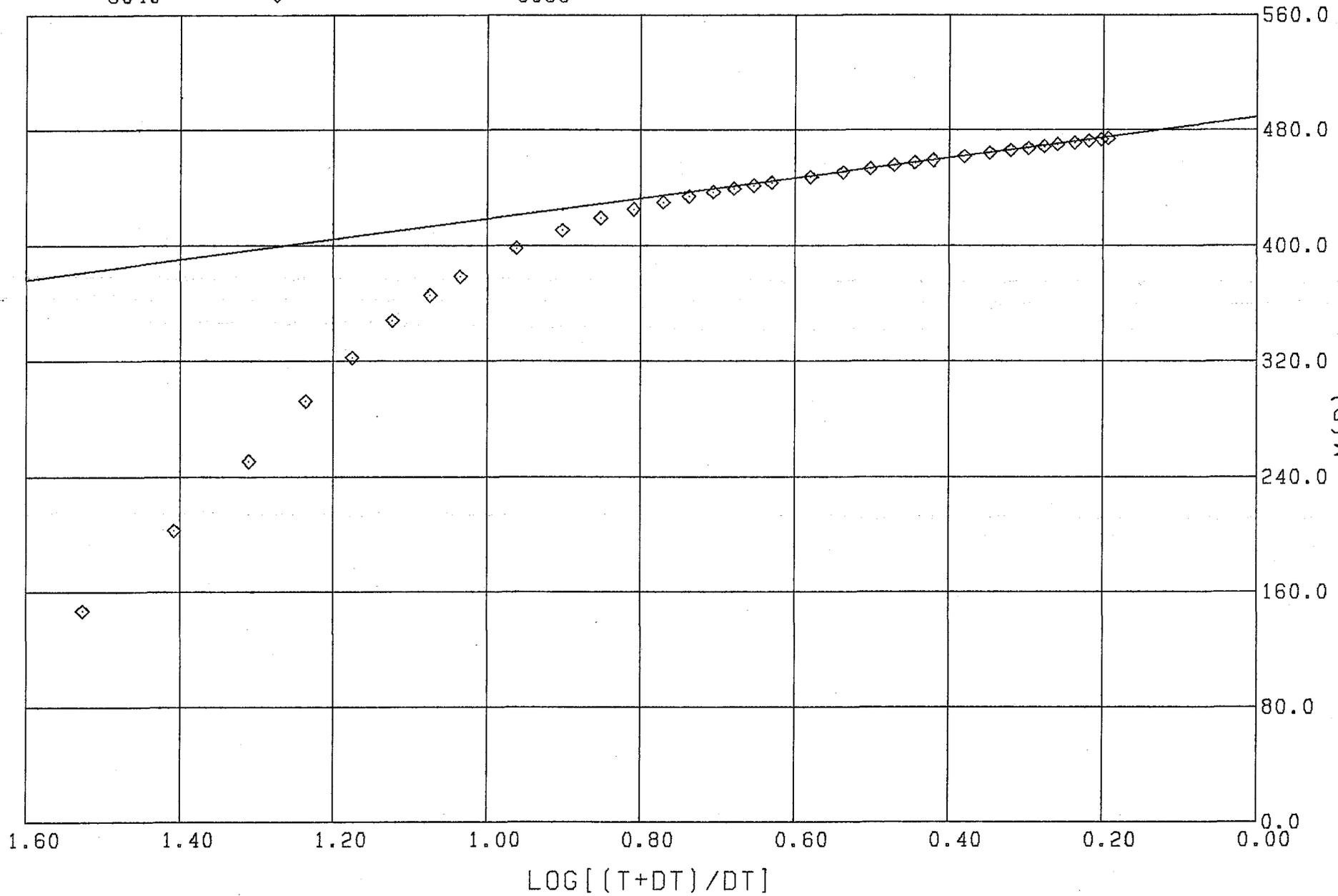
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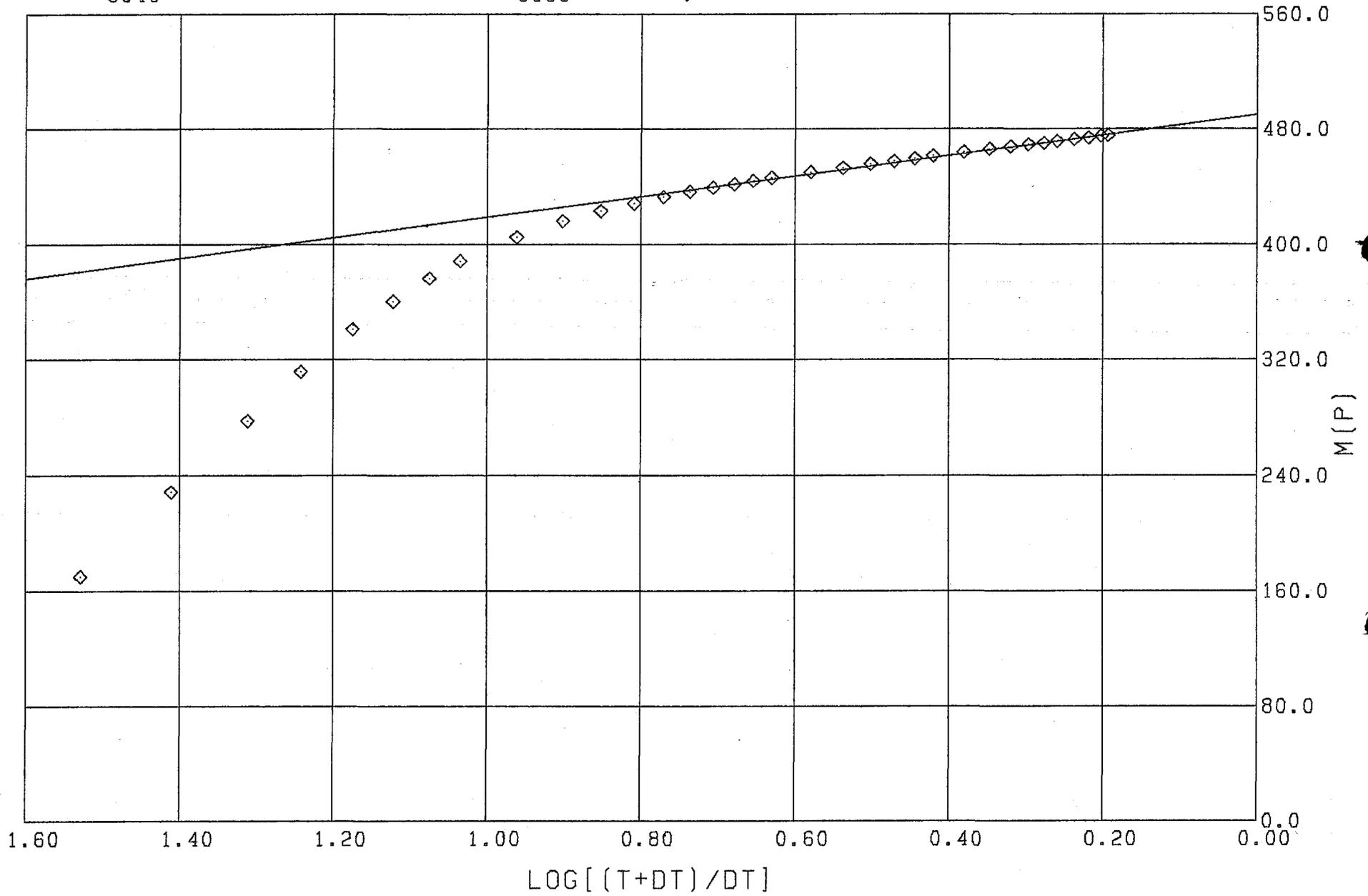
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GAUGE NO CIP 1 2
6040

GAUGE NO CIP 1 2
6039 \diamond



SUMMARY OF RESERVOIR PARAMETERS USING HORNER METHOD FOR GAS WELLS

GAS GRAVITY _____	0.600	TEMPERATURE _____	126.0	°F
NET PAY _____	7.0 ft	POROSITY _____	10.0	%
RADIUS OF WELL BORE _____	0.365 ft	VISCOSITY _____	0.017	cp
GAS DEVIATION FACTOR _____	0.845	GAS PROPERTIES AT _____	2495.9	psig
SYSTEM COMPRESSIBILITY _____ 318.89×10^{-6} vol/vol/psf				

Gauge Number	6040	6039					
Gauge Depth	6088.0	6117.0					
Flow and CIP Period	2	2					UNITS
Final Flow Pressure	288.2	293.7					psig
Total Flow Time	98.0	98.0					min
Calc. Static Pressure P^*	2493.2	2495.9					psig
Extrapolated Pressure $m(P^*)$	489.1	490.0					$\frac{m\text{psi}^2}{\text{cp}}$
One Cycle Pressure $m(P_{10})$	418.5	418.8					$\frac{m\text{psi}^2}{\text{cp}}$
Production Rate Q	54.4	54.4					MCFD
Flow Capacity kh	0.73934	0.73328					md-ft
Permeability k	0.10562	0.10475					md
Skin Factor S	4.2	4.2					
Damage Ratio DR	2.2	2.2					
Indicated Rate Max AOF_1	55.3	55.3					MCFD
Indicated Rate Min AOF_2	54.9	54.9					MCFD
Theoretical Rate $DR \times AOF_1$	119.9	119.3					MCFD
Theoretical Rate $DR \times AOF_2$	118.9	118.3					MCFD
Radius of Investigation r_t	18.0	18.0					ft

REMARKS: ANALYSIS IS FOR GAS PRODUCTION BASED ON THE FINAL REPORTED RATE THRU THE SURFACE CHOKE. THE RATE MAY BE SOMEWHAT QUESTIONABLE AS THE DOWN HOLE FLOWING PRESSURE WAS NOT STABILIZED PRIOR TO CLOSING THE TOOL FOR THE FINAL CLOSED-IN PERIOD. THEREFORE, THE CALCULATED PARAMETERS MAY LIKEWISE BE SOMEWHAT QUESTIONABLE.

NOTICE: THESE CALCULATIONS ARE BASED UPON INFORMATION FURNISHED BY YOU AND TAKEN FROM DRILL STEM PRESSURE CHARTS, AND ARE FURNISHED TO 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.

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

b. TYPE OF COMPLETION:
NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other Plug & Abandoned

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P.O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface NE SW 1980' FSL & 1780' FWL
At top prod. interval reported below
At total depth

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DIVISION OF OIL
GAS & MINING

14. PERMIT NO. 43-037-31231- | DATE ISSUED 12-9-85

5. LEASE DESIGNATION AND SERIAL NO.
U-43653

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
South East Bug

9. WELL NO.
1-21

10. FIELD AND POOL, OR WILDCAT
Wildcat Undesignated

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec. 21, T36S, R26E

12. COUNTY OR PARISH San Juan | 13. STATE Utah

15. DATE SPUNDED 12-22-85 | 16. DATE T.D. REACHED 1-20-86 | 17. DATE COMPL. (Ready to prod.) Plugged 1-22-86 | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6524' KB | 19. ELEV. CASINGHEAD 6512'

20. TOTAL DEPTH, MD & TVD 6655' | 21. PLUG, BACK T.D., MD & TVD Surface | 22. IF MULTIPLE COMPL., HOW MANY* Plugged | 23. INTERVALS DRILLED BY 0 → | ROTARY TOOLS 6655' | CABLE TOOLS -----

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
Plugged and Abandoned | 25. WAS DIRECTIONAL SURVEY MADE Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN See Attachment | 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
9-5/8"	36	1901'	12-1/4	740 sx	None

29. LINER RECORD | 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)
Plugged and Abandoned

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.
DEPTH INTERVAL (MD) | AMOUNT AND KIND OF MATERIAL USED

33.* PRODUCTION

DATE FIRST PRODUCTION Plugged | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) | WELL STATUS (Producing or shut-in) Plugged

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) | TEST WITNESSED BY 862018

35. LIST OF ATTACHMENTS
Logging Record, Well Bore Diagram, Deviation Record, Drill Stem Tests, Core Interval

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Dayle L Jones TITLE District Production Manager DATE January 24, 1986

*(See Instructions and Spaces for Additional Data on Reverse Side)

Deviation Surveys

<u>Depth</u>	<u>Angle</u>		<u>Depth</u>	<u>Angle</u>
132	1/4°		2065	1°
229	1/4°		2443	1/2°
384	1/2°		2847	3/4°
596	1°		3252	1°
874	1°		3051	1°
1093	1/2°		3252	1°
1310	1°		3959	3/4°
1435	1-1/4°		4359	1°
1560	1-1/2°		4757	1-1/4°
1685	2-1/4°		5197	3/4°
1784	1-1/2°		5503	3/4°
1842	1-1/4°		5912	1°
1911	1-3/4°	TD	6055	

Core

Core #1 From 6204' to 6264' recovered 60'

Logs

<u>Company</u>	<u>Date</u>	<u>Type</u>	<u>From</u>	<u>To</u>
Schlumberger	1-20-86	CNL-FDT-NGT-CAL ✓	6631	1900
Schlumberger	1-20-86	DLL-MSFL-GR ✓	6638	1900
Schlumberger	1-21-86	Sonic ✓	6643	1900
Schlumberger	1-21-86	Dipmeter	6350	4250
Schlumberger	1-21-86	Checkshot	6650	270
		Cyberlook ✓		
		NARS ✓		
		WF/VDL ✓		
		Mud ✓		

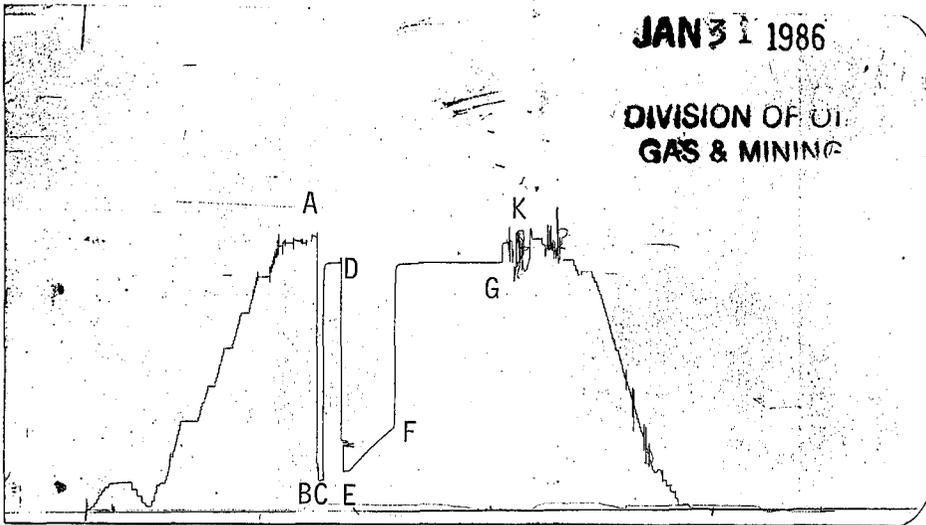
Contractor <u>Veco</u>	Top Choke <u>1"</u>	Flow No. 1 <u>8</u> Min.
Rig No. <u>5</u>	Bottom Choke <u>3/4"</u>	Shut-in No. 1 <u>30</u> Min.
Spot <u>NE/SW</u>	Size Hole <u>8 3/4"</u>	Flow No. 2 <u>89</u> Min.
Sec. <u>21</u>	Size Rat Hole <u>--</u>	Shut-in No. 2 <u>180</u> Min.
Twp. <u>36S</u>	Size & Wt. D. P. <u>4 1/2" XH 16.60#</u>	Flow No. 3 <u>--</u> Min.
Rng. <u>26E</u>	Size Wt. Pipe <u>--</u>	Shut-in No. 3 <u>--</u> Min.
Field <u>Wildcat</u>	I. D. of D. C. <u>2 1/4"</u>	Bottom Hole Temp. <u>145°F</u>
County <u>San Juan</u>	Length of D. C. <u>589 ft.</u>	Mud Weight <u>11.6#</u>
State <u>Utah</u>	Total Depth <u>6264 ft.</u>	Gravity <u>--</u>
Elevation <u>--</u>	Interval Tested <u>6231-6246 ft.</u>	Viscosity <u>48</u>
Formation <u>Desert Creek</u>	Type of Test <u>Inflate Straddle</u>	Tool opened @ <u>8:14 a.m.</u>

Operator Marathon Oil Co.
Address Casper, WY 82602
P.O. Box 2659

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**DIVISION OF OIL
GAS & MINING**



Outside Recorder

PRD Make Kuster K-3
No. 24521 Cap 6625 @ 6242'

	Press	Corrected
Initial Hydrostatic	A	3925
Final Hydrostatic	K	3867
Initial Flow	B	421
Final Initial Flow	C	433
Initial Shut-in	D	3547
Second Initial Flow	E	559
Second Final Flow	F	1190
Second Shut-in	G	3552
Third Initial Flow	H	--
Third Final Flow	I	--
Third Shut-in	J	--

Well Name and No. Southeast Bug #1-21
Ticket No. 02590

Lynes Dist.: Casper, WY
Our Tester: Mike Greenfield
Witnessed By: Mac Hanson

Did Well Flow - Gas Yes Oil No Water No Ran 587 ft. fresh water cushion.

RECOVERY IN PIPE:

2217 ft. Total Recovery	= 26.00 Bbls
202 ft. Water cushion	= 2.86 Bbls
273 ft. Gas and mud-cut salt water	= 3.88 Bbls
1742 ft. Gas-cut salt water	= 19.26 Bbls

Blow Description:

1st Flow: Tool opened with a 2" blow, increasing to 2 psi at the end of the flow.

2nd Flow: Tool opened with a 6" blow, increasing to 7 psi in 59 minutes, with gas to surface (see gas report).

Comments: The test results indicate a mechanically successful test. The flow and shut-in curves suggest high permeability within the zone tested. The final shut-in stabilized in 60 minutes at 3585 psi, therefore no extrapolation was performed.

Date 1-17-86
DST No. 1
No. Final Copies 18

Location: SEC. 21 T36S R26E
 Test Type: INFLATE STRADDLE
 Formation: DESERT CREEK

Recorder Number: 312
 Recorder Depth: 6242 ft.

TIME-PRESSURE LISTING

CHART LABEL	COMMENTS	TIME MIN.	DELTA P psi	PRESSURE (T+dt)/dt psi	PRESSURE SQUARED psi ² /10 ⁶
A	INITIAL HYDROSTATIC	0.00		3870.0	
B	START OF 1st FLOW	0.00		373.0	
	1st FLOW PERIOD	1.00	2.0	375.0	
		2.00	3.0	370.0	
		3.00	7.0	380.0	
		4.00	20.0	393.0	
		5.00	30.0	403.0	
		6.00	40.0	413.0	
C	END OF 1st FLOW	8.00	65.0	438.0	
	1st SHUTIN PERIOD	0.00	0.0	438.0	0.0000
		1.00	805.0	1243.0	9.0000
		2.00	2987.0	3425.0	5.0000
		3.00	3115.0	3553.0	3.6667
		4.00	3135.0	3573.0	3.0000
		5.00	3140.0	3578.0	2.6000
		6.00	3145.0	3583.0	2.3333*
		8.00	3145.0	3583.0	2.0000*
		9.00	3147.0	3585.0	1.8889*
		10.00	3147.0	3585.0	1.8000*
		14.00	3147.0	3585.0	1.5714*
		20.00	3150.0	3588.0	1.4000*
		25.00	3150.0	3588.0	1.3200*
D	END OF 1st SHUTIN	30.00	3150.0	3588.0	1.2667*
E	START OF 2nd FLOW	0.00		505.0	
	2nd FLOW PERIOD	1.00	8.0	513.0	
		2.00	15.0	520.0	
		3.00	23.0	528.0	
		4.00	30.0	535.0	
		5.00	38.0	543.0	
		6.00	5.0	500.0	
		8.00	65.0	570.0	
		9.00	78.0	583.0	
		10.00	88.0	593.0	
		14.00	130.0	635.0	

RATHON OIL CO.
 DST#: 3
 SOUTHEAST BUG #1-21
 6231 - 6246ft.

Location: SEC. 21 T36S R26E
 Test Type: INFLATE STRADDLE
 Formation: DESERT CREEK

Recorder Number: 312
 Recorder Depth: 6242 ft.

TIME-PRESSURE LISTING

CHART LABEL	COMMENTS	TIME MIN.	DELTA P psi	PRESSURE (T+dt)/dt psi	ABSCISSA	PRESSURE SQUARED psi ² /10 ⁶
		20.00	193.0	698.0		
		25.00	240.0	745.0		
		30.00	285.0	790.0		
		35.00	330.0	835.0		
		40.00	373.0	878.0		
		45.00	415.0	920.0		
		50.00	458.0	963.0		
		54.00	490.0	995.0		
		60.00	538.0	1043.0		
		65.00	573.0	1078.0		
		70.00	610.0	1115.0		
		75.00	648.0	1153.0		
		80.00	685.0	1190.0		
		85.00	723.0	1228.0		
F END OF 2nd FLOW		89.00	1175.0	1680.0		
2nd SHUTIN PERIOD		0.00	0.0	1680.0	0.0000	
		1.00	1703.0	3383.0	98.0000	
		2.00	1858.0	3538.0	49.5000	
		3.00	1883.0	3563.0	33.3333	
		4.00	1893.0	3573.0	25.2500	
		5.00	1895.0	3575.0	20.4000	
		7.00	1898.0	3578.0	14.8571	
		8.00	1898.0	3578.0	13.1250	
		9.00	1898.0	3578.0	11.7778	
		10.00	1900.0	3580.0	10.7000	
		15.00	1900.0	3580.0	7.4667	
		20.00	1903.0	3583.0	5.8500	
		25.00	1903.0	3583.0	4.8800	
		29.00	1903.0	3583.0	4.3448	
		35.00	1903.0	3583.0	3.7714	
		40.00	1903.0	3583.0	3.4250	
		45.00	1903.0	3583.0	3.1556	
		50.00	1903.0	3583.0	2.9400	
		55.00	1903.0	3583.0	2.7636	
		60.00	1905.0	3585.0	2.6167	
		65.00	1905.0	3585.0	2.4923	
		69.00	1905.0	3585.0	2.4058	
		75.00	1905.0	3585.0	2.2933	

Location: SEC. 21 T36S R26E
 Test Type: INFLATE STRADDLE
 Formation: DESERT CREEK

Recorder Number: 312
 Recorder Depth: 6242 ft.

TIME-PRESSURE LISTING

CHART LABEL	COMMENTS	TIME MIN.	DELTA P psi	PRESSURE psi	(T+dt)/dt ABSCISSA	PRESSURE SQUARED psi ² /10 ⁶
		80.00	1905.0	3585.0	2.2125	
		85.00	1905.0	3585.0	2.1412	
		90.00	1905.0	3585.0	2.0778	
		95.00	1905.0	3585.0	2.0211	
		100.00	1905.0	3585.0	1.9700	
		105.00	1905.0	3585.0	1.9238	
		109.00	1905.0	3585.0	1.8899	
		115.00	1905.0	3585.0	1.8435	
		120.00	1905.0	3585.0	1.8083	
		130.00	1905.0	3585.0	1.7462	
		140.00	1905.0	3585.0	1.6929	
		149.00	1905.0	3585.0	1.6510	
		160.00	1905.0	3585.0	1.6063	
		170.00	1905.0	3585.0	1.5706	
G	END OF 2nd SHUTIN	180.00	1905.0	3585.0	1.5389	
Q	FINAL HYDROSTATIC	0.00		3828.0		

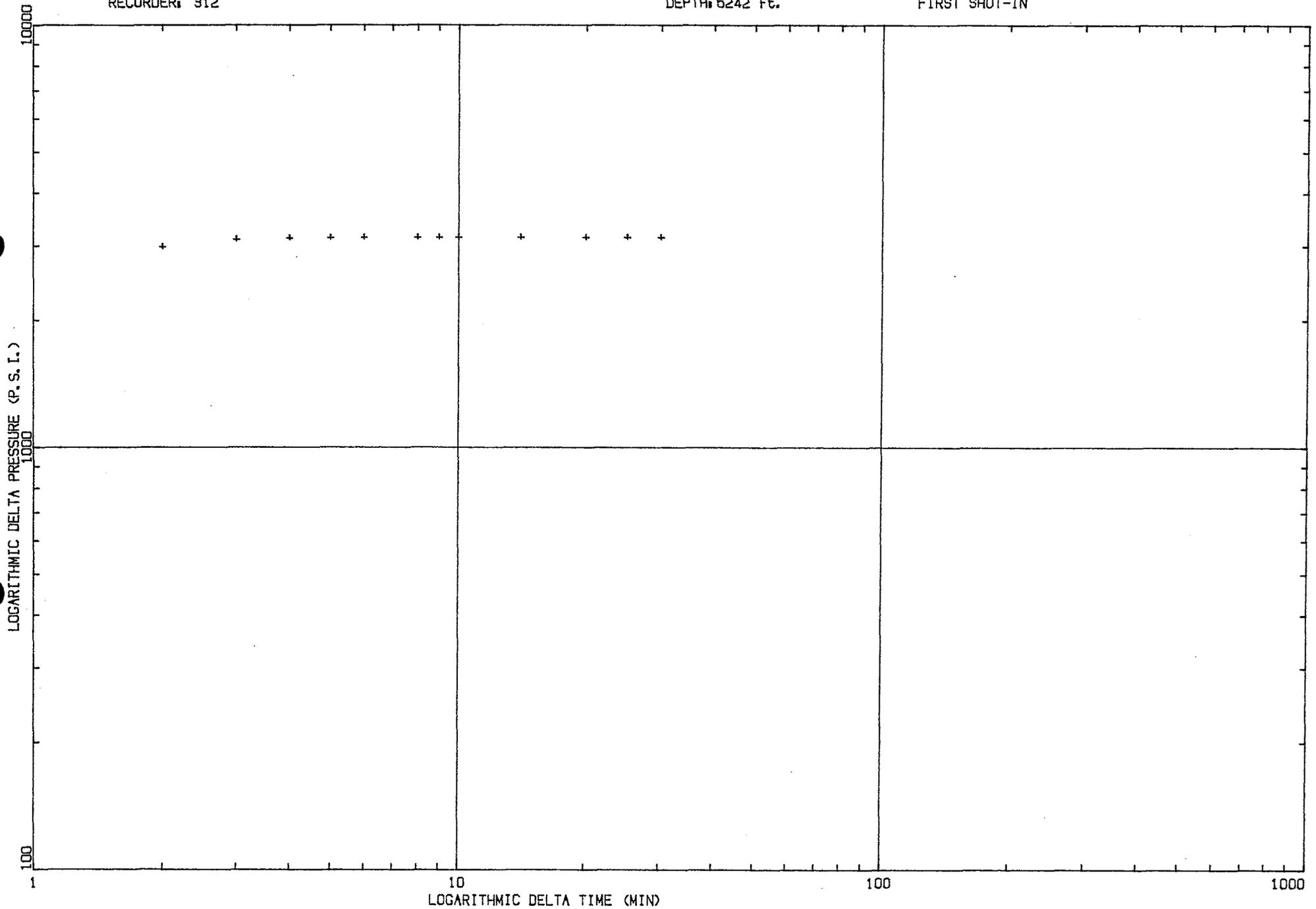
* VALUES USED FOR EXTRAPOLATIONS

1st SHUT-IN:
 HORNER EXTRAPOLATION 3590.87 PSI
 HORNER SLOPE 23.80 psi/cycle

OPERATOR: MARATHON OIL CO.
LOCATION: SEC. 21 T98S R28E
RECORDER: 312

WELL NAME: SOUTHEAST BUG #1-21
DST #: 3
DEPTH: 6242 ft.

FIRST SHUT-IN

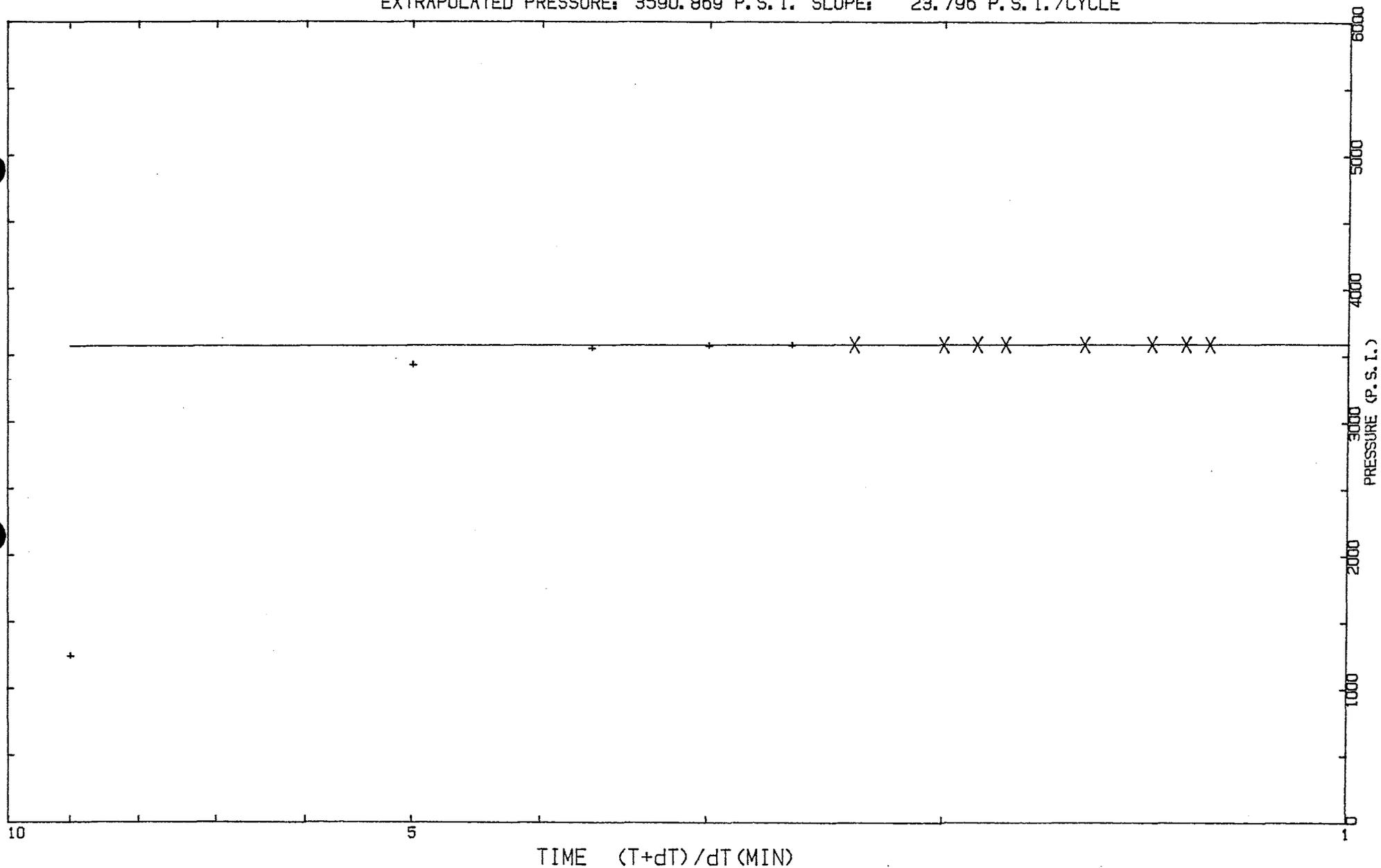


OPERATOR: MARATHON OIL CO.
WELL NAME: SOUTHEAST BUG #1-21
LOCATION: SEC. 21 T36S R26E
FIRST SHUT-IN
RECORDER: 312

DST #: 3

DEPTH: 6242 ft.

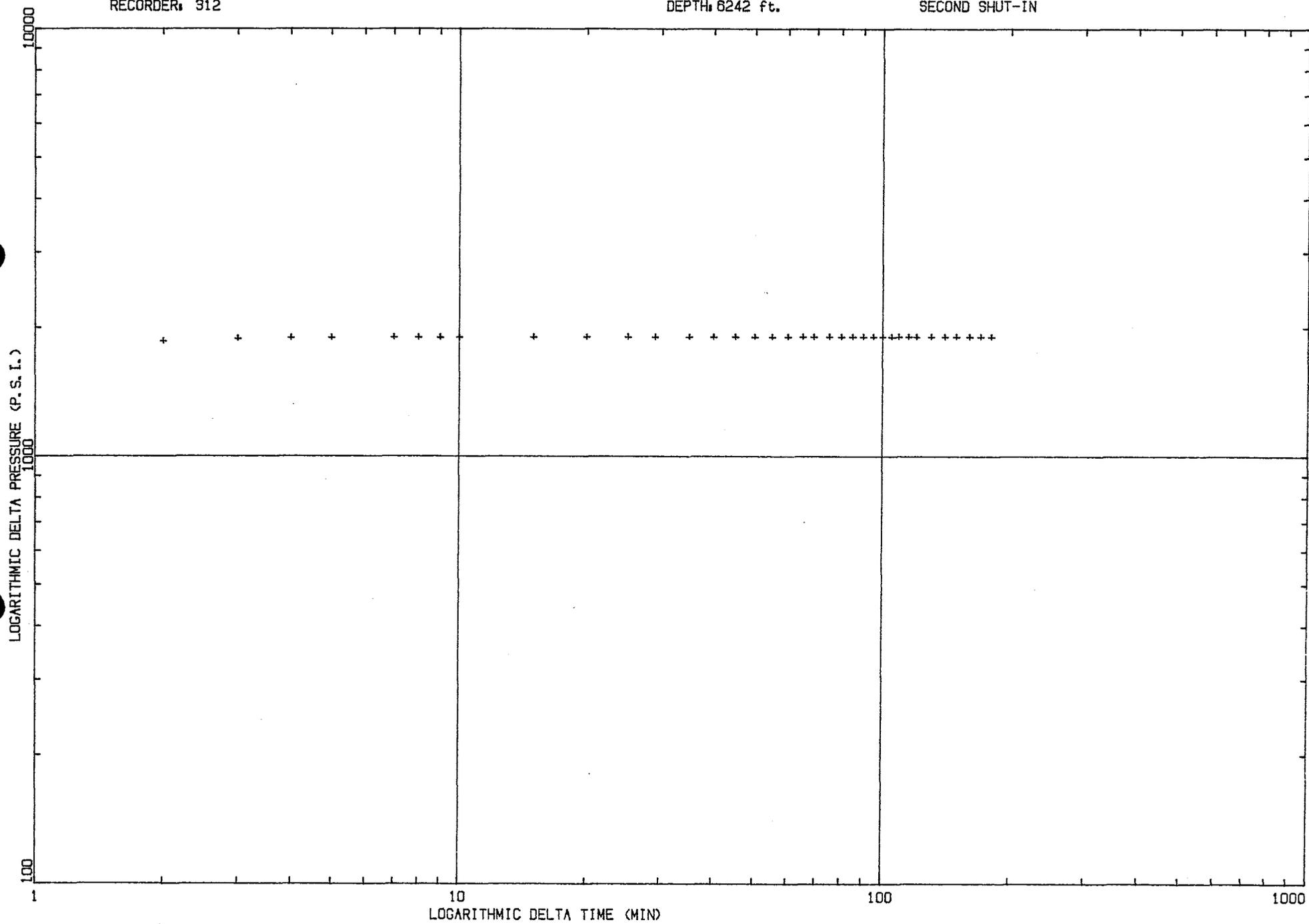
EXTRAPOLATED PRESSURE: 3590.869 P. S. I. SLOPE: 23.796 P. S. I. /CYCLE



OPERATOR: MARATHON OIL CO.
LOCATION: SEC. 21 T36S R28E
RECORDER: 312

WELL NAME: SOUTHEAST BUG #1-21
DST #13
DEPTH: 6242 ft.

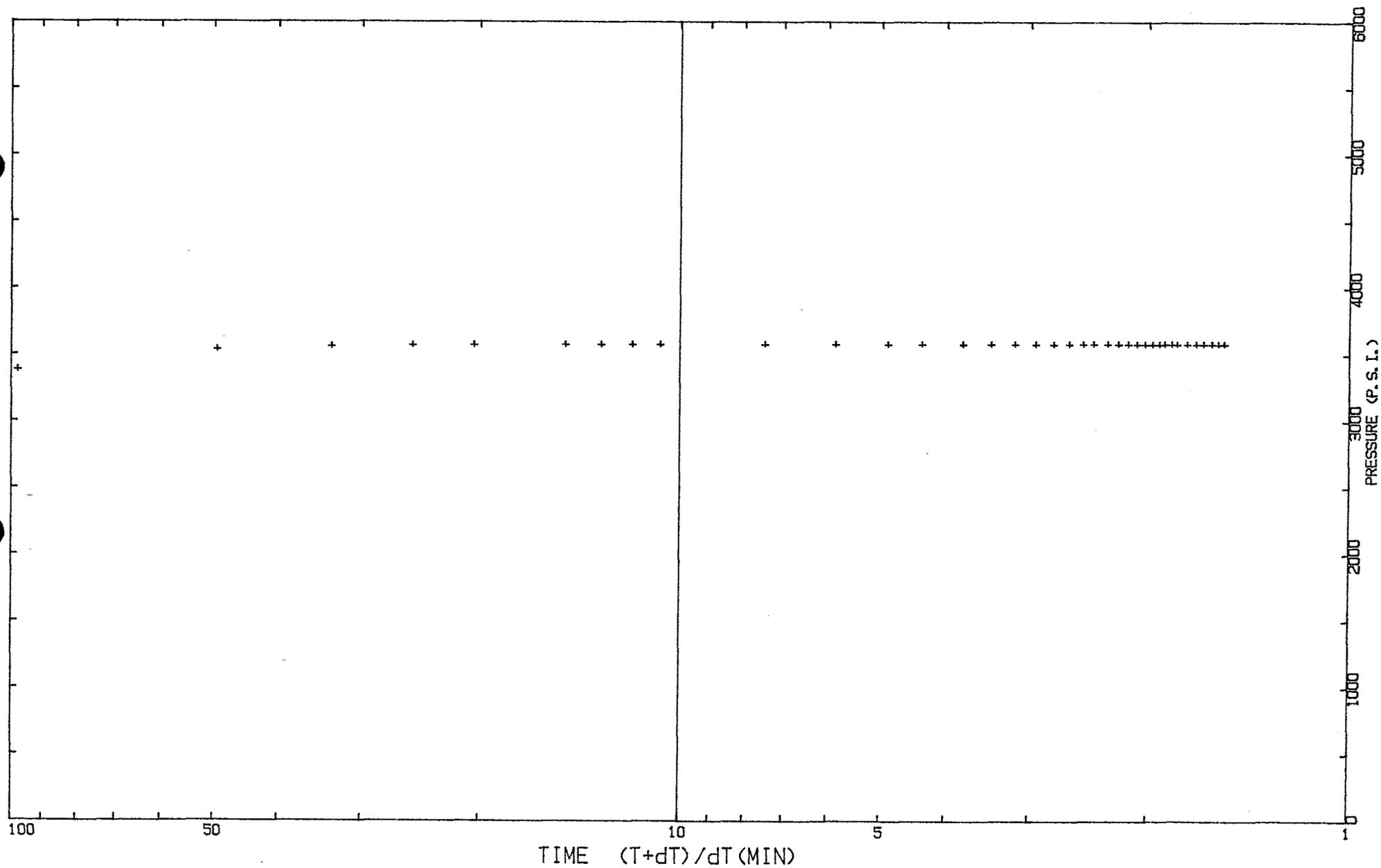
SECOND SHUT-IN



OPERATOR: MARATHON OIL CO.
WELL NAME: SOUTHEAST BUG #1-21
LOCATION: SEC. 21 T36S R26E
SECOND SHUT-IN
RECORDER: 312

DST #: 3

DEPTH: 6242 ft.



MARATHON OIL CO.
DST#: 3
SOUTHEAST BUG #1-21
6231 - 6246ft.

GAS MEASUREMENTS

Device: FLOOR MANIFOLD

Riser: 0.0 in.

Bomb #:
Sent to:

FLOW #	TIME (min)	READING(psi)	CHOKE (in)	Mcf/d
2	59	7.0	.250	32.4
2	61	6.0	.250	30.9
2	63	4.0	.250	28.0
2	68	3.0	.250	26.5
2	78	2.0	.250	25.0
2	88	2.0	.250	25.0
2	90	2.0	.250	25.0



LYNES INC.

DMR-312 DIGITAL MEMORY RECORDER NO. 312 CAP 10,000 AT 6242

OPERATOR	MARATHON	WELL NAME	SOUTHEAST BUG #1-21	TICKET NO.	02590	DST. NO.	3
SKIP	-----	570.000			3585.00		
BIAS	= 01:42:00	582.500			3585.00		
TEMP. IN DEG. F		592.500	10:22:30 T	145.407	3585.00		
PRES. IN P.S.I.		602.500		1247.50	3585.00	12:54:30 T	141.607
07:50:30 T	121.607	615.000	End 2nd flow	1680.00	3585.00		3585.00
	3832.50	625.000		3382.50	3585.00		3585.00
	3830.00	635.000		3537.50	3585.00		3585.00
	3827.50	09:10:30 T	140.312	3562.50	3585.00	11:42:30 T	143.062
	3825.00		657.500	3572.50	3585.00		3585.00
	3880.00		667.500	3575.00	3585.00		3585.00
	3845.00		677.500	10:30:30 T	145.812		3585.00
	3845.00		687.500	3577.50	3585.00	13:02:30 T	141.562
07:58:30 T	122.605		697.500	3577.50	3585.00		3585.00
	3847.50		707.500	3577.50	3585.00		3585.00
	3847.50		717.500	3580.00	3585.00		3585.00
	3847.50	09:18:30 T	141.750	3580.00	3585.00	11:50:30 T	142.812
	3850.00		735.000	3580.00	3585.00		3585.00
	3925.00		745.000	3580.00	3585.00		3585.00
	3900.00		755.000	10:38:30 T	145.875		3585.00
	3892.50		762.500	3580.00	3585.00	13:10:30 T	141.407
08:06:30 T	123.000		772.500	3580.00	3585.00		3585.00
	3927.50		782.500	3582.50	3585.00		3585.00
	3917.50		790.000	3582.50	3585.00		3585.00
	3895.00	09:26:30 T	142.750	3582.50	3585.00	11:58:30 T	142.562
	3872.50		807.500	3582.50	3585.00		3585.00
	3870.00		817.500	3582.50	3585.00		3585.00
	3777.50		825.000	10:46:30 T	145.625		3585.00
	1882.50		835.000	3582.50	3585.00	13:18:30 T	141.375
08:14:30 T	123.250		842.500	3582.50	3585.00		3585.00
	start 1st flow		852.500	3582.50	3585.00		3585.00
	375.000	09:34:30 T	143.407	3582.50	3585.00		3585.00
	370.000		877.500	3582.50	3585.00	12:06:30 T	142.375
	380.000		885.000	3582.50	3585.00		3585.00
	392.500		895.000	3582.50	3585.00	End 2nd shut-in	3585.00
	402.500		902.500	10:54:30 T	145.312		3592.50
	412.500		912.500	3582.50	3585.00	13:26:30 T	141.312
08:22:30 T	130.500		920.000	3582.50	3585.00		3807.50
	End 1st flow		930.000	3582.50	3585.00	Final Hydro.	3827.50
	1242.50		945.000	3582.50	3585.00		3812.50
	3425.00	09:42:30 T	143.907	3582.50	3585.00	12:14:30 T	142.107
	3552.50		945.000	3582.50	3585.00		3862.50
	3572.50		955.000	3582.50	3585.00		3820.00
	3577.50		962.500	11:02:30 T	144.875		3820.00
	3582.50		972.500	3582.50	3585.00	13:34:30 T	140.907
08:30:30 T	135.875		980.000	3582.50	3585.00		3797.50
	3582.50		987.500	3582.50	3585.00		3592.50
	3585.00		995.000	3585.00	3585.00		3842.50
	3585.00	09:50:30 T	144.407	3582.50	3585.00	12:22:30 T	142.062
	3585.00		1012.50	3582.50	3585.00		3822.50
	3585.00		1020.00	3582.50	3585.00		3820.00
	3585.00		1027.50	11:10:30 T	144.500		3662.50
	3585.00		1035.00	3585.00	3585.00	13:42:30 T	138.607
	3585.00		1042.50	3582.50	3585.00		3752.50
08:38:30 T	137.312		1050.00	3582.50	3585.00		3705.00
	3587.50		1057.50	3582.50	3585.00		3767.50
	3587.50	09:58:30 T	144.750	3585.00	3585.00	12:30:30 T	142.000
	3587.50		1072.50	3582.50	3585.00		3762.50
	3587.50		1077.50	3585.00	3585.00		3640.00
	3587.50		1085.00	11:18:30 T	144.062		3730.00
	3587.50		1092.50	3582.50	3585.00	13:50:30 T	135.125
08:46:30 T	137.375		1102.50	3582.50	3585.00		3707.50
	3587.50		1110.00	3585.00	3585.00		3700.00
	3587.50		1115.00	3585.00	3585.00		3697.50
	3587.50	10:06:30 T	145.000	3585.00	3585.00	12:38:30 T	141.875
	3587.50		1130.00	3585.00	3585.00		3817.50
	3587.50		1137.50	3585.00	3585.00		3727.50
	3587.50		1145.00	11:26:30 T	143.607		3725.00
	3587.50		1152.50	3585.00	3585.00	13:58:30 T	131.750
End 1st shut-in	3587.50		1160.00	3585.00	3585.00		3475.00
08:54:30 T	137.062		1167.50	3585.00	3585.00		3415.00
	Start 2nd flow		1175.00	3585.00	3585.00		3395.00
	505.000	10:14:30 T	145.250	3585.00	3585.00	12:46:30 T	141.750
	512.500		1190.00	3585.00	3585.00		3392.50
	520.000		1197.50	3585.00	3585.00		3407.50
	527.500		1205.00	11:34:30 T	143.312		3437.50
	535.000		1212.50	3585.00	3585.00		
	542.500		1220.00	3585.00	3585.00		
	550.000		1227.50	3585.00	3585.00		
09:02:30 T	138.125		1235.00	3585.00	3585.00		

RATHON OIL CO.
DST#: 3
SOUTHEAST BUG #1-21
6231 - 6246ft.

Location: SEC. 21 T36S R26E
Test Type: INFLATE STRADDLE
Formation: DESERT CREEK

Recorder Number: 312
Recorder Depth: 6242

SAMPLE DATA

SAMPLE CHAMBER:

Capacity of sample chamber	2000	cc
Volume of sample.....	200	cc
Pressure in sampler.....	0	psig
Where sampler was drained...	on location	

Sampler contained:
Mud 200 cc

RESISTIVITY DATA:

Top.....	45 000 PPM NACL
Middle.....	25 000 PPM NACL
Bottom.....	90 000 PPM NACL
Sampler.....	90 000 PPM NACL
Mud pit.....	40 000 PPM NACL
Make-up Water...	1700 PPM NACL

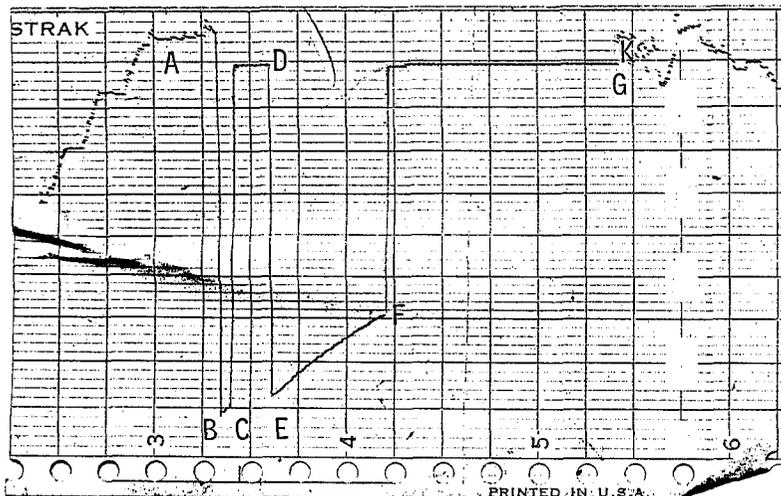
MARATHON OIL CO.
DST#: 3
SOUTHEAST BUG #1-21
6231 - 6246ft.

PRESSURE RECORDER NUMBER : 312

DEPTH : 6242.00ft. LOCATION : OUTSIDE
TYPE : DMR CAPACITY : 10000.00psi

PRESSURE
psi

A)Initial Hydro : 3870.0
B)1st Flow Start: 373.0
C)1st Flow End : 438.0
D)END 1st Shutin: 3588.0
E)2nd Flow Start: 505.0
F)2nd Flow End : 1680.0
G)END 2nd Shutin: 3585.0
Q)Final Hydro. : 3828.0



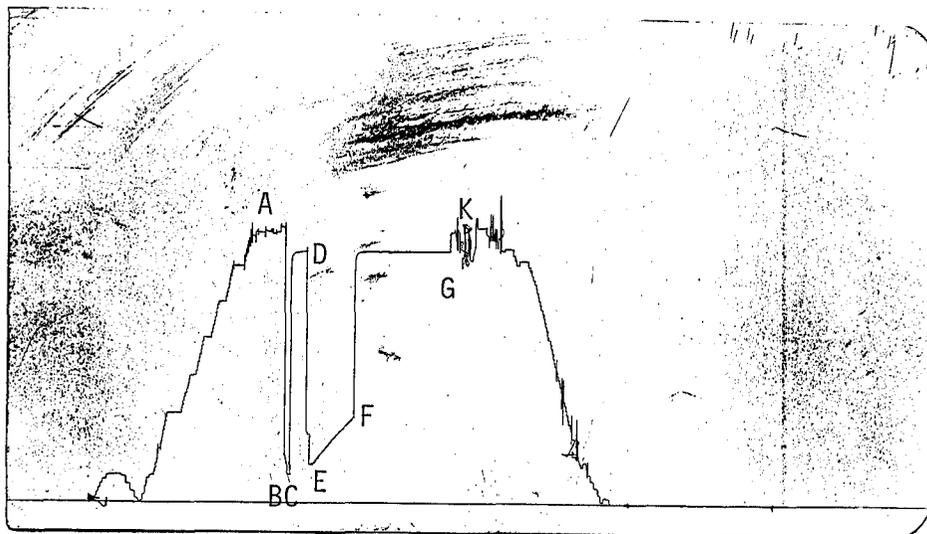
TEST TIMES(MIN)
1st FLOW : 8
SHUTIN: 30
2nd FLOW : 89
SHUTIN: 180

PRESSURE RECORDER NUMBER : 20186

DEPTH : 6242.00ft. LOCATION : OUTSIDE
TYPE : K-3 CAPACITY : 6550.00psi

PRESSURE
psi

A)Initial Hydro : 3938.0
B)1st Flow Start: 427.0
C)1st Flow End : 413.0
D)END 1st Shutin: 3592.0
E)2nd Flow Start: 553.0
F)2nd Flow End : 1217.0
G)END 2nd Shutin: 3595.0
Q)Final Hydro. : 3889.0



CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

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DIVISION OF OIL
GAS & MINING

CORE ANALYSIS REPORT

FOR

MARATHON OIL COMPANY

1-21 SE BUG
WILDCAT
SAN JUAN, UTAH

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

MARATHON OIL COMPANY
 # 1-21 SE BUG
 WILDCAT
 SAN JUAN, UTAH

DALLAS, TEXAS
 DATE : 20-JAN-1986
 FORMATION : PARADOX
 DRLG. FLUID: WBM
 LOCATION : NE,SW SEC. 21-T36S-R26E

FILE NO : 38030-003433
 ANALYSTS : DS, EV
 ELEVATION: 6524 KB

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
DESERT CREEK ZONE CORE # 1 6204-6264								
	6204.0-21.0							LM/SHALE --- NO ANALYSIS
	6221.0-39.0							ANHYDRITE --- NO ANALYSIS
	6239.0-40.0							SHALE --- NO ANALYSIS
1	6240.0-41.0	1.06	0.64	9.3	6.6	59.8	2.77	DOL BRN VFXLN CALC VUG
2	6241.0-42.0	39.	33.	11.2	0.9	51.1	2.81	DOL BRN VFXLN CALC VUG
3	6242.0-43.0	59.	40.	10.3	1.3	40.1	2.82	DOL BRN VFXLN CALC VUG
4	6243.0-44.0	37.	21.	12.1	0.0	54.5	2.85	DOL BRN VFXLN CALC VUG
5	6244.0-45.0	16.	9.80	10.7	0.0	50.6	2.82	DOL BRN VFXLN CALC VUG
6	6245.0-46.0	17.	8.70	11.1	0.0	24.9	2.82	DOL BRN VFXLN CALC VUG
7	6246.0-47.0	5.60	5.36	10.4	0.0	58.0	2.83	DOL BRN VFXLN CALC VUG
8	6247.0-48.0	5.60	5.18	10.9	0.0	43.6	2.83	DOL BRN VFXLN CALC VUG
9	6248.0-49.0	11.	9.32	11.8	0.0	58.2	2.82	DOL BRN VFXLN CALC VUG
10	6249.0-50.0	9.63	8.50	12.4	0.0	54.6	2.81	DOL BRN VFXLN CALC VUG
11	6250.0-51.0	28.	14.	13.4	0.0	63.5	2.83	DOL BRN VFXLN CALC VUG
12	6251.0-52.0	16.	13.	13.8	0.0	65.4	2.83	DOL BRN VFXLN CALC VUG
13	6252.0-53.0	255.	25.	14.4	0.0	52.4	2.82	DOL BRN VFXLN CALC VUG
14	6253.0-54.0	1177.	149.	15.8	0.0	62.1	2.80	DOL BRN VFXLN CALC VUG **
15	6254.0-55.0	61.	37.	15.1	0.0	63.8	2.83	DOL BRN VFXLN CALC VUG
16	6255.0-56.0	65.	58.	14.3	0.0	48.2	2.83	DOL BRN VFXLN CALC VUG
17	6256.0-57.0	737.	172.	14.9	0.0	55.6	2.82	DOL BRN VFXLN CALC VUG
18	6257.0-58.0	439.	282.	15.9	0.0	61.1	2.80	DOL BRN VFXLN CALC VUG
19	6258.0-59.0	25.	17.	13.0	0.0	53.8	2.81	DOL BRN VFXLN CALC VUG
20	6259.0-60.0	2.31	1.54	10.6	0.0	61.3	2.85	DOL BRN VFXLN CALC VUG
21	6260.0-61.0	7.40	2.50	10.9	0.0	54.1	2.85	DOL BRN VFXLN CALC VUG
22	6261.0-62.0	0.58	0.45	9.0	0.0	53.7	2.83	DOL BRN VFXLN CALC VUG

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, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

MARATHON OIL COMPANY
 # 1-21 SE BUG

DALLAS, TEXAS
 DATE : 20-JAN-1986
 FORMATION : PARADOX

FILE NO : 38030-003433
 ANALYSTS : DS;EV

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
23	6262.0-63.0	0.05	0.01	5.4	0.0	68.2	2.83	DOL BRN VFXLN CALC
24	6263.0-64.0	0.06	0.01	5.3	0.0	71.5	2.82	DOL BRN VFXLN CALC

** DENOTES FRACTURE PERMEABILITY

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

DALLAS, TEXAS

MARATHON OIL COMPANY
1-21 SE BUG

DATE : 20-DEC-1986
FORMATION : PARADOX

FILE NO. : 38030-003433
ANALYSTS : DS/EV

*** CORE SUMMARY AVERAGES FOR 1 ZONE ***

DEPTH INTERVAL: 6240.0 TO 6264.0

FEET OF CORE ANALYZED : 24.0 FEET OF CORE INCLUDED IN AVERAGES: 24.0

-- SAMPLES FALLING WITHIN THE FOLLOWING RANGES WERE AVERAGED --

PERMEABILITY MAXIMUM RANGE (MD.)	:	0.00 TO 1200.	(UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%)	:	0.0 TO 100.0	
OIL SATURATION RANGE (%)	:	0.0 TO 100.0	
WATER SATURATION RANGE (%)	:	0.0 TO 100.0	

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 6240.0 TO 6264.0

AVERAGE PERMEABILITY (MILLIDARCIES)		PRODUCTIVE CAPACITY (MILLIDARCY-FEET)	
ARITHMETIC PERMEABILITY	: 126.	ARITHMETIC CAPACITY	: 3014.
GEOMETRIC PERMEABILITY	: 15.	GEOMETRIC CAPACITY	: 353.
HARMONIC PERMEABILITY	: 0.59	HARMONIC CAPACITY	: 14.
GEOMETRIC MAXIMUM & 90 DEG FERM.	: 10.	GEOMETRIC MAXIMUM & 90 DEG CAPACITY:	250.
AVERAGE POROSITY (PERCENT)	: 11.8	AVERAGE TOTAL WATER SATURATION	: 55.2
		(PERCENT OF PORE SPACE)	
AVERAGE RESIDUAL OIL SATURATION	: 0.3	AVERAGE CONNATE WATER SATURATION **	: 55.2
(PERCENT OF PORE SPACE)		(PERCENT OF PORE SPACE)	

** ESTIMATED FROM TOTAL
WATER SAUTRATION.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

PERMEABILITY VS POROSITY

COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD - HORIZONTAL (UNCORRECTED FOR SLIPPAGE)
 POROSITY : PERCENT (HELIUM)

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY		POROSITY		POROSITY AVERAGE	PERMEABILITY AVERAGES		
		MINIMUM	MAXIMUM	MIN.	MAX.		ARITHMETIC	HARMONIC	GEOMETRIC
6240.0 - 6264.0	1 (+)	0.000	1200.0	0.0	20.0	11.8	126.	0.59	15.

1000

100

PERMEABILITY: MILLIDARCIES

10

1.0

0.1

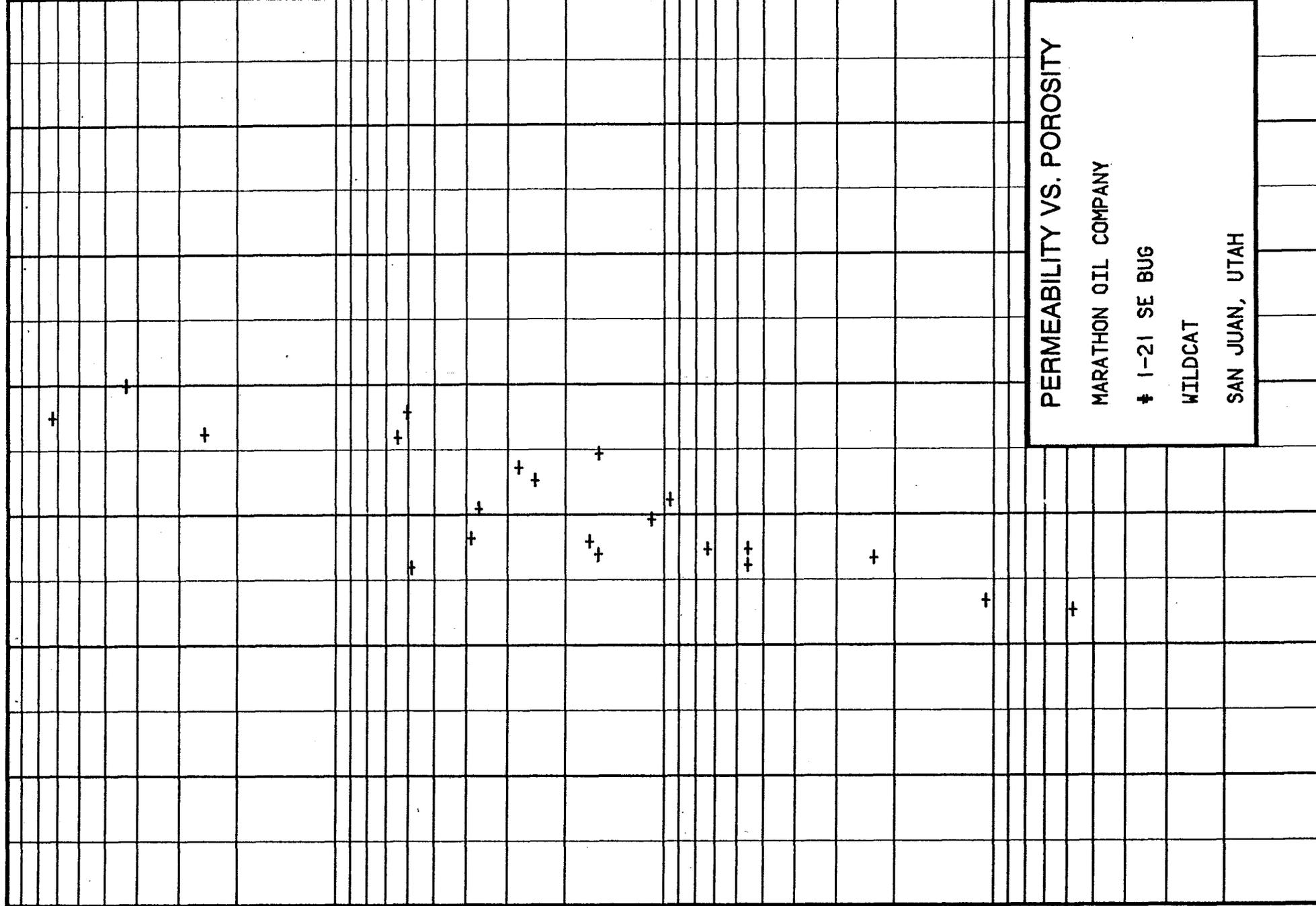
PERMEABILITY VS. POROSITY

MARATHON OIL COMPANY

1-21 SE BUG

WILDCAT

SAN JUAN, UTAH



0.0 4.0 8.0

12.0

16.0

20.0

24.0

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.000 TO 1200.
 POROSITY : PERCENT (HELIUM) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 6240.0 - 6264.0 INTERVAL LENGTH : 24.0
 FEET ANALYZED IN ZONE : 24.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE	PERMEABILITY AVERAGES		
	ARITHMETIC	HARMONIC	GEOMETRIC
11.8	126.	0.59	15.

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
4.0 - 6.0	2.0	5.3	0.055	0.055	8.3	8.3
8.0 - 10.0	2.0	9.1	0.784	0.820	8.3	16.7
10.0 - 12.0	9.0	10.9	12.	18.	37.5	54.2
12.0 - 14.0	5.0	12.9	21.	23.	20.8	75.0
14.0 - 16.0	6.0	15.1	270.	456.	25.0	100.0

TOTAL NUMBER OF FEET = 24.0

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY PERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE PERM. (GEOM.)	AVERAGE PERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.039 - 0.078	2.0	0.055	0.055	5.3	8.3	8.3
0.312 - 0.625	1.0	0.580	0.580	9.0	4.2	12.5
0.625 - 1.250	1.0	1.1	1.1	9.3	4.2	16.7
1.250 - 2.500	1.0	2.3	2.3	10.6	4.2	20.8
5.- 10.	4.0	6.9	7.1	11.2	16.7	37.5
10.- 20.	4.0	15.	15.	11.8	16.7	54.2
20.- 40.	4.0	32.	32.	12.4	16.7	70.8
40.- 80.	3.0	62.	62.	13.2	12.5	83.3
160.- 320.	1.0	255.	255.	14.4	4.2	87.5
320.- 640.	1.0	439.	439.	15.9	4.2	91.7
640.- 1280.	2.0	931.	957.	15.3	8.3	100.0

TOTAL NUMBER OF FEET = 24.0

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

POROSITY-FEET OF STORAGE CAPACITY LOST FOR SELECTED POROSITY CUT OFF

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	24.0	100.0	11.8	11.8
2.0	0.0	0.0	24.0	100.0	11.8	11.8
4.0	0.0	0.0	24.0	100.0	11.8	11.8
6.0	2.0	3.8	22.0	96.2	12.3	12.0
8.0	2.0	3.8	22.0	96.2	12.3	12.0
10.0	4.0	10.3	20.0	89.7	12.7	12.4
12.0	13.0	45.0	11.0	55.0	14.1	14.2
14.0	18.0	67.9	6.0	32.1	15.1	
16.0	24.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 282.0

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

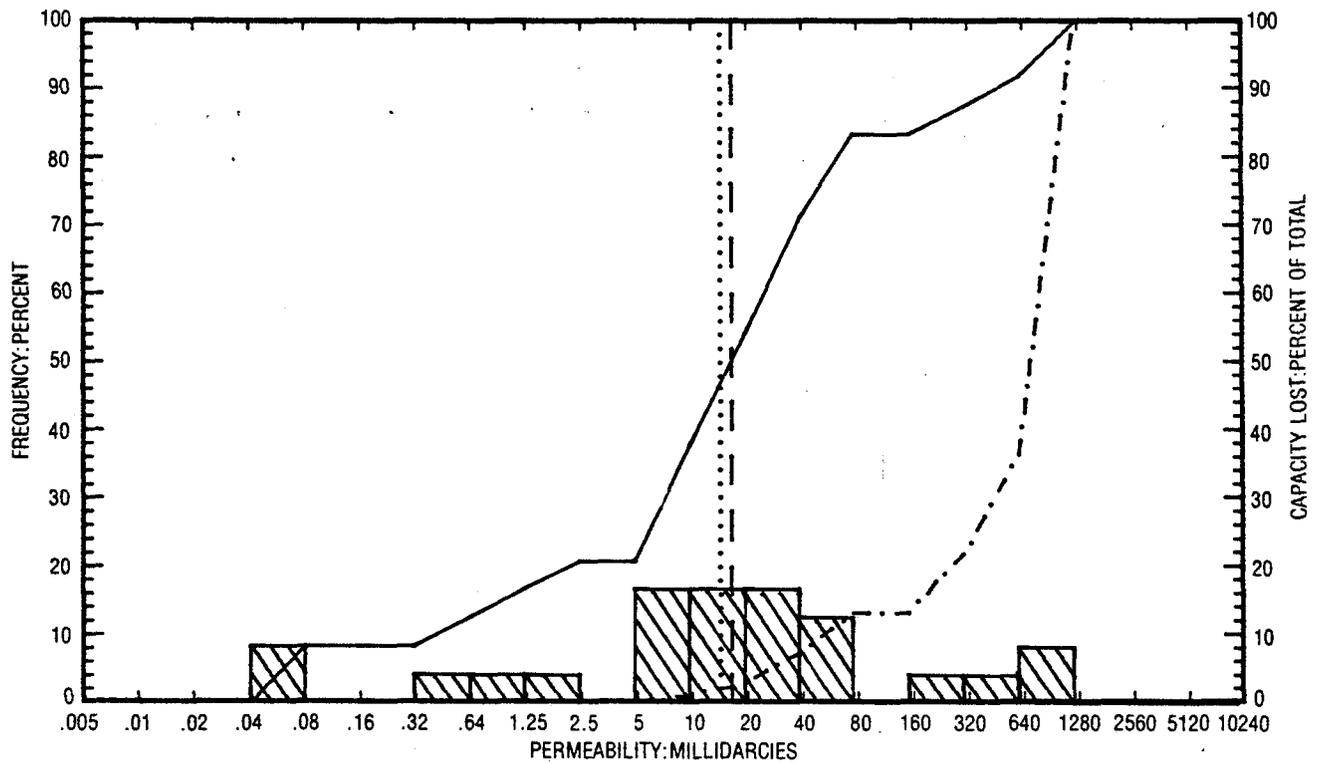
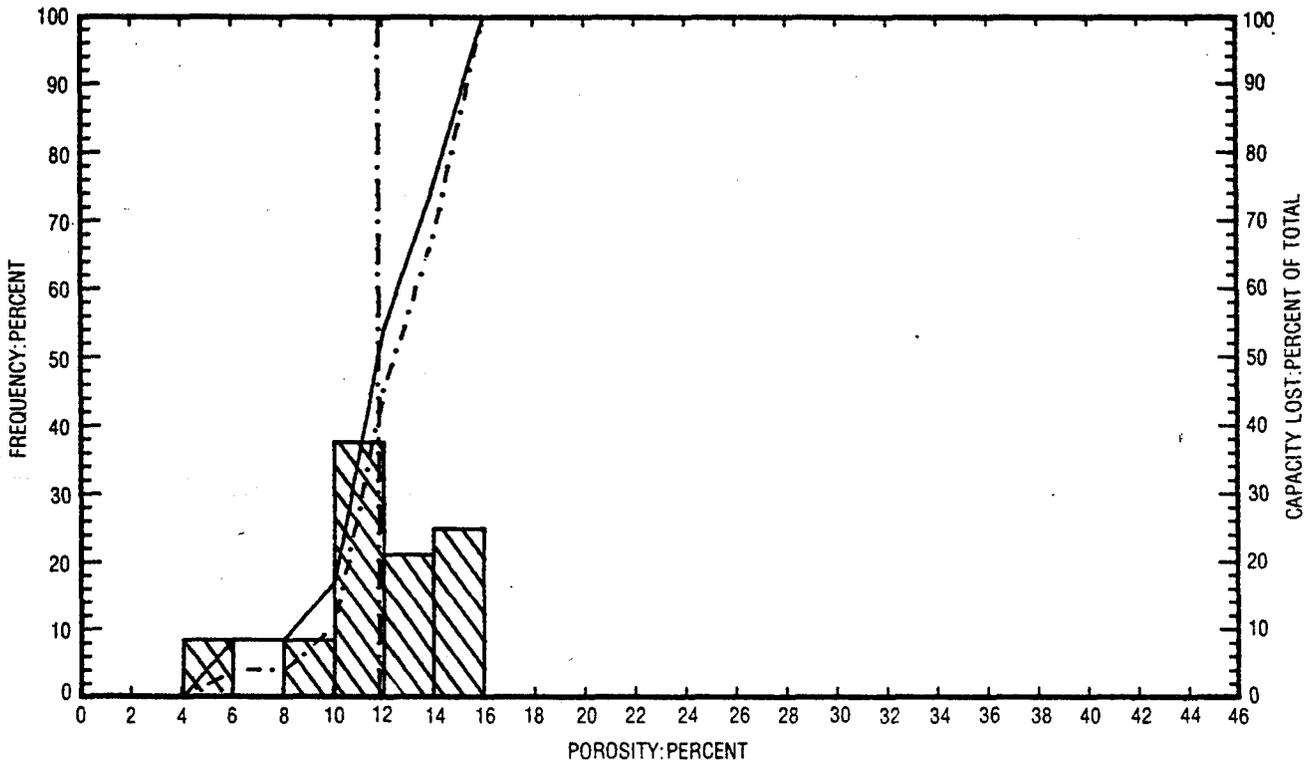
COMPANY: MARATHON OIL COMPANY
 FIELD : WILDCAT

WELL : # 1-21 SE BUG
 COUNTY, STATE: SAN JUAN, UTAH

MILLIDARCY-FEET OF FLOW CAPACITY LOST FOR SELECTED PERMEABILITY CUT OFF

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0.0	0.0	24.0	100.0	14.71	16.82
0.010	0.0	0.0	24.0	100.0	60.28	16.82
0.020	0.0	0.0	24.0	100.0	14.71	16.82
0.039	0.0	0.0	24.0	100.0	14.71	16.82
0.078	2.0	0.0	22.0	100.0	24.45	20.00
0.156	2.0	0.0	22.0	100.0	24.45	20.00
0.312	2.0	0.0	22.0	100.0	24.45	20.00
0.625	3.0	0.0	21.0	100.0	29.22	21.81
1.250	4.0	0.1	20.0	99.9	34.49	23.78
2.500	5.0	0.1	19.0	99.9	39.76	25.94
5.	5.0	0.1	19.0	99.9	39.76	25.94
10.	9.0	1.1	15.0	98.9	63.49	36.68
20.	13.0	3.1	11.0	96.9	107.84	56.57
40.	17.0	7.3	7.0	92.7	217.08	226.27
80.	20.0	13.5	4.0	86.5	558.23	640.00
160.	20.0	13.5	4.0	86.5	558.23	640.00
320.	21.0	21.9	3.0	78.1	724.83	761.09
640.	22.0	36.5	2.0	63.5	931.37	
1280.	24.0	100.0	0.0	0.0		

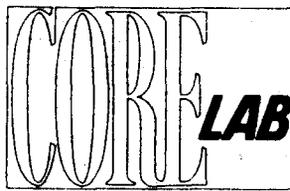
TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 3014.29



PERMEABILITY AND POROSITY HISTOGRAMS

MARATHON OIL COMPANY
 # 1-21 SE BUG
 WILDCAT
 SAN JUAN, UTAH

LEGEND
 ARITHMETIC MEAN POROSITY
 GEOMETRIC MEAN PERMEABILITY
 MEDIAN VALUE
 CUMULATIVE FREQUENCY
 CUMULATIVE CAPACITY LOST
 (Note: The legend uses different line styles than the histograms to represent these metrics.)



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY MARATHON OIL COMPANY FILE NO. 38030-003433
 WELL # 1-21 SE BUG DATE 20-JAN-1986 ENGRS. DS;EV
 FIELD WILDCAT FORMATION PARADOX ELEV. 6524 KB
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES _____

CoRes Log
CORE and RESISTIVITY EVALUATION

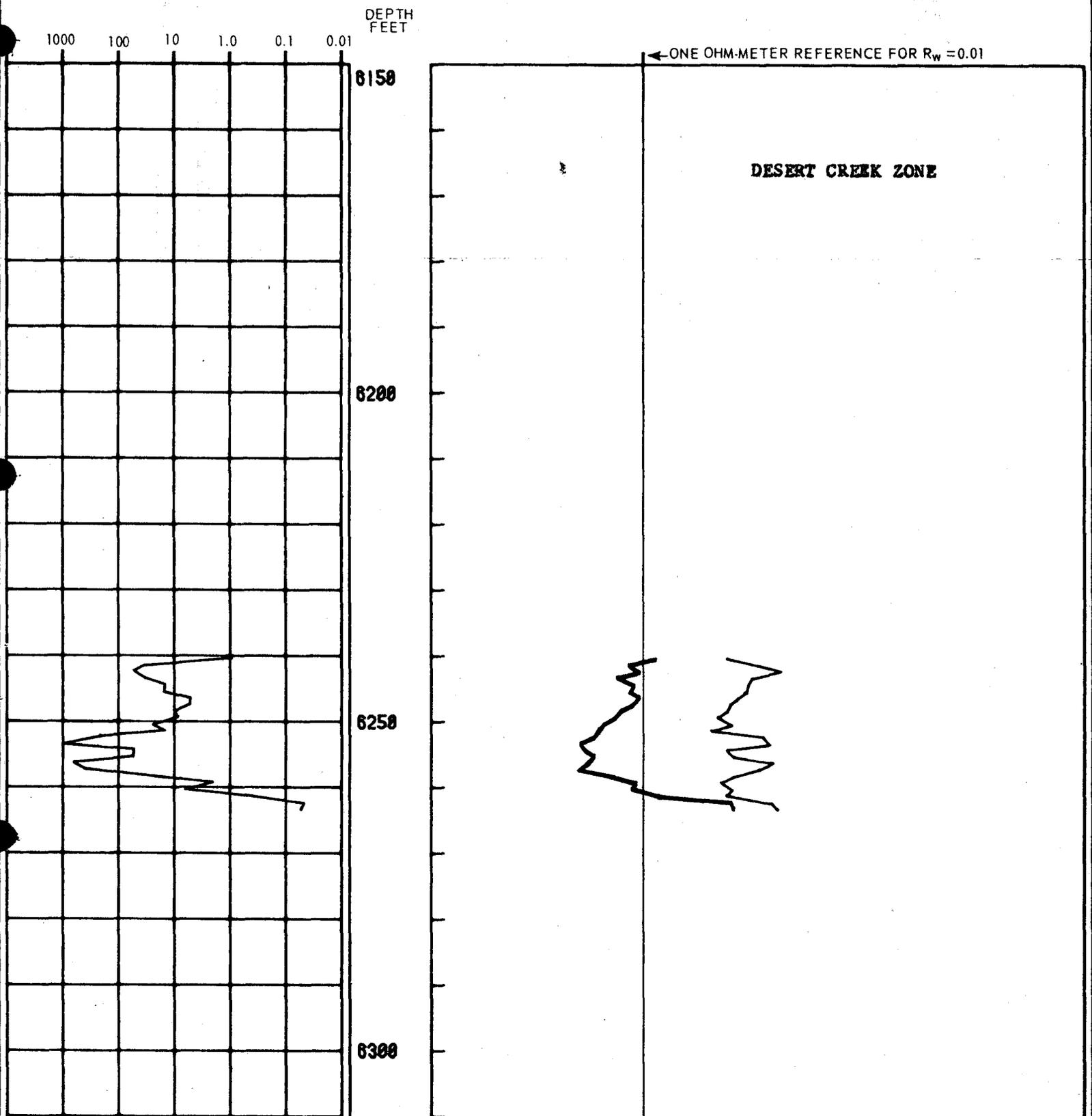
These analyses, opinions or interpretations are based on observations and material supplied by the client to whom and for whose exclusive and confidential use this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted) but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representations as to the productivity, proven operation or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

RESISTIVITY PARAMETERS: a = 1.0 m = 2.0 n = 2.0 Depths 6240.0 to 6264.0
 a = _____ m = _____ n = _____ Depths _____ to _____

PERMEABILITY
 MILLIDARCIES

CORE ANALYSIS CALCULATED RESISTIVITY

R₀ = OHM-METERS AT 100% S_w _____
 R_{mp} = OHM-METERS AT CRITICAL S_w _____



CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY **MARATHON OIL COMPANY**

FILE NO. **38030-003433**

WELL **# 1-21 SE BUG**

DATE **20-JAN-1986**

FIELD **WILDCAT**

FORMATION **PARADOX**

ELEV. **6524 KB**

COUNTY **SAN JUAN** STATE **UTAH**

DRLG. FLD. **WBM**

CORES _____

LOCATION **NE, SW SEC. 21-T36S-R26E**

CORRELATION COREGRAPH

These analyses, opinions or interpretations are based on observations and material 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, Inc., (all errors or omissions excepted); but Core Laboratories, Inc., and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

VERTICAL SCALE: 5" = 100'

Total Water _____

PERCENT PORE SPACE

100 80 60 40 20 0

Oil Saturation _____

PERCENT PORE SPACE

0 0 20 40 60 80 100

Gamma Ray

RADIATION INCREASE →

Permeability _____

MILLIDARCIES

Porosity _____

PERCENT

PARADOX FORMATION

100 10 1.0 .1

Depth Feet 30

20 10

0 0 20 40 60 80 100

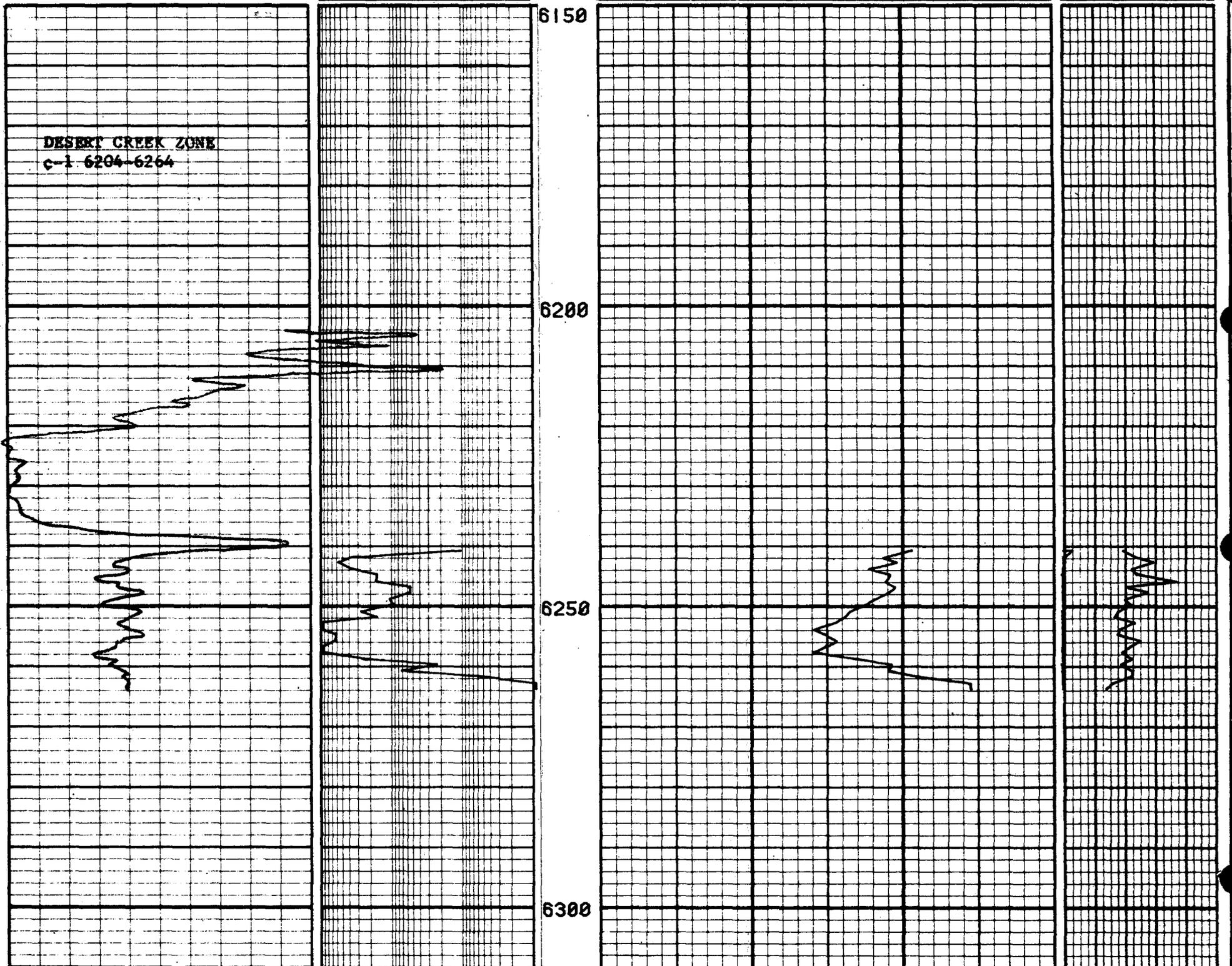
DESERT CREEK ZONE
C-1 6204-6264

6150

6200

6250

6300



FD-316 (Rev. 11-1-83)
November 1983
Form No. 316-1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE
(Other Instructions
Reverse Side)

Produced Pursuant to
Executive Order 11644
Federal Acquisition Regulation
PART OF DIVISION OF OIL, GAS & 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.)

U-43653

4. IS INDIAN, ALLOTTEE OR TRIBE WAVE

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
South East Bug

9. WELL NO.
1-21

10. FIELD AND POOL, OR WELLS
Wildcat

11. SEC., T., R., M., OR NEQ. AND
SURVEY OR AREA

Sec. 21, T36S, R26E

12. COUNTY OR PARISH 13. STATE

1. OIL WELL GAS WELL OTHER SIMO #344320520

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P.O. Box 2659, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

NE SW 1980' FSL & 1780' FWL

14. PERMIT NO.
43-037-31231

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6524' KB

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
(Other) <input type="checkbox"/>	

(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 above referenced well was plugged and abandoned on 1-22-86. Please refer to the attachment for plug placements.

RECEIVED
FEB 20 1986

DIVISION OF
OIL, GAS & MINING

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

SIGNED *D. J. Jones*
(This space for Federal or State office use)

TITLE District Production Manager DATE February 14, 1986

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE
ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

*See Instructions on Reverse Side

DATE: 2-24-86
BY: *John R. Bay*

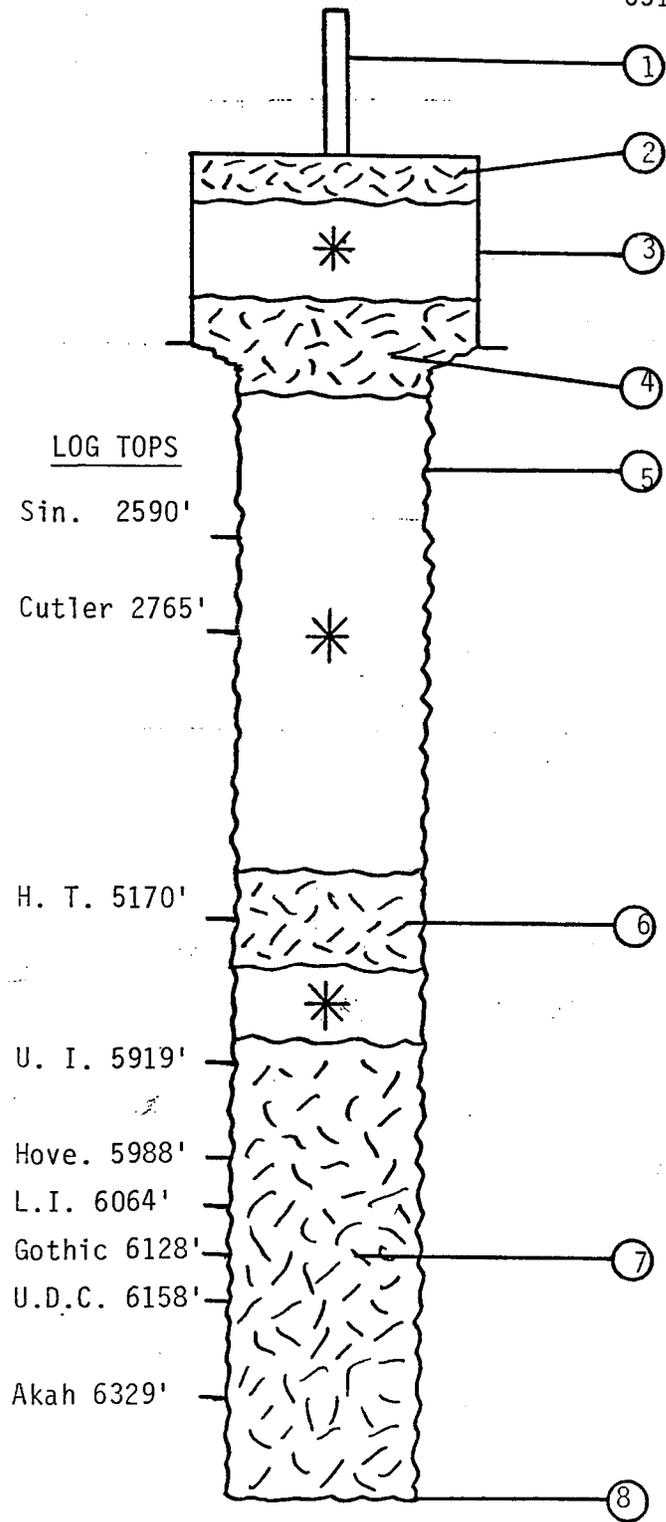
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

South East Bug #1-21
 Sec. 21, T36S, R26E
 San Juan County, Utah
 All Measurements KB
 6512' GL 6524' KB

DESCRIPTION

1. Dry hole Marker
2. 50' Cement plug to surface
3. 9-5/8" 36# K-55 csg. set at 1901' and cemented to surface with 740 sx.
4. 200' cement plug balanced from 1800' to 2000'.
5. 8-3/4" open hole to TD.
6. 200' Cement Plug from 5070' to 5270'.
7. 855' Cement Plug from 5800' to TD-6655'.
8. TD 6655'.

Procedure was discussed and agreed upon by Mr. Lyn Jackson, BLM, Moab, Utah, and Mr. Frank Krugh, Marathon, Casper, Wyoming, on January 21, 1986.



* Heavy Weight Mud

RECEIVED
 FEB 20 1986

DIVISION OF
 OIL, GAS & MINING

COMPANY: Marathon Oil Company UT ACCOUNT # _____ SUSPENSE DATE: 2-28-86

TELEPHONE CONTACT DOCUMENTATION

CONTACT NAME: Frank Krugh

CONTACT TELEPHONE NO.: 307-577-1555

SUBJECT: Subsequent Report

(Use attachments if necessary)

RESULTS: He will get that tome

(Use attachments if necessary)

CONTACTED BY: Stephane Barila

DATE: 2-14-86



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

March 11, 1986

Marathon Oil Company
Post Office Box 2659
Casper, Wyoming 82602

Gentlemen:

Re: South East Bug 1-21 - Sec. 21, T. 36S, R. 26E,
San Juan County, Utah - 43-037-31231

Records submitted for the referenced well indicate that three drill stem tests were conducted. Tests # 1 and # 2 have been submitted and are included with the well file, however Test # 3 has not been received. A copy of DST # 3 for State records would be appreciated.

A summary reference to DST # 3 has been copied from the well file, and is enclosed for you convenience.

Respectfully,

Norman C. Stout
Administrative Assistant

NCS/mks

Enclosed:

cc: Dianne R. Nielson
Ronald J. Firth
John R. Baza
File

0356/23

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: September 30, 1990

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

U-43653

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

Bond Release

2. Name of Operator

Marathon Oil Company

8. Well Name and No.

Southeast Bug #1-21

3. Address and Telephone No.

P. O. Box 2690, Cody, Wyoming 82414 (307) 587-4961

9. API Well No.

43-037-31231

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1980' FSL & 1780' FWL, Sec. 21, T36S, R26E

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

San Juan, Utah

43-037-31231 PA

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

- Abandonment
- Recompletion
- Plugging Back
- Casing Repair
- Altering Casing
- Other

- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection

Bond Release

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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 directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Attached please find a copy of written verification from the surface owner releasing Marathon from any further obligations for surface restoration. With this information Marathon is requesting final bond release.

RECEIVED

Post-it routing request pad 7664

MAR 14 1991

ROUTING - REQUEST

Please

- READ
- HANDLE
- APPROVE

and

- FORWARD
- RETURN
- KEEP OR DISCARD
- REVIEW WITH ME

To LWP
Fed. Bond release request
1-UC#
2-micro FILM "Room"
3-File

From LCP

DIVISION OF OIL GAS & MINING

File & Contracts (Houston)

Dist: BLM-Orig

14. I hereby certify that the fore

Signed R P M e

(This space for Federal or St

Approved by Willie
Conditions of approval, if an

Date 3-15-91

1/24/91

Date

Date 3/5/91

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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: September 30, 1990

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

U-43653

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

Bond Release

2. Name of Operator

Marathon Oil Company

8. Well Name and No.

Southeast Bug #1-21

3. Address and Telephone No.

P. O. Box 2690, Cody, Wyoming 82414 (307) 587-4961

9. API Well No.

43-037-31231

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1980' FSL & 1780' FWL, Sec. 21, T36S, R26E

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Wildcat

11. County or Parish, State

San Juan, Utah

43-037-31231 PA

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TYPE OF SUBMISSION

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

TYPE OF ACTION

- Abandonment
- Recompletion
- Plugging Back
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- Altering Casing
- Other
- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection

Bond Release

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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 directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Attached please find a copy of written verification from the surface owner releasing Marathon from any further obligations for surface restoration. With this information Marathon is requesting final bond release.

RECEIVED

MAR 14 1991

DIVISION OF
OIL GAS & MINING

Dist: BLM-Orig + 3--cc: SUDOGM-2, WRF, FMK, WTR-5, Drilling, Title & Contracts (Houston)

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

Signed

R P Meador

Title

Regulatory Coordinator

Date

1/24/91

(This space for Federal or State office use)

Approved by

William C. Stanger

Title

Assistant District Manager
for Minerals

Date

3/5/91

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.

RELEASE OF
SURFACE DAMAGES



KNOW ALL MEN BY THESE PRESENTS: That the undersigned hereby release and forever discharge MARATHON OIL COMPANY, and Ohio corporation, and its demands whatsoever against said MARATHON OIL COMPANY by reason of any damage to date hereof to the surface arising from any operations conducted by MARATHON OIL COMPANY in connection with the drilling and operations of the South East Bug 1-21 well, located in Section 21, T36S-R26E, San Juan County, Utah on the following discribed land situate in the County of San Juan, State of Utah to wit:

T. 36 S., R. 26. E., Section 21 (Lease U-43653)

including the construction of roads, erection of derricks and other structures, whether upon the lands hereinabove specifically described or not.

Executed the 16th day of ~~October~~ ^{November}, 1990.

(See attached resignation.)

Grady H. Rogers, Co-trustee for Clifford Wright, separately and Essie J. Wright, AKA Essie Wright, separately under each of the Trust Agreements dated September 18, 1979.

Edward T. Searle

Edward T. Searle, Co-trustee for Clifford Wright, separately and Essie J. Wright, AKA Essie Wright, separately under each of the Trust Agreements dated September 18, 1979.

Grady H. Rogers
312 Elm Street
Hereford, TX 79045
(806) 364-4596

July 9, 1986

Edward T. Searle, Trustee
P. O. Box 198
Durango, CO 81302

Rick Brennan, Executive Director
Colorado Heart Association, Inc.
4521 E. Virginia Avenue
Denver, CO 80022

Donna L. Dorré, Executive Director
American Cancer Society
Colorado Division, Inc.
2255 S. Oneida
Denver, CO 80244

RECEIVED

MAR 14 1991

DIVISION OF
OIL GAS & MINING

Re: Clifford Wright and Essie Wright Trusts

Dear Ms. Dorré and Gentlemen:

On April 2, 1985 in Case 85 PR 20, District Court, Montezuma County, Colorado, I was appointed Co-Trustee with Edward T. Searle of the Clifford Wright Trust, UTA September 18, 1979, and the Essie J. Wright Trust, UTA September 18, 1979. The Clifford Wright Trust is now registered in La Plata County, Colorado, as Case 86 TR 1, District Court, and the Essie Wright Trust is registered as Case 86 TR 2, District Court, La Plata County.

Because of the death of both Clifford Wright and Essie Wright and my appointment as the Personal Representative in their probate estates, I believe the trusts will be better served if I do not continue in my capacity as Co-Trustee. I hereby resign as Co-Trustee of the Clifford Wright Trust and the Essie J. Wright Trust.

To the extent that it is necessary to effect transfer of bank accounts, the endorsement of outstanding instruments now issued to either of said trusts, or the transfer of real estate or interest therein, or personal property or interest therein, or the accomplishing of any transfers where my signature is required as pertaining to trust assets, I hereby appoint Edward T. Searle as attorney-in-fact for Grady H. Rogers to make such transfers.

Very truly yours,

Grady H. Rogers
Grady H. Rogers

STATE OF COLORADO)
) ss
COUNTY OF MONTEZUMA)

The foregoing instrument was acknowledged before me by Grady H. Rogers on July 9, 1986.

My commission expires: 11-4-87

Beth Ann [Signature]
Notary 140 [Signature]

