

STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dr. G. A. (Jim) Shirazi, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

September 13, 1983

OIL & GAS OPERATORS
STATE OF UTAH

RE: Reports and Applications

In order to help assure that reports and applications submitted to the Division are accurate and complete, please utilize the following information:

APPLICATION FOR PERMIT TO DRILL

1. Include the telephone number of the person to contact if additional information is needed.
2. Properly identify the lease as Indian, Fee, State or Federal.
3. Ensure that the data on the survey plat corresponds with data on the Application for Permit to Drill.
4. The survey plat should be 1" = 1000' scale to facilitate consistency of review.
5. Investigate the possibility of special well spacing considerations for the proposed well site and if uncertain as to any well spacing requirements, please contact the Division prior to submitting the application.
6. If the well is part of a State or Federal Unit Agreement, identify the Unit on the application submittal.
7. If drilling operations are not commenced within six (6) months following approval of an application, please advise the Division of your future drilling intentions.
8. A ten (10) point drilling program should be submitted with each application.

OPERATING AGREEMENTS

If there is more than one working interest in the drilling unit, the remarks section of the Application for Permit to Drill shall include a statement that an AFE or other suitable notification of intent to drill has been directed to each working interest in the drilling unit, and that an operating agreement is being considered.

ADEQUATE AND APPROVED SOURCE OF WATER

Spudding shall not commence until the operator has provided this office a copy of the Utah Division of Water Rights (telephone 801-533-6071) approval for use of water at the drilling site.

BONDING REQUIREMENTS

The operator, as identified on the Application for Permit to Drill, must provide an appropriate bond prior to receiving final approval to drill. If you are uncertain as to the bonding requirements for a particular lease, please contact the Division prior to submitting an application to drill.

REPORTS

There are field reporting responsibilities associated with an approved permit to drill, and one of the reasons for posting bond is to ensure that the reports are submitted as required:

SPUDDING REPORT - Telephonically within 24 hours and a written follow-up within 30 days.

MONTHLY DRILLING AND PRODUCTION REPORTS - Not later than the 30th day of each succeeding month, starting with spud date.

COMPLETION REPORT - Not later than 90 days after completion, including copies of electric logs, formation tops, etc.

CHANGE OF PLANS - Any change of approved plans must receive prior approval by this agency. In emergency situations, verbal approval may be given, but written request (for the record) must follow within 30 days.

There are other reporting requirements, and you will want to study current regulations published by the Agency.

API NUMBERS

Once an Application for Permit to Drill has been approved and has received an API Number, all reports and correspondence referring to the well or its location must include the number.

USE OF A SINGLE FORM TO REPORT INFORMATION FOR MORE THAN ONE WELL

1. Since physical files are maintained for each well, please send a copy for each well file.
2. Do not mix information which is classified as "Confidential" with other reported information.



POWERS ELEVATION

OIL WELL ELEVATIONS — LOCATIONS
ENVIRONMENTAL — ARCHAEOLOGICAL SERVICES
800 SOUTH CHERRY STREET, SUITE 1201
DENVER, COLORADO 80222
PHONE NO. 303/321-2217

October 27, 1983

To: State of Utah
Oil and Gas Conservation Board

RE: Marathon Oil Company
McCracken Springs #1-31 Fed U-51846
2140 FNL & 940 FEL
Sec. 31, T37s, R24E
San Juan, Utah

The above location is in an area of dissection with exposed rock out-cropping. The location was not staked where requested due to parallel drainages thru the pad and pit areas.

Truly,

Gerald G. Huddleston

Gerald G. Huddleston
Land Surveyor

CONFIDENTIAL



POWERS ELEVATION

OIL WELL ELEVATIONS -- LOCATIONS
ENVIRONMENTAL -- ARCHAEOLOGICAL SERVICES
600 SOUTH CHERRY STREET, SUITE 1201
DENVER, COLORADO 80222
PHONE NO. 303/321-2217

October 27, 1983

Access Directions

McCraken Springs #1-31 (U-51846)

The distance from Hatch Trading Post is 11.1 miles from HTP go 6.6 miles Northerly on CR 446 and CR246 to Y intersection; go westerly on Alkali ridge road 2.8 to power line; go NW'erly 1.9 miles to beginning proposed access. Flagged red and yellow.

Tank Canyon #1-9 (U-51275)

The distance from Hatch Trading Post is 19.8 miles. From HTP go Northerly on CR446, CR246 and CR146 18.6 miles; take Bradford Canyon road 1.2 miles westerly to location.

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

November 9, 1983

Utah State Oil, Gas & Mining Commission
4241 State Office Building
Salt Lake City, Utah 84114

To Whom It May Concern:

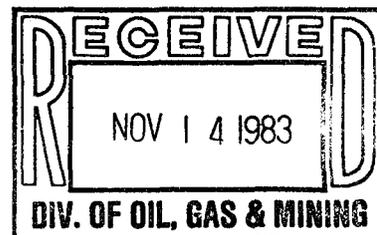
Marathon Oil Company controls all the oil and gas lease interests within a 660' radius of the proposed location of its #1-31 McCracken Spring well in Section 31, T37S-R24E, San Juan County, Utah. Utah Federal Oil and Gas Lease #U-51846.

Therefore, no other interests will be effected.

Sincerely,

A handwritten signature in cursive script that reads 'Carl L. Bassett'.

Carl L. Bassett
Landman



CLB/krj

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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
 PO Box 2659, Casper WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface: 2140' FNL & 940' FEL
 At proposed prod. zone: *SENE*

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 11.6 miles northwest from Hatch Trading Post, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 940'

16. NO. OF ACRES IN LEASE 906.30

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. none

19. PROPOSED DEPTH 6360' *AKAH*

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5684' ungraded ground

22. APPROX. DATE WORK WILL START*
 SAP 4 quarter, 1983

5. LEASE DESIGNATION AND SERIAL NO.
 U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 McCracken Springs

9. WELL NO.
 1-31

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 31, T37S, R24E

12. COUNTY OR PARISH 13. STATE
 San Juan UT

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please see Item #4 of 10-Point for complete casing and cementing record.				

WE REQUEST THAT ALL INFORMATION REGARDING THIS WELL BE HELD CONFIDENTIAL AS PRESCRIBED BY FEDERAL AND STATE LAW.

State of Utah OG & M: Request exception location under provisions of Rule C-3-c for topographical reasons. Marathon controls oil and gas leases within 660' radius of the proposed exception location, therefore no other interests are affected. Please see attached surveyors statement and BLM's.

Please see the following attachments:

- 1. Surveyor's Plat
- 2. Ten-Point Drilling Program
- 3. BOP Schematic
- 4. Thirteen-Point Surface Plan
- 5. Maps and Diagrams

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The person responsible for NTL-6 is Walt West, Government Compliance Office (307) 577-1555 Home (307) 235-1420

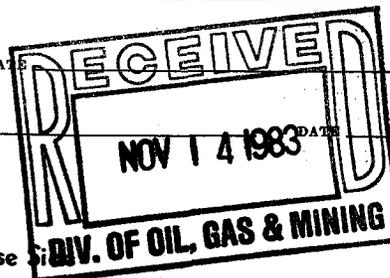
IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer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

24. SIGNED Doyle J. Jones TITLE District Operations Manager DATE November 9, 1983
 (This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:



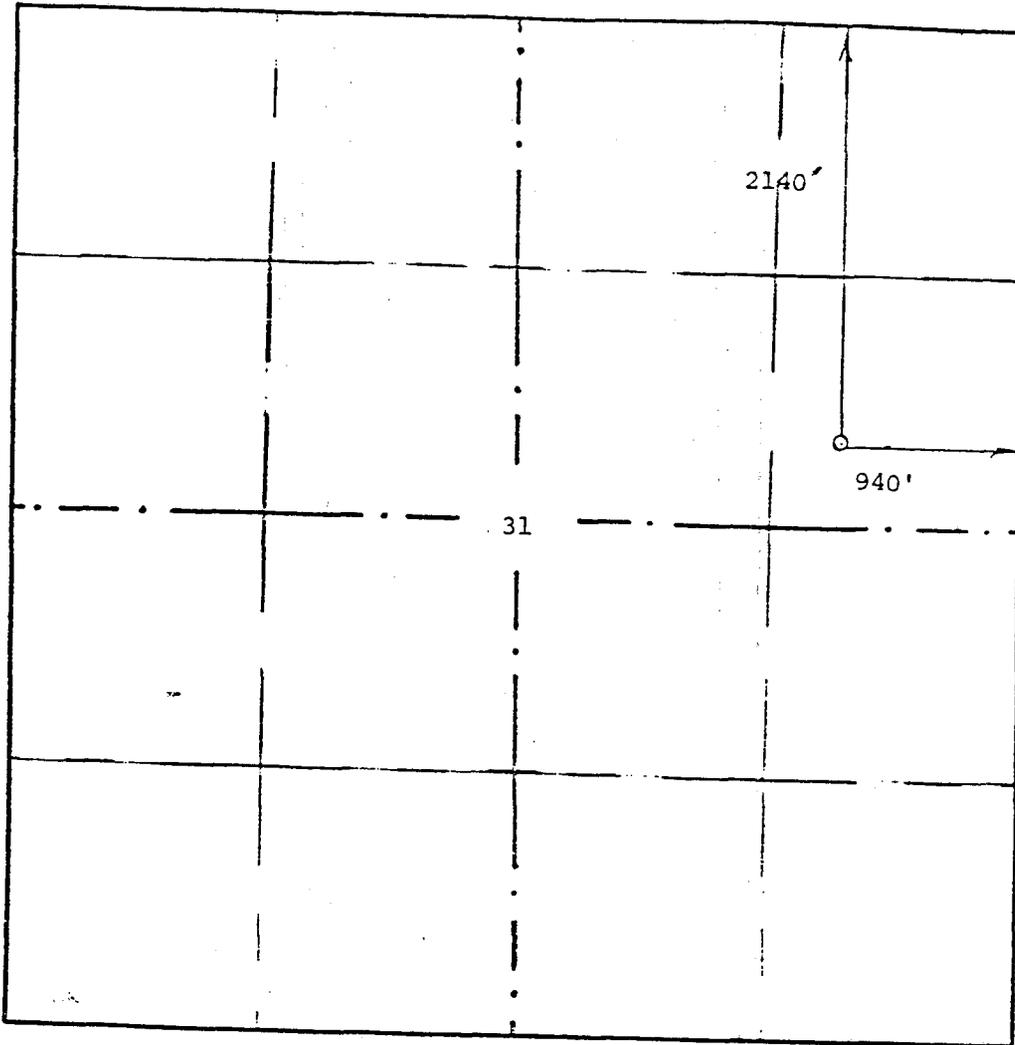
*C-3-C
11/14/83
M*

Jed



POWERS ELEVATION

Well Location Plat



1"=1000'

Operator Marathon Oil Company		Well name McCracken Springs #1-31 Fed U51846	
Section 31	Township 37S	Range 24E	Meridian SLM
Footages 2140' FNL & 940' FEL		References: 300' S68°E 5708' 300' N68°W 5666'	County/State San Juan Utah
Elevation 5684'	Requested by Walt West		
The above plat is true and correct to the best of my knowledge and belief.			
10/27/83	 Gerald G. Huddleston, L.S.		

MARATHON OIL COMPANY
DRILLING OPERATIONS PLAN

DATE: November 8, 1983

WELL NAME: McCracken Springs #1-31

LOCATION: 2140' FNL & 940' FEL, Sec. 31, T37S, R24E, San Juan County, Utah

1. Geologic name of the formation:

Dakota

2. Estimated tops of important geological markers:

<u>Formation</u>	<u>Depth (KB)</u>	<u>Datum</u>
Morrison	250'	+5,463'
Navajo	1,400'	+4,313'
Wingate	1,800'	+3,913'
Chinle	2,325'	+3,388'
Moenkopi	3,000'	+2,713'
Cutler	3,060'	+2,653'
Honaker Trail	5,030'	+ 683'
Ismay	6,015'	- 302'
Desert Creek	6,265'	- 522'
Akah	6,360'	- 647'
T.D.	6,360'	- 647'

3. Estimated depths at which oil, water, gas or other mineral bearing formations are expected to be encountered:

<u>Formation</u>	<u>Depth</u>	<u>Possible Content</u>
Navajo	1,400'	Water
Cutler	3,060'	Brine
Honaker Trail	5,030'	Oil
Ismay	6,015'	Oil*
Desert Creek	6,265'	Oil"

*Primary Objective

4. The Proposed Casing Program:

Casing Design

<u>CASING STRING</u>	<u>HOLE SIZE</u>	<u>INTERVAL</u>	<u>SECTION LENGTH</u>	<u>SIZE (OD)</u>	<u>WEIGHT, GRADE AND JOINT</u>	<u>NEW OR USED</u>	<u>MUD WEIGHT</u>	<u>1,000# TENSION LOAD</u>	<u>SF_t</u>	<u>SF_c</u>	<u>SF_b</u>
Conductor	20"	0 - 60'	60'	16"	Thinwall Steel	New	8.8 - 9.0				
Surface	12-1/4"	0 - 1900'	1900'	9-5/8"	40#* N-80 LTC	New	8.5 - 9.0	76	9.70	3.44	2.46
Production	8-3/4"	0 - 6360'	6360'	7"	23# N-80 LTC	New	9.4 - 10.8	146.3	3.02	1.07	2.72

*Specially drafted to 8.75"

Cement Program:

9-5/8" Casing

Cement Volume: $1,900' \times .3132 \text{ cu.ft/ft} \times 2.0 = 1,190 \text{ cu.ft.}$

Lead Slurry: 1,400' calculated plus 100% excess - 480 sacks of high yield cement (35% fly ash, 65% cement, 6% bentonite) containing 1/4#/sack cellophane flakes and 2% CaCl₂.

Weight: 12.7 ppg

Yield: 1.84 ft³/sack

Water Requirement: 9.9 gal/sack

Tail Slurry: 500' calculated plus 100% excess - 270 sacks of Class "B" cement containing 1/4#/sack cellophane flakes and 2% CaCl₂.

Weight: 15.6 ppg

Yield: 1.18 ft³/sack

Water Requirement: 5.2 gal/sack

Casing equipment will include a float shoe, float collar and 3 centralizers. WOC time will be a minimum of 6 hours. If float equipment holds, closed-in pressure after cementing is not recommended.

7" Casing

Cement volume: $5,265' \times .1503 \text{ cu.ft./ft} \times 1.3 \text{ excess} = 1,029 \text{ cu.ft.}$ Actual cement volumes will be based upon caliper log plus 30% excess.

Slurry Preflush: 20 barrels

Lead Slurry: (4,100' column height) 305 sx. 'Lite' cement w/2% CaCl_2 .

Weight: 12.7 ppg

Yield: 1.84 ft^3/sack

Water Requirement: 9.9 gal/sack

Tail Slurry: (1,165' column height) 193 sx. Class "B" w/1% fluid loss additive.

Weight: 15.6 ppg

Yield: 1.18 ft^3/sack

Water Requirement: 5.2 gal/sack

Casing equipment will include a float shoe, float collar and 6 centralizers.

5. Pressure Control Equipment:

B.O.P equipment will include a double-ram type preventer with pipe and blind rams and an annular preventer. All equipment will have a 3,000 psi or greater working pressure. Rams, valves, lines, choke manifold and casing will be tested to 200 psi for 5 minutes and 1,500 psi for 5 minutes prior to drilling out from under 9-5/8" surface casing. After drilling casing shoe and 5 feet of additional hole, a shoe test will be performed to 13.0 ppg equivalent mud weight or leakoff, whichever occurs first. The accumulator should be of sufficient capacity to meet the following requirements:

1. Ability of immediate closure to all members of the stack without recharging.
2. A total of 50% of the original fluid should remain as a reserve after accumulator activation.
3. A minimum pressure of 1,200 psi is required to insure that the preventer remains closed.

Visual checks of the equipment will be made tourly. Function pipe rams daily and blind rams on trips.

6. Drilling Mud Program:

<u>From</u>	<u>To</u>	<u>Type Mud</u>	<u>Weight</u>	<u>% Oil</u>	<u>Water Loss</u>
0'	1,900'	Spud	8.5-9.0	0	No Control
1,900'	3,060' Cutler	Gel/Water	8.5-9.0	0	No Control
3,060 Cutler	6,015' U. Ismay	Gel/Chemical	9.4-10.8	0	10.0-12.0 cc's
6,215 U. Ismay	TD	Gel/Chemical	As Required	0	8.0-9.0 cc's

Mud weights should be kept to a minimum to maximize ROP and minimize lost circulation. However, the existence of water flows may necessitate an increase in mud weight while drilling. Sufficient barite should be on location prior to spud in order to increase mud weight to 11.7 ppg if required.

7. Auxiliary Equipment Required:

A drilling rate recorder, calibrated to record drilling time for each one foot drilled will be used.

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

7. Auxiliary Equipment Required (continued):

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.

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'	1,900'	250'	1°	1°
1,900'	T.D.	500'	5°	1°

8. Testing, Logging, Coring and Fracing Program:

Samples: 10' intervals from 1,900' to T.D. with a two-man mud logging unit.

Logging: 1. DLL/MSFL/GR from T.D. to the surface casing shoe, w/the GR to surface.

2. BHC Sonic/VDL/GR from T.D. to surface casing.

3. Litho-Density/CNL/Spectral GR from T.D. to surface casing.

4. The coriband (Cyberlook) service will be used from the top of the Honaker Trail Formation to T.D.

Coring: Approximately 250' of core will be cut in the Ismay & Desert Creek Formations.

DST: 4 DST's are anticipated.

Fracing Program: If necessary, acid stimulation.

9. Abnormal Conditions:

The DeChelly Member of the Cutler Formation, if penetrated, may contain over-pressured salt water requiring 10.5 to 11.5 ppg mud weight to control.

Maximum anticipated bottom hole pressure is approximately 3,000 psi.

Maximum anticipated bottom hole temperature is approximately 130°F.

10. Anticipated starting date and duration:

Starting Date: December 1, 1983

Duration: 32 Days

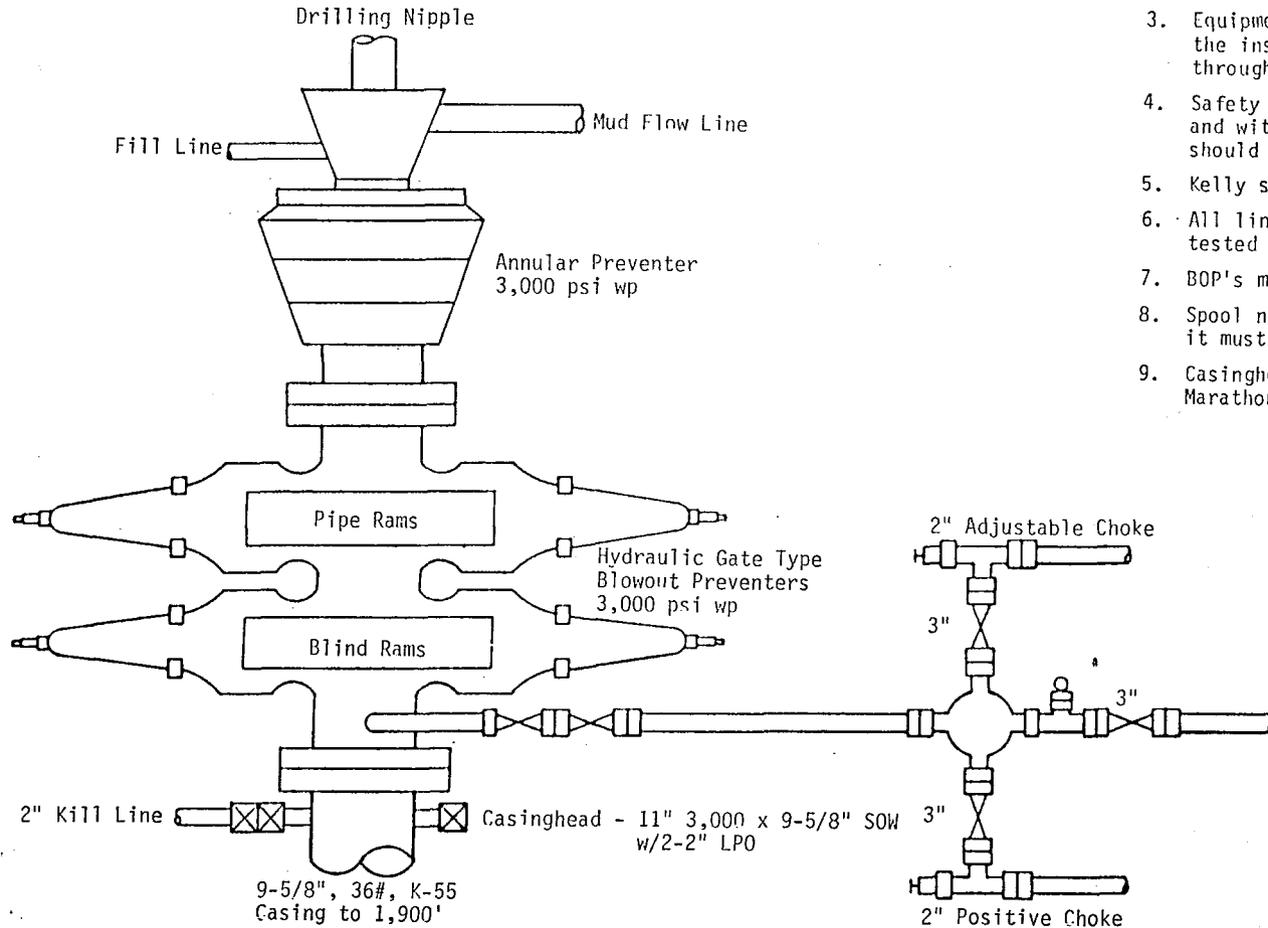
Name Harry A. Newberry / A.G.

Title Drilling Superintendent

Date 10-31-83

McCracken Springs #1-31
 Section 31, T37S, R24E
 San Juan County, Utah

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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 a 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.
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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CONFIRMATION/REPORT OF TELEPHONE CONVERSATION

T O	Name	File, Watt	F R O M	Name	Brian Wood
	Office			Office	BLM- SJRA
	Location			Location	Manticella, UT
	Telephone Number			Telephone Number	801-587-2201

Purpose of Call:

I agreed with Watt that the exception for the location was justified for ~~three~~ reasons:

- 1) Extensive seismic activity enabled Marathon to ~~pinpoint~~ pinpoint the geologic target.
- 2) Nearby archaeological sites limited the locations where a pad could be built.
- 3) The legal location fell in a naturally & heavily dissected drainage.

Explanatory Remarks:

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11-3-83
(Date)

Brian Wood
(Signature)

MARATHON OIL COMPANY
SURFACE USE & OPERATIONS PLAN

DATE: November 8, 1983

WELL NAME: McCracken Springs #1-31

LOCATION: 2140' FNL & 940' FEL, Sec. 31, T37S, R24E, San Juan County, Utah

#1 Existing Roads:

A. Proposed well site as staked. (Actual staking should include two each 200-foot directional reference stakes.)

See Survey Plat.

B. Route and distance from nearest town and locatable reference point to where well access route leaves main road.

11.6 miles northwest of Hatch Trading Post, Utah. See Diagram "A" color-coded red.

C. Access road(s) to location color-coded or labeled.

Please see Diagram "A", color-coded green. CONFIDENTIAL

D. If exploratory well, all existing roads within a 3-mile radius (including type of surface, conditions, etc.).

See Diagram "A".

E. If development well, all existing roads within a 1-mile radius of well site.

Not applicable.

F. Plans for improvement and/or maintenance of existing roads.

Any necessary blade work on existing roads. All work will be to BLM stipulations.

#2 Planned Access Roads:

Map showing all necessary access roads to be constructed or reconstructed, showing:

(1) Width: 18'

(2) Maximum grades: 2%

(3) Turnouts: none

(4) Drainage design: ditched and crowned, trailer ditches where needed.

(5) Location and size of culverts and brief description of any major cuts and fills.

None planned.

(6) Surfacing material

Will be purchased by our contractor, Howard Hughes.

(7) Necessary gates, cattleguards, or fence cuts.

None.

- (8) (New or reconstructed roads are to be center-line flagged at time of location staking.)

All construction will be to BLM Class III construction, and San Juan County Standards Class "B". Access road has been center-line flagged.

#3 Location of Existing Wells:

Two-mile radius map if exploratory, or 1-mile radius map if development well, showing and identifying existing:

- (1) Water wells: none
- (2) Abandoned wells: Edwin Cox #1, Oztec Fed. SW SE Sec. 24, T37S, R23E
- (3) Temporary abandoned wells: none { Gulf #1, Oztec - Montezuma Fed.
NE NW Sec. 25, T37S, R23E
- (4) Disposal wells: none { Pan Am #3, Deadman Canyon NW NE
Sec. 30, T37S, R24E
- (5) Drilling wells: none { Patrick Corbin Unit, Fed. #1-1
NW SE Sec. 1, T38S, R23E
- (6) Producing wells: none
- (7) Shut-in wells: none
- (8) Injection wells: none
- (9) Monitoring or observation wells for other resources: none

#4 Location of Existing and/or Proposed Facilities:

A. Within 1-mile radius of location show the following existing facilities owned or controlled by lessee/operator:

- (1) Tank Batteries: none
- (2) Production Facilities: none
- (3) Gathering Lines: none
- (4) Gas Gathering Lines: none
- (5) Injection Lines (indicate if any of the above lines are buried: none
- (6) Disposal Lines: none

B. If new facilities are contemplated, in the event of production, show:

- (1) Proposed location and attendant lines by flagging if off of well pad.

In the event this Wildcat is commercial production, separate APD for production facilities will be submitted.

- (2) Dimensions of Facilities.

See above.

- (3) Construction methods and materials:

All construction would be to Class III, BLM standards.

MARATHON OIL COMPANY
SURFACE USE & OPERATIONS PLAN
PAGE THREE

B. If new facilities are contemplated, in the event of production, show: (cont'd)

(4) Protective measures and devices to protect livestock and wildlife.

Woven wire fences of the pit area.

C. Plans for rehabilitation of disturbed areas no longer needed for operations after construction completed.

Drill site area will be reshaped to conform with the topography. Top soil will be distributed at the proper time. Disturbed areas scarified with contours to a depth of 6" to 8". Seed will be broadcast, as per BLM recommendation.

#5 Location and Type of Water Supply:

A. Show location and type of water supply either on map or by written description.

Primary: SE NE, Sec. 12, T38S, R24E, San Juan County, Utah
Secondary: NW NW, Sec. 25, T37S, R24E, San Juan County, Utah
Water Permit #59429 (09-1316)

B. State method of transporting water, and show any roads or pipelines needed.

Existing roads and access road will be used to haul water to the location.

C. If water well is to be drilled on lease, so state. (No APD for water well necessary, however, unless it will penetrate potential hydrocarbon horizons).

No water well will be drilled.

#6 Source of Construction Materials:

A. Show information either on map or by written description.

Construction materials will be native soils.

B. Identify if from Federal or Indian Land.

None.

C. Describe where materials, such as sand, gravel, stone and soil material, are to be obtained and used.

Any needed materials, will be discussed with Mr. Bob Turri or Mr. Brian Wood of BLM, Monticello, Utah.

D. Show any needed access roads crossing Federal or Indian Lands under Item 2.

None

#7 Methods of Handling Waste Disposal:

Describe methods and location of proposed containment and disposal of waste material, including:

- (1) Cuttings: Reserve Pit
- (2) Drilling fluids: Reserve Pit
- (3) Produced fluids (oil, water): Swab Tanks
- (4) Sewage: Porta Pot

#7 Methods of Handling Waste Disposal: (cont'd)

- (5) Garbage and other waste material (trash pits will be completely contained with small mesh wire to prevent wind scattering trash before being burned or buried).

There will be a 10' x 10' burn pit on the drill site and it will be woven wire fenced.

- (6) Statement regarding proper cleanup of well site area when rig moves out.

Surrounding area will be cleaned up and all burnable materials will be put in the burn pit and burned. Non-burnable debris will be hauled to a local dump site, designated by BLM. Burn permit will be obtained from a state fire warden, John Baker.

#8 Ancillary Facilities:

Identify all proposed camps and airstrips on a map as to their location, area required and construction methods. (Camp center and airstrip center lines to be staked on the ground.)

none

#9 Wellsite Layout:

A plat (not less than 1" = 50') showing:

- (1) Cross sections of drill pad with cuts and fills.

See Diagram "B".

- (2) Location of mud tanks, reserve, burn and trash pits, pipe racks, living facilities and soil material stockpiles.

See Diagram "C".

- (3) Rig orientation, parking areas and access roads.

See Diagram "C".

- (4) Statement as to whether pits are to be lined or unlined. (Approval as used in this section means field approval of location. All necessary staking of facilities may be done at time of field inspection.) A registered surveyor is not mandatory for such operations.

The pit will be lined with commercial bentonite sufficient to prevent seepage.

#10 Plans for Restoration of Surface:

State restoration program upon completion of operations, including:

- (1) Backfilling, leveling, contouring and waste disposal; segregation of spoils materials as needed.

The drill site will be cleaned and waste material put in trash burn pit, which will be covered at the finish of the drilling operation. Reserve pit will be backfilled as soon as it is dry.

#10 Plans for Restoration of Surface: (cont'd)

- (2) Revegetation and rehabilitation - including access roads (normally per BLM recommendations).

The top soil will be distributed and at the proper season, the following BLM seed requirements will be broadcast planted:

2 lbs./acre Indian Ricegrass 2 lbs./acre Fourwing Saltbush
6 lbs./acre Crested Wheatgrass 1 lb./acre Wild Sunflower

Trees will be scattered evenly over the disturbed areas and walked down with a dozer.

- (3) Prior to rig release, pits will be fenced and so maintained until cleanup.

The reserve pit will be fenced on three (3) sides during drilling; at the completions of drilling all pits, they will be fenced on the one remaining side.

- (4) If oil on pit, remove oil or install overhead flagging.

If there is oil on the reserve pit, it will be removed or flagged with overhead flagging.

- (5) Timetable for commencement and completion of rehabilitation operations.

Depending upon climatic conditions, restoration should be completed from six months to one year after abandoning well.

#11 Other Information:

General Description of:

- (1) Topography, soil characteristics, geologic features, flora and fauna.

Sagebrush, scrub cedars, rock formations occasionally dissected by light to heavy drainage features. Deer, rabbits, fox, small rodents, cattle, and sheep.

- (2) Other surface use activities and surface ownership of all involved lands.

Access road and drill site are owned by U.S. Government. Surface facilities will be painted Federal Std. #30318, Badlands Brown.

- (3) Proximity of water, occupied dwellings, archeological, historical or cultural sites.

There is no water or occupied dwellings in the area. Archaeology was performed by LaPlata Archeological Consultants, Inc., Dolores, Colorado, and Monticello, Utah. Any close archaeological finds will be fenced off prior to making location.

#12 Lessee's or Operator's Representative:

Gary A. Newberry, Marathon Oil Company, PO Box 2659, Casper WY 82602.
Office: (307) 577-1555
Home: (307) 235-1325

#13 Certification: The following statement is to be incorporated in the plan and must be signed by the lessee's or operator's field representative who is identified in item No. 12 of the plan:

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 presently 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 and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

November 8, 1983
Date

Guy C. Newberry
Name

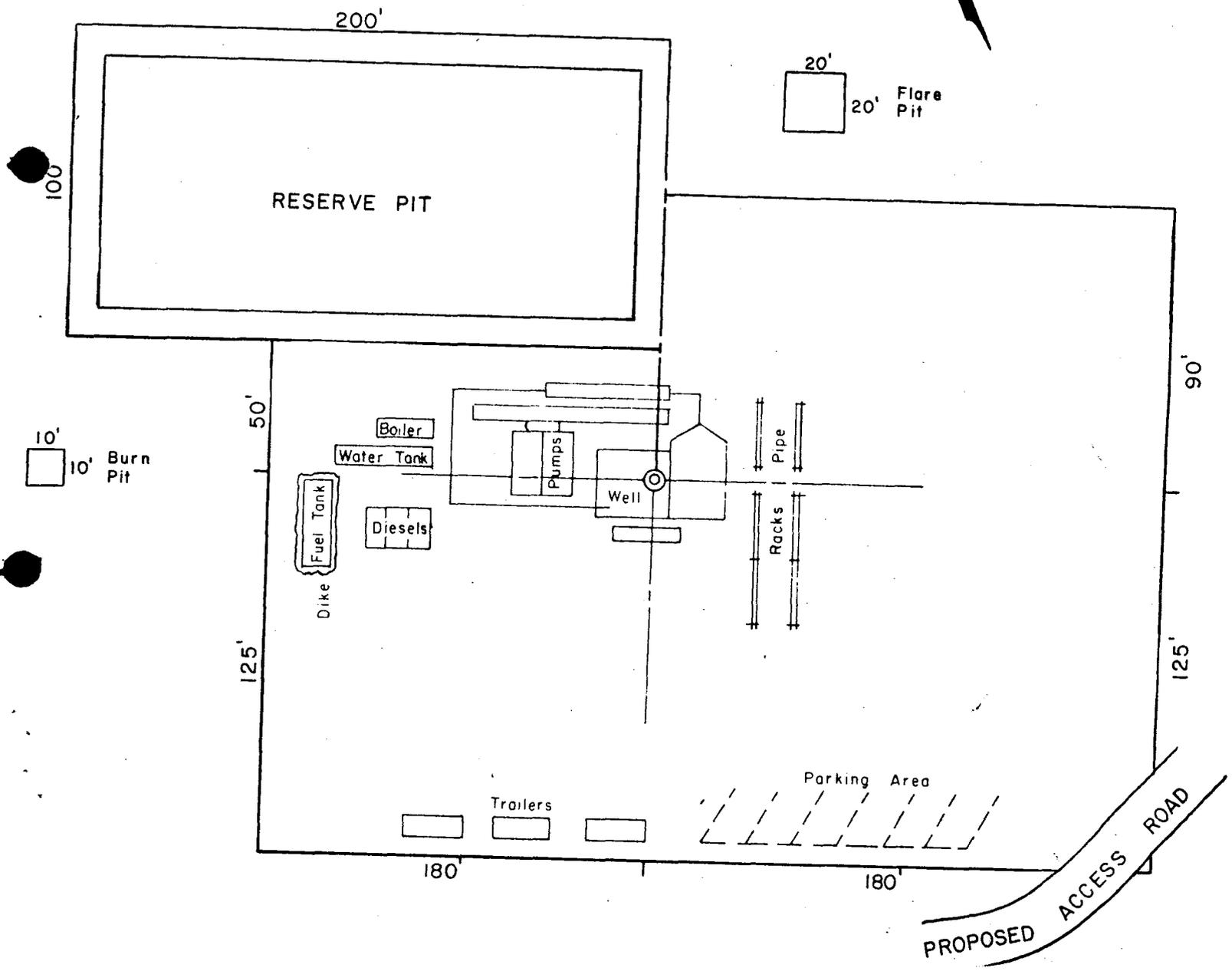
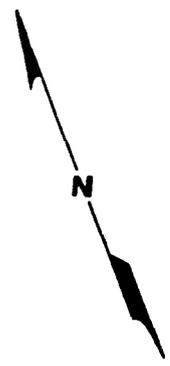
Drilling Superintendent
Title

CONFIDENTIAL

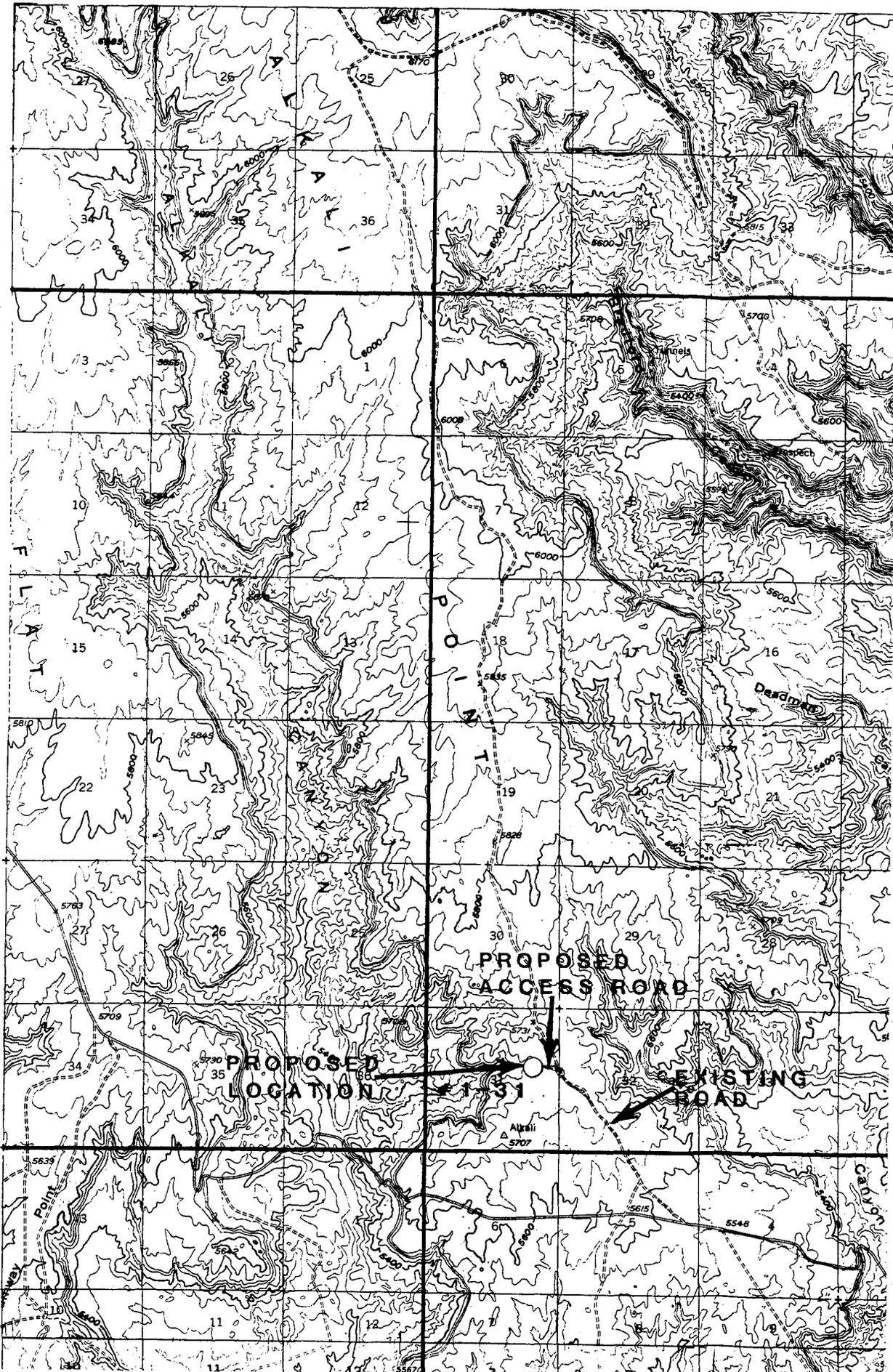
SCHEMATIC
of
RIG LAYOUT

PROPOSED

DIAGRAM C



McCracken Springs #1-31
Fed. U-51846
SW NW Sec. 31, T 37 S R24E
2140' FNL 940' FWL
San Juan Co., Utah



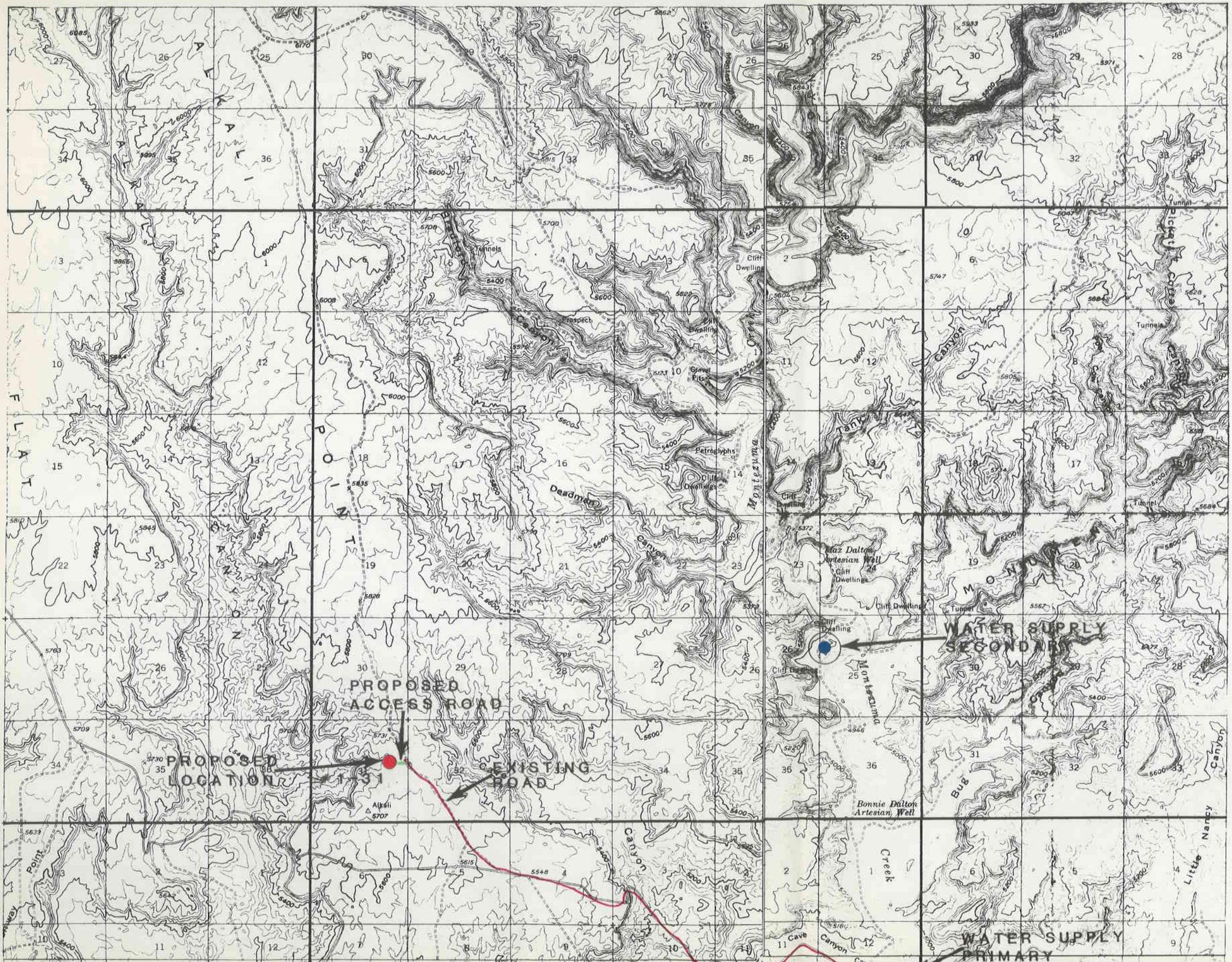
R 23 E

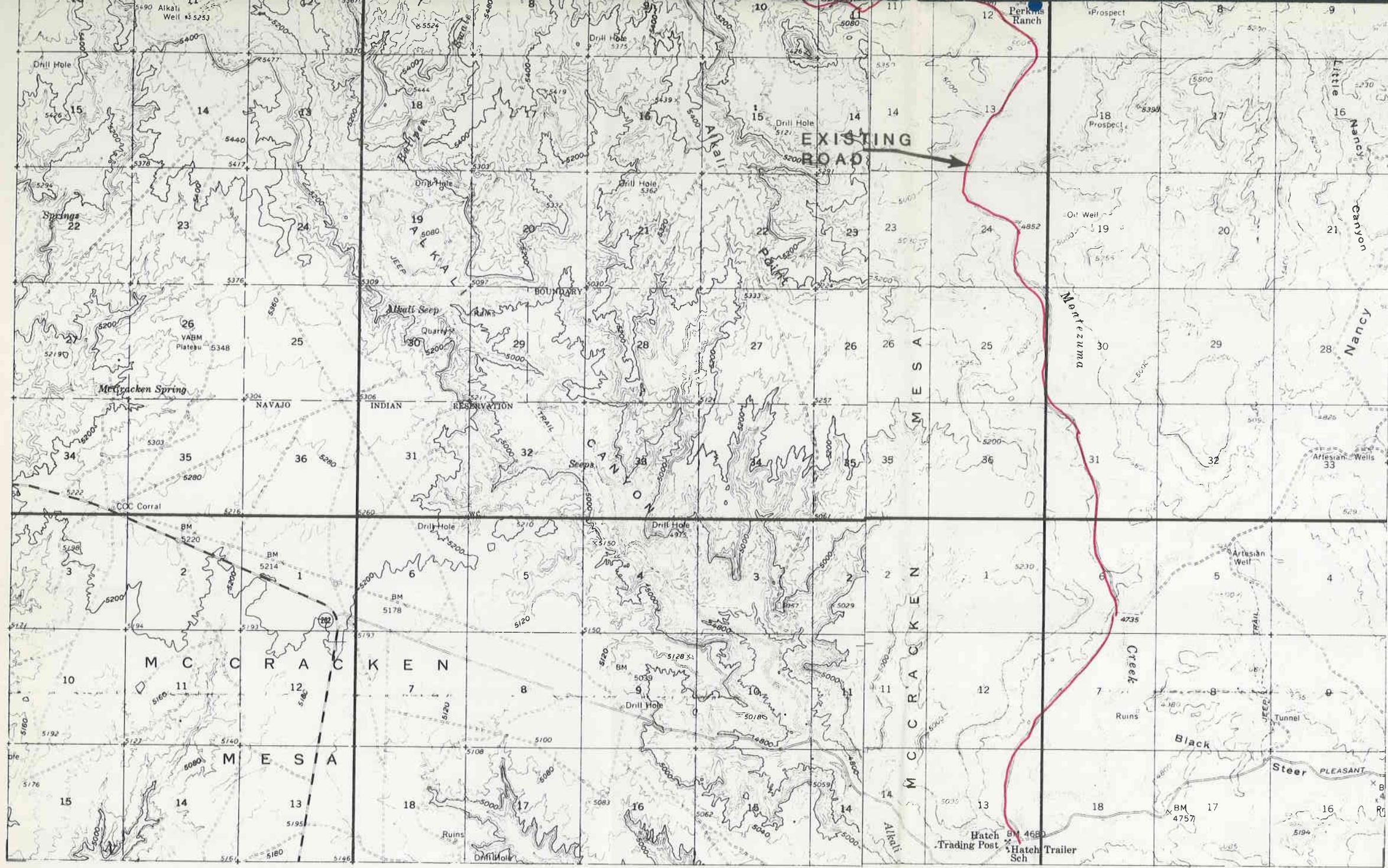
R 24 E

R 25 E

T
36
S

T
37
S





T
38
S

T
39
S

**MARATHON OIL COMPANY
McCRACKEN SPRINGS**

CONFIDENTIAL

**WELL # 1-31
940' FEL & 2140' FNL
SEC. 31, T37S, R24E
SAN JUAN CO., UTAH**

DIAGRAM 

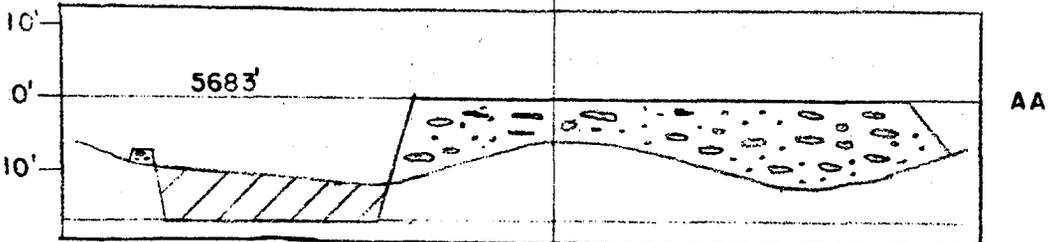
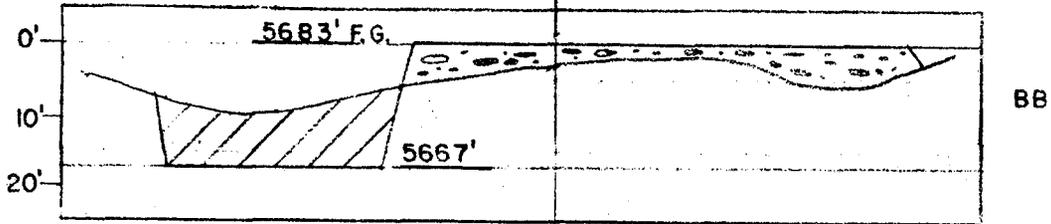
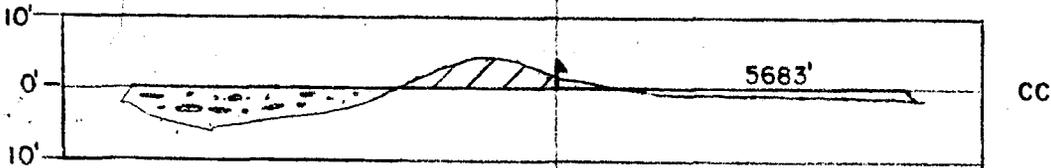
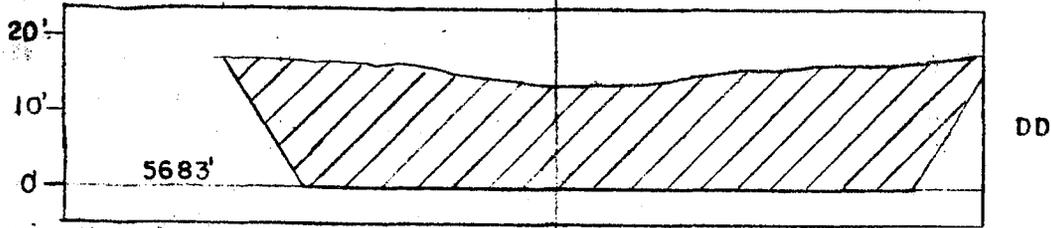
CROSS SECTION

SCALES: 1"=50' H., 1"=20' V.

CUT / / /

FILL - - - - -

SLOPES 2:1



- ± 19,000 CU.YDS. CUT
- ± 8,600 CU.YDS. FILL
- ± 2,500 CU.YDS. WASTE
- ± 2,000 CU. YDS. TOPSOIL

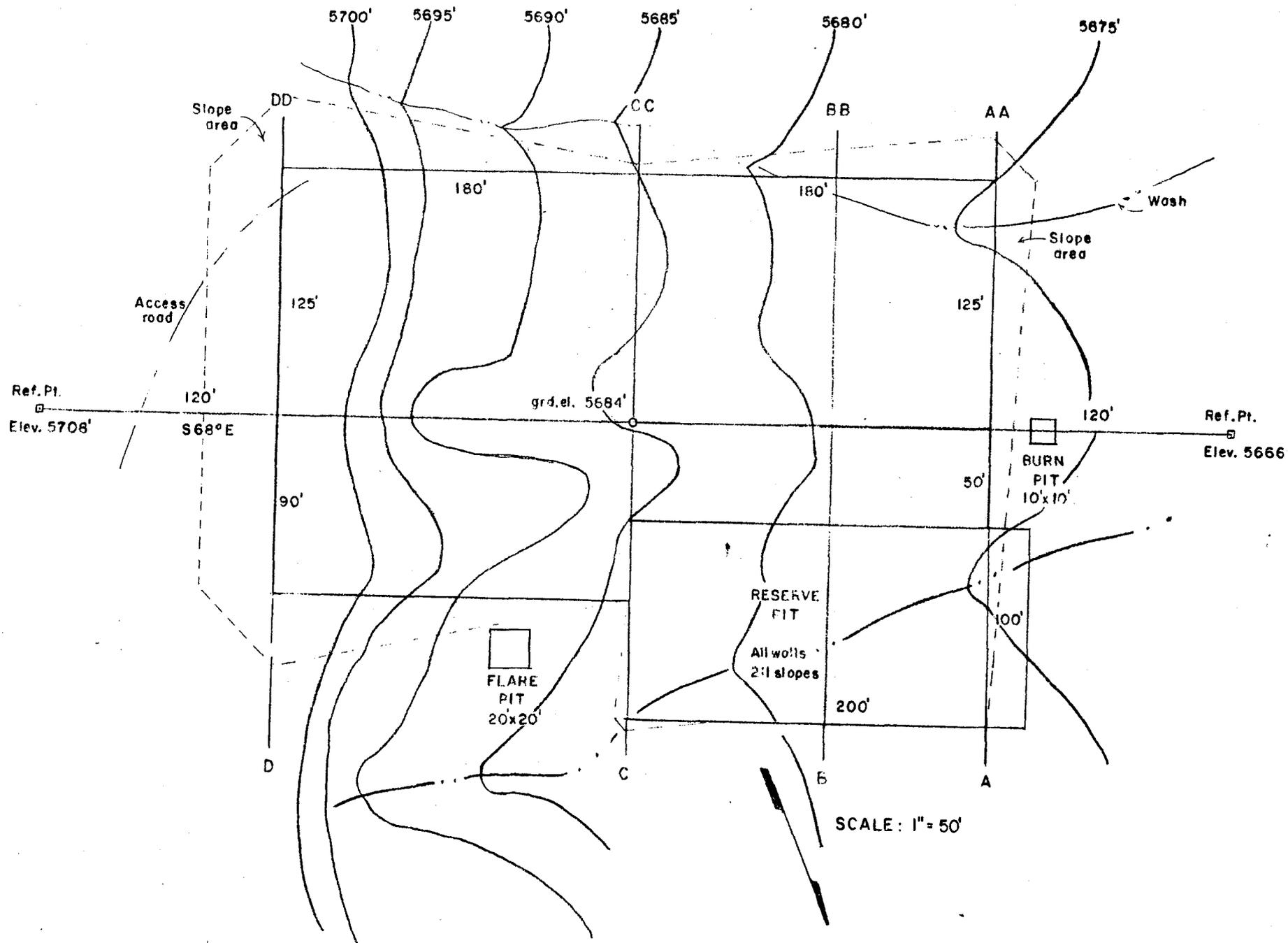
CONFIDENTIAL

DIAGRAM B

MARATHON OIL COMPANY
WELL SITE PLAN

MC CRACKEN SPRINGS #1- 31 FED.U-51846
SECTION 31, T37S, R24E
2140' FNL B 940' FWL
SAN JUAN COUNTY, UTAH

BY G. HUDDLESTON, L.S.



CONFIDENTIAL

OPERATOR MARATHON OIL CO DATE 11-14-83

WELL NAME MC CRACKEN SPRINGS #1-31

SEC SENE 31 T 37S R 24E COUNTY SAN JUAN

43-037-30956
API NUMBER

FCA
TYPE OF LEASE

POSTING CHECK OFF:

- | | | |
|--------------------------------|------------------------------|-----------------------------|
| <input type="checkbox"/> INDEX | <input type="checkbox"/> MAP | <input type="checkbox"/> HL |
| <input type="checkbox"/> NID | <input type="checkbox"/> | <input type="checkbox"/> PI |

PROCESSING COMMENTS:

WATER OK 59429 (09-1316)
NO OIL WELLS WITHIN 1000'

**APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING**
DATE: 11-14-83
BY: [Signature]

CHIEF PETROLEUM ENGINEER REVIEW:

[Signature]

APPROVAL LETTER:

- SPACING: A-3 _____ UNIT c-3-a _____ CAUSE NO. & DATE
- c-3-b c-3-c

SPECIAL LANGUAGE:

RECONCILE WELL NAME AND LOCATION ON APD AGAINST SAME DATA ON PLAT MAP.

AUTHENTICATE LEASE AND OPERATOR INFORMATION

VERIFY ADEQUATE AND PROPER BONDING *FED*

AUTHENTICATE IF SITE IS IN A NAMED FIELD, ETC.

APPLY SPACING CONSIDERATION

ORDER *NO*

UNIT *NO*

c-3-b

c-3-c

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

CHECK DISTANCE TO NEAREST WELL.

CHECK OUTSTANDING OR OVERDUE REPORTS FOR OPERATOR'S OTHER WELLS.

IF POTASH DESIGNATED AREA, SPECIAL LANGUAGE ON APPROVAL LETTER

IF IN OIL SHALE DESIGNATED AREA, SPECIAL APPROVAL LANGUAGE.

VERIFY LEGAL AND SUFFICIENT DRILLING WATER

November 14, 1983

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

RE: Well No. McCracken Springs 1-31
SENE Sec. 31, T. 37S, R. 24E
2140' FNL, 940' FEL
San Juan County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to oil well on said unorthodox location is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

RONALD J. FIRTH - Chief Petroleum Engineer
Office: 533-5771
Home: 571-6068

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-037-30956.

Sincerely,


Norman C. Stout
Administrative Assistant

NCS/as
cc: Branch of Fluid Minerals
Encl.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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
PO Box 2659, Casper WY 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface 2140' FNL & 940' FEL
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
11.6 miles northwest from Hatch Trading Post, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
940'

16. NO. OF ACRES IN LEASE
906.30

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.
none

19. PROPOSED DEPTH
6360'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
5684' ungraded ground

22. APPROX. DATE WORK WILL START*
SAP 4 quarter, 1983

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
Please see Item #4 of 10-Point for complete casing and cementing record.				

WE REQUEST THAT ALL INFORMATION REGARDING THIS WELL BE HELD CONFIDENTIAL AS PRESCRIBED BY FEDERAL AND STATE LAW.

State of Utah OG & M: Request exception location under provisions of Rule C-3-c for topographical reasons. Marathon controls oil and gas leases within 660' radius of the proposed exception location, therefore no other interests are affected. Please see attached surveyors statement and BLM's.

Please see the following attachments:

1. Surveyor's Plat
2. Ten-Point Drilling Program
3. BOP Schematic
4. Thirteen-Point Surface Plan
5. Maps and Diagrams

RECEIVED

NOV 18 1983

CONFIDENTIAL

The person responsible for NTL-6 is Walt West, Government Compliance Office (307) 577-1559 Home (307) 235-1120

DIVISION OF OIL & GAS & MINING

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 Douglas J. Love TITLE District Operations Manager DATE November 9, 1983

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY DISTRICT MANAGER TITLE _____ DATE 11-15-83

CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

*See Instructions On Reverse Side

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

DOGM
MDD-HOAB

CONDITIONS OF APPROVAL FOR NOTICE TO DRILL

Company Marathon Oil

Well No. 1-31

Location T. 37 S., R. 24 E., Sec. 31

Lease No. U-51846

**A COPY OF THESE CONDITIONS SHOULD BE FURNISHED YOUR
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (30 CFR 221), and the approved plan of operations. The operator is considered fully responsible for the actions of his subcontractors. The following items are emphasized:

1. There shall be no deviation from the proposed drilling and/or workover program as approved. Safe drilling and operating practices must be observed. All wells, whether drilling producing, suspended, or abandoned shall be identified in accordance with 30 CFR 221.22. Any changes in operations must have prior approval of this office. Pressure tests are required before drilling out from under all casing strings set and cemented in place. Blowout preventer controls must 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 insure good mechanical working order, and this inspection recorded on the daily drilling report. Preventers will be pressure tested before drilling casing cement plugs. All BOP pressure tests must be recorded on the daily drilling report.
2. All shows of fresh water and minerals will be reported and protected. A sample will be taken of any water flows and furnished this office for analysis. All oil and gas shows will be adequately tested for commercial possibilities, reported and protected.
3. 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 this office. If operations are to be suspended, prior approval of this office must be obtained and notification given before resumption of operations.

In the event abandonment of the hole is desired, an oral request may be granted by this office, but must be timely followed within 15 days with a "Notice of Intention to Abandon" (Form 9-331). Unless the plugging is to take place immediately upon receipt of oral approval, the District Manager must be notified at least 48 hours in advance of the plugging of the well in order that a representative may witness plugging operation. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form 9-331) must be submitted within 15 days after the actual plugging of the well bore, reporting where the plugs were placed, and the current status of the surface restoration. If surface restoration has not been completed at that time, a follow-up report on form 9-331 should be filed when all surface restoration has been completed and the location is considered ready for final inspection.

4. The spud date will be reported orally to the respective District Manager's office within 48 hours after spudding. If the spudding occurs on a weekend or holiday, wait until the following regular workday to make this report.

Periodic drilling progress reports must be filed directly with the District Manager's office on a frequency and form or method as may be acceptable to the District Manager.

In accordance with NTL-1, this well must be reported on Form 9-329 "Monthly Report of Operations", starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report should be filed, in duplicate, directly with Royalty Management Accounting Center, Minerals Management Service, P. O. Box 2859, Casper, Wyoming 82602.

Any change in the program must be approved by the District Manager. "Sundry Notices and Reports on Wells" (form 9-331) must be filed for all changes of plans and other operations in accordance with 30 CFR 221.58. Emergency approval may be obtained orally, but such approval does not waive the written report requirement. Any additional construction, reconstruction, or alteration of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground will require the filing of a suitable plan pursuant to NTL-6, and prior approval by the District Manager.

5. Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (form 9-330) will be submitted not later than 15 days after completion of the well or after completion of operations being performed, in accordance with 30 CFR 221.59. Two copies of all logs run, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with form 9-330. Samples (cuttings, fluid, and/or gas) will be submitted only when requested by this office.
6. Significant surface values (are) (are not) involved at this location. Accordingly, you (must) (need not) notify at least (24) (48) hours prior to commencing field operations to allow this office to have personnel present for consultation during the construction of roads and locations.

Your contact with the District Office is: Lynn Jackson

Office Phone: 801-259-6111 Home Phone: _____

City: Moab State: Utah

Resource Area Manager's Address and contacts are:

Address: _____

Your contact is: Brian Wood

Office Phone: 801-587-2201 Home Phone: _____

7. SURFACE OPERATING STANDARDS

Unless otherwise specified herein, construction and maintenance of surface facilities approved under this plan shall be in accordance with the guidelines set forth in the BLM/FS/GS Oil and Gas Brochure entitled, "Surface Operating Standards for Oil and Gas Exploration and Development". This includes but is not limited to such items as road construction and maintenance, handling of top soil and rehabilitation.

8. If a replacement rig is contemplated for completion operations, a "Sundry Notice" to that effect must be filed, for prior approval of the District Manager, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.
9. Pursuant to NTL-2B requirements regarding disposal facilities for new wells, this is authorization for unlined pit disposal of the water produced from this well for a period of 90 days from the date of initial production for sales purposes. During this period, an application for approval of the permanent disposal method, along with the required water analysis and other information must be submitted for the District Manager's approval. Failure to timely file an application within the time allowed will be considered an incident of noncompliance, and will be grounds for issuing a shut-in order until the application is submitted.
10. This permit is valid for a period of one year from the date of approval. If construction does not commence within 90 days from approval, the operator must contact this office 15 days prior to beginning construction. Construction under adverse conditions may require additional stipulations. If the permit terminates, any surface disturbance created under the application must be rehabilitated in accordance with the approved plan. After termination, it is required that a new application be filed for approval for any future operations.
11. If a tank battery is constructed on this lease, it must be surrounded by a fire wall of sufficient capacity to adequately contain the storage capacity of the battery.
12. This Application for Permit to Drill is approved subject to the requirement that, should the well be successfully completed for production, this office must be notified when it is placed in a producing status. Such notification will be by telegram or other written communication, and must be received in this office by not later than the first business day next following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - a. Operator name, address and telephone number.
 - b. Well name and number.
 - c. Well location (1/4, 1/4, Section, Township, Range and Prime Meridian).
 - d. Date was placed in a producing status.
 - e. The nature of the well's production, i.e. crude oil, or crude oil and casinghead gas, or natural gas and entrained liquid hydrocarbons.

- f. The OCS, Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, i.e. State or private.
- g. If appropriate, the unit agreement name, number and participating area name.
- h. If appropriate, the communitization agreement number.

13.

SUPPLEMENTAL STIPULATIONS OF APPROVAL ATTACHED

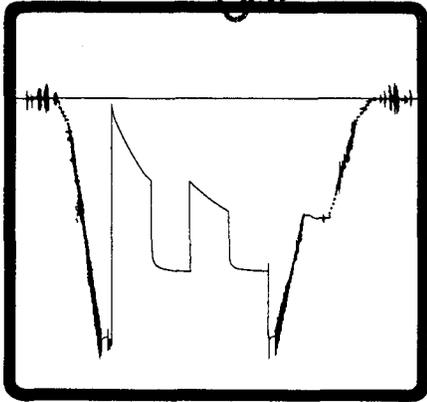
- 1. The 9 5/8 in. casing shall protect all water in the Navajo and Windgate Formations.

ADDITIONAL STIPULATIONS FOR PRODUCTION FACILITIES

Your Application for Permit to Drill also included a submittal for production facilities. These production facilities are approved for the lessee and his designated operator under Section 1 of the Oil and Gas Lease with the following conditions:

- (1) The oil and gas measurement facilities must be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy are to be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. Please provide this office with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports are to be submitted to the Salt Lake City District Oil and Gas Supervisor. Royalty payments will be made on all production volume as determined by the meter measurements or the tank measurements. All measurement facilities must conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.
- (2) 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 must be housed and/or fenced.
- (3) All disturbed areas not required for operations will be rehabilitated.
- (4) All produced liquids must be contained including the dehydrator vent/condensate line effluent. All production pits must be fenced.
- (5) The well activity, the well status and the date the well is placed on production must be reported on Lessee's Monthly Report of Operations, Form 9-329.
- (6) All off-lease storage, off-lease measurement, or commingling on lease or off-lease must have written approval.
- (7) All product lines entering and leaving hydrocarbon storage tanks must be locked/sealed.
- (8) You are reminded of the requirements for handling, storing, or disposing of water produced from oil and gas wells under NTL-2B.
- (9) All materials, trash, junk, debris, etc. not required for production must be removed from the well site and production facility site at the completion of these operations.
- (10) A copy of the Gas Sales Contract will be provided to this office and the Royalty Accounting Department as directed.
- (11) Construction and maintenance for surface use approved under this plan should be in accordance with the surface use standards as set forth in the BLM/GS Oil and Gas Brochure entitled, "Surface Operating Standards for Oil and Gas Exploration and Development." This includes, but is not limited to, such items as road construction and maintenance, handling of top soil and rehabilitation.
- (12) "Sundry Notice and Reports on Wells" (form 9-331) will be filed for all changes of plans and other operations in accordance with 30 CFR 221.58. Emergency approval may be obtained verbally, but such approval does not waive the written report requirement. Any additional construction, reconstruction, or alternations of facilities, including roads, gathering lines, batteries, measurement facilities, etc., will require the filing of a suitable plan and prior approval by the survey.

FORMATION TESTING SERVICE REPORT



CONFIDENTIAL

695476 - (2)

MARATHON OIL COMPANY
ATTN: VAL OTT
P.O. BOX 2659
CASPER, WYOMING 82602

CONFIDENTIAL



Duncan, Oklahoma 73536



A Halliburton Company

MC CRACKEN SPRINGS
LEASE NAME
1-31
WELL NO.
2
TEST NO.
6076.1 - 6140.1
TESTED INTERVAL
MARATHON OIL COMPANY
LEASE OWNER/COMPANY NAME

NOMENCLATURE

B	= Formation Volume Factor (Res Vol / Std Vol)	—
C_t	= System Total Compressibility	(Vol / Vol) / psi
DR	= Damage Ratio	—
h	= Estimated Net Pay Thickness	Ft
k	= Permeability	md
m	$\left\{ \begin{array}{l} = \text{(Liquid) Slope Extrapolated Pressure Plot} \\ = \text{(Gas) Slope Extrapolated } m(P) \text{ Plot} \end{array} \right.$	psi/cycle
		MM psi ² /cp/cycle
$m(P^*)$	= Real Gas Potential at P^*	MM psi ² /cp
$m(P_f)$	= Real Gas Potential at P_f	MM psi ² /cp
AOF_1	= Maximum Indicated Absolute Open Flow at Test Conditions	MCFD
AOF_2	= Minimum Indicated Absolute Open Flow at Test Conditions ..	MCFD
P^*	= Extrapolated Static Pressure	Psig
P_f	= Final Flow Pressure	Psig
Q	= Liquid Production Rate During Test	BPD
Q_1	= Theoretical Liquid Production w/ Damage Removed	BPD
Q_g	= Measured Gas Production Rate	MCFD
r_i	= Approximate Radius of Investigation	Ft
r_w	= Radius of Well Bore	Ft
S	= Skin Factor	
t	= Total Flow Time Previous to Closed-in	Minutes
Δt	= Closed-in Time at Data Point	Minutes
T	= Temperature Rankine	°R
ϕ	= Porosity	—
μ	= Viscosity of Gas or Liquid	cp
Log	= Common Log	

31-375

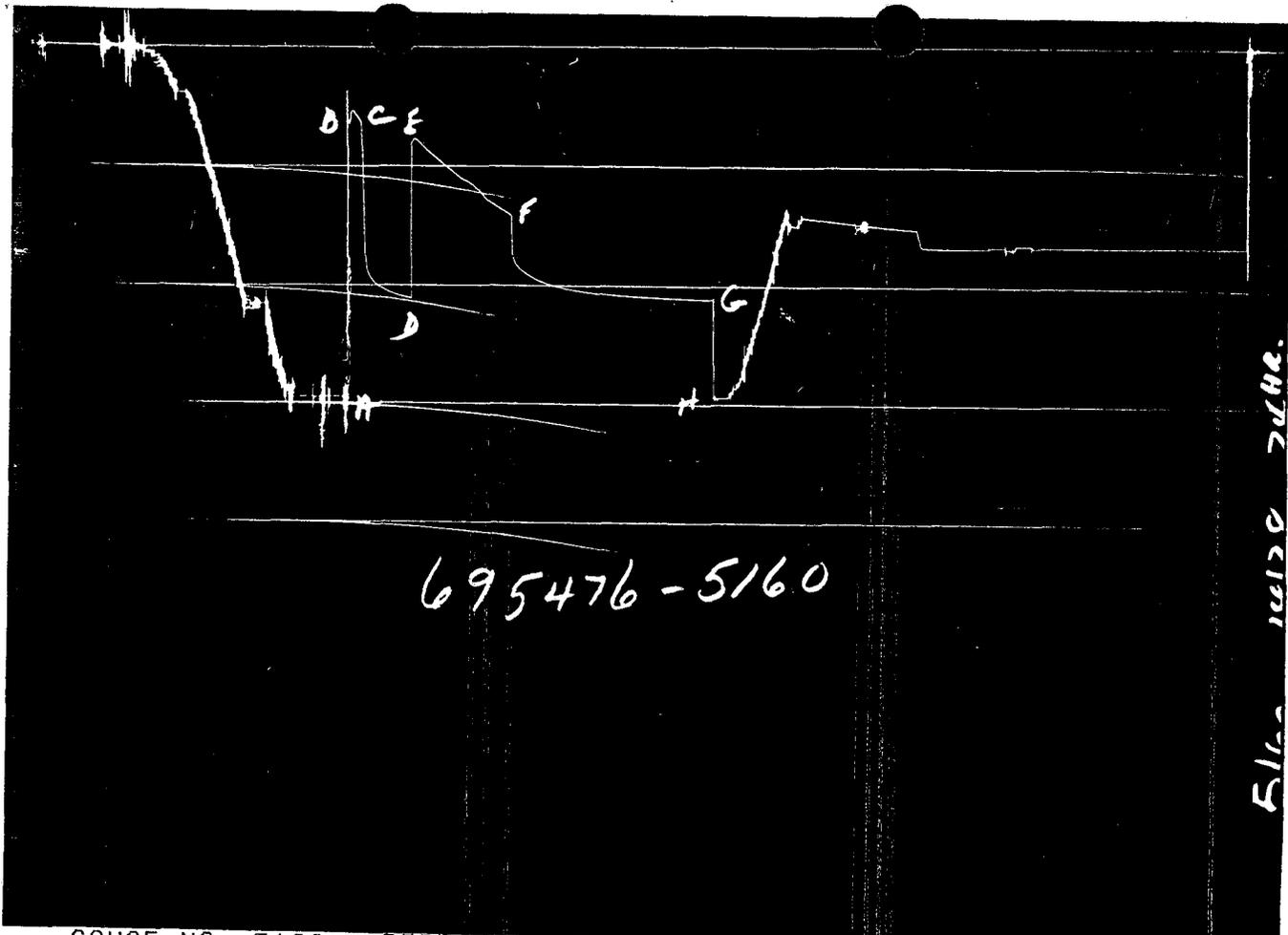
STATE
U

MC CRACKEN SPRINGS	1-31	2	6076.1 - 6140.1	MARATHON OIL COMPANY
LEASE NAME	WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME
LEGAL LOCATION SEC. - TWP. - RANG.	31-37S-24E	FIELD AREA	BLANDING	COUNTY
				SAN JUAN
				STATE
				UTAH OR



TICKET NO. 69547600
 28-DEC-83
 FARMINGTON

FORMATION TESTING SERVICE REPORT

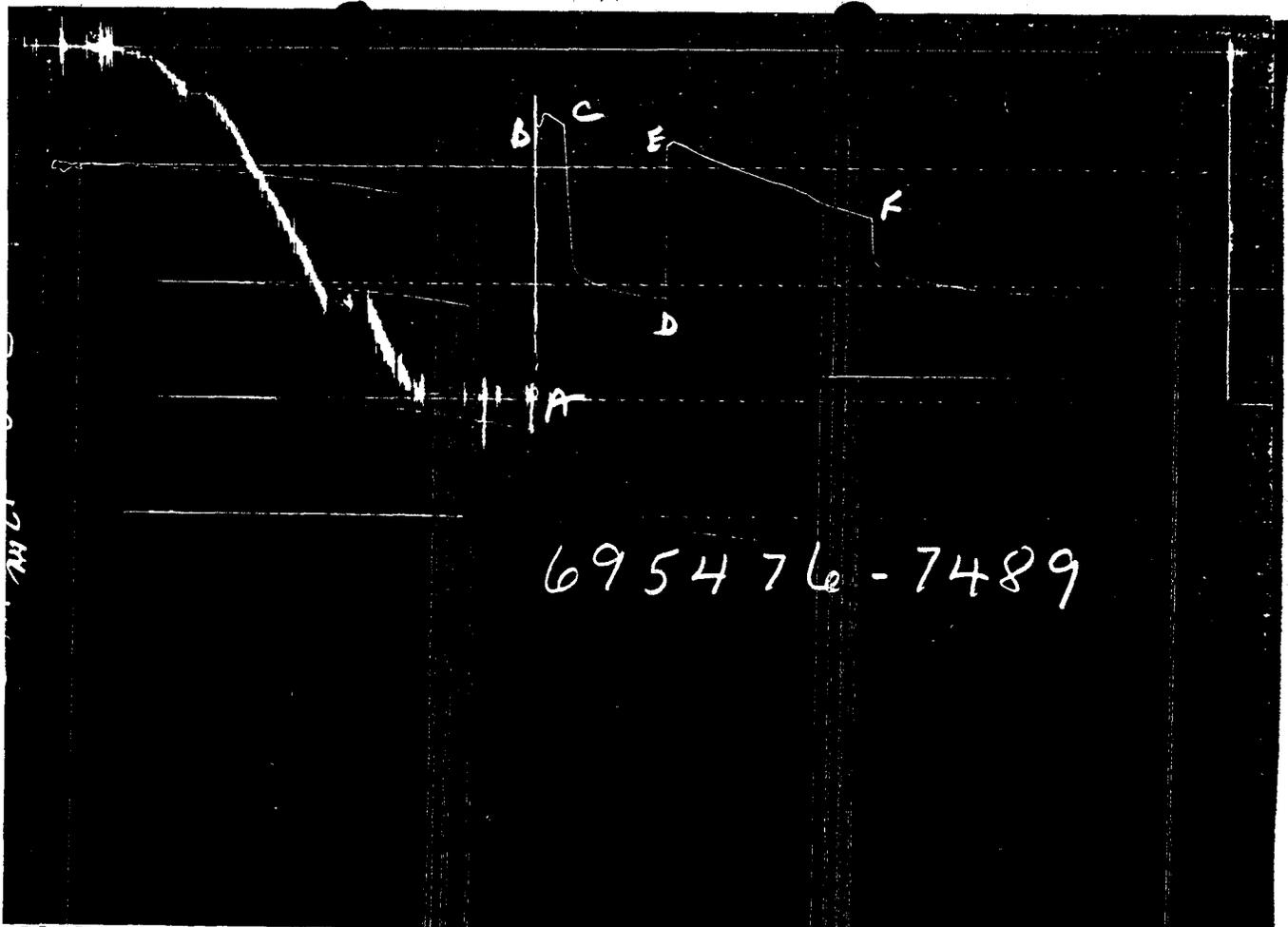


695476-5160

5/16 14120 24 Hr.

GAUGE NO: 5160 DEPTH: 6053.0 BLANKED OFF: NO HOUR OF CLOCK: 24

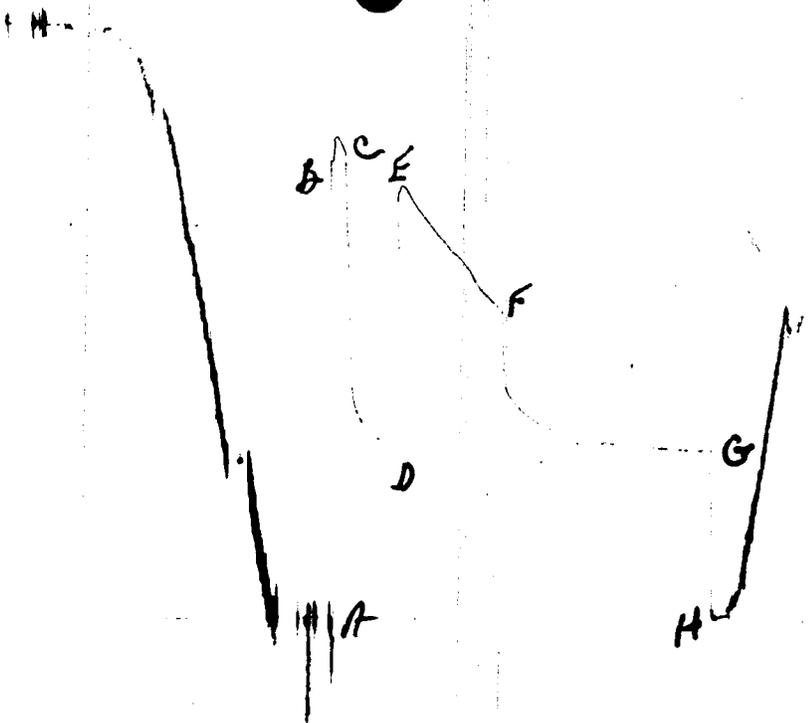
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		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2932	2945.8			
B	INITIAL FIRST FLOW	641	619.9			
C	FINAL FIRST FLOW	620	635.7	17.0	16.8	F
C	INITIAL FIRST CLOSED-IN	620	635.7			
D	FINAL FIRST CLOSED-IN	2127	2115.5	60.0	60.6	C
E	INITIAL SECOND FLOW	791	801.7			
F	FINAL SECOND FLOW	1407	1417.2	120.0	120.1	F
F	INITIAL SECOND CLOSED-IN	1407	1417.2			
G	FINAL SECOND CLOSED-IN	2021	2113.6	242.0	241.5	C
H	FINAL HYDROSTATIC	2932	2938.6			



695476-7489

GAUGE NO: 7489 DEPTH: 6057.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2914	2951.0			
B	INITIAL FIRST FLOW	629	626.7			
C	FINAL FIRST FLOW	607	641.6	17.0	16.8	F
C	INITIAL FIRST CLOSED-IN	607	641.6			
D	FINAL FIRST CLOSED-IN	2118	2117.8	60.0	60.6	C
E	INITIAL SECOND FLOW	803	978.5			
F	FINAL SECOND FLOW	1407	1420.5	120.0	120.1	F
F	INITIAL SECOND CLOSED-IN	1407	1420.5			
G	FINAL SECOND CLOSED-IN	2097		242.0		C
H	FINAL HYDROSTATIC	2914				



2.25 Gas side

695476-2033

GAUGE NO: 2033 DEPTH: 6137.0 BLANKED OFF: 125 HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2976	2983.6			
B	INITIAL FIRST FLOW	669	679.4			
C	FINAL FIRST FLOW	682	631.3	17.0	16.8	F
C	INITIAL FIRST CLOSED-IN	682	631.3			
D	FINAL FIRST CLOSED-IN	2134	2131.0	60.0	60.6	C
E	INITIAL SECOND FLOW	855	831.1			
F	FINAL SECOND FLOW	1560	1426.7	120.0	120.1	F
F	INITIAL SECOND CLOSED-IN	1560	1426.7			
G	FINAL SECOND CLOSED-IN	2120	2132.5	242.0	241.5	C
H	FINAL HYDROSTATIC	2963	2971.3			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER ISMAY

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 64.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.750

ELEVATION (ft): 5698

TOTAL DEPTH (ft): 6140.0

PACKER DEPTH(S) (ft): 6070, 6076

FINAL SURFACE CHOKE (in): 0.297

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.10

MUD VISCOSITY (sec): 43

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 128 @ 6137.0 ft

TICKET NUMBER: 69547600

DATE: 12-16-83 TEST NO: 2

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: FARMINGTON

TESTER: D. GUNN

WITNESS: RAY ROSENTHAL ???

DRILLING CONTRACTOR: ENERGY SEARCH #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	<u>1.340 @ 58 °F</u>	<u>3030 ppm</u>
TOP	<u>1.440 @ 42 °F</u>	<u>3575 ppm</u>
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm
_____	_____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: 550

cu.ft. OF GAS: 1.70

cc OF OIL: 1100

cc OF WATER: 0

cc OF MUD: 0

TOTAL LIQUID cc: 1100

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 43.2 @ 60 °F

GAS/OIL RATIO (cu.ft. per bbl): 245

GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

150' OF GAS CUT DRILLING MUD
3288' OF HIGHLY GAS CUT OIL

MEASURED FROM
TESTER VALVE

REMARKS:

TYPE & SIZE MEASURING DEVICE: 19/64" POSITIVE CHOKE				TICKET NO: 69547600	
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS
12-15-83					
2330					ON LOCATION
12-16-83					
0015					PICKED UP TOOLS
0200					TRIPPED IN HOLE WITH DST #2
0610					ON BOTTOM
0612	1/8BH	0			OPENED TOOL WITH A WEAK BLOW- 2" IN BUCKET
0617	"	16 OZ.			STRONG BLOW-BOTTOM OF BUCKET
0622	"	2.5#			
0629	"	4.5#			CLOSED TOOL-NO GAS AT SURFACE
0636					PSI STILL BUILDING @ SURFACE ON CIP.
0652		19#			"
0715	19/64	35#			GAS AT SURFACE
0729	"	41#			OPENED TOOL WITH GAS AT SURFACE-8" FLARE
0736	"	48#			"
0741	"	50			"
0751	"	51			"
0801	"	51			PSI SEEMS TO BE STABILIZING.
0821	"	50.5			"
0829	"	52			PSI INCREASING
0836	"	54#			"
0846	"	66			"
0851	"	76			"
0856	"	98			"-FLARE STILL THE SAME
0901	"	110			"
0911	"	125			"
0926	"	145			"
0929	"	147			CLOSED TOOL
1331					PULLED OFF BOTTOM-OPENED BYPASS
1520					SHUT DOWN-WAITED ON DAYLIGHT
12-17-83					
0920					DROPPED BAR AND REVERSED OUT
1330					OUT OF HOLE
					LAI D TOOLS DOWN

TICKET NO: 69547600
 CLOCK NO: 14128 HOUR: 24



GAUGE NO: 5160
 DEPTH: 6053.0

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	619.9			
2	2.0	634.2	14.3		
3	4.0	602.8	-31.4		
4	6.0	534.4	-68.4		
5	8.0	537.6	3.2		
6	10.0	560.5	22.9		
7	12.0	580.3	19.9		
8	14.0	600.4	20.1		
C 9	16.8	635.7	35.3		
FIRST CLOSED-IN					
C 1	0.0	635.7			
2	1.0	938.5	302.8	0.9	1.271
3	2.0	1270.8	635.1	1.8	0.974
4	3.0	1591.3	955.6	2.6	0.819
5	4.0	1776.7	1141.0	3.2	0.717
6	5.0	1842.6	1206.9	3.9	0.639
7	6.0	1876.3	1240.6	4.4	0.582
8	7.0	1895.8	1260.1	4.9	0.533
9	8.0	1912.1	1276.4	5.4	0.492
10	9.0	1923.7	1288.0	5.9	0.458
11	10.0	1934.5	1298.8	6.3	0.429
12	12.0	1954.4	1318.8	7.0	0.381
13	14.0	1969.9	1334.2	7.7	0.342
14	16.0	1984.3	1348.6	8.2	0.312
15	18.0	1995.6	1359.9	8.7	0.287
16	20.0	2006.6	1370.9	9.1	0.265
17	22.0	2016.5	1380.8	9.5	0.247
18	24.0	2024.4	1388.7	9.9	0.231
19	26.0	2033.5	1397.8	10.2	0.217
20	28.0	2041.7	1406.1	10.5	0.204
21	30.0	2048.1	1412.4	10.8	0.194
22	35.0	2064.4	1428.7	11.4	0.171
23	40.0	2076.3	1440.6	11.8	0.153
24	45.0	2088.6	1452.9	12.3	0.138
25	50.0	2097.2	1461.6	12.6	0.126
26	55.0	2105.7	1470.0	12.9	0.116
D 27	60.6	2115.5	1479.8	13.2	0.107
SECOND FLOW					
E 1	0.0	801.7			
2	10.0	792.9	-8.8		
3	20.0	870.7	77.8		
4	30.0	929.5	58.8		
5	40.0	986.3	56.8		
6	50.0	1045.3	59.0		
7	60.0	1100.6	55.3		
8	70.0	1139.2	38.6		

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND FLOW - CONTINUED					
9	80.0	1194.1	54.9		
10	90.0	1273.5	79.4		
11	100.0	1326.3	52.8		
12	110.0	1368.6	42.4		
F 13	120.1	1417.2	48.5		
SECOND CLOSED-IN					
F 1	0.0	1417.2			
2	1.0	1712.3	295.1	1.0	2.120
3	2.0	1779.0	361.9	2.0	1.841
4	3.0	1800.4	383.3	2.9	1.670
5	4.0	1813.8	396.6	3.9	1.546
6	5.0	1825.4	408.3	4.8	1.454
7	6.0	1833.5	416.3	5.7	1.378
8	7.0	1841.3	424.2	6.7	1.311
9	8.0	1848.5	431.4	7.5	1.259
10	9.0	1855.9	438.8	8.4	1.210
11	10.0	1860.4	443.2	9.3	1.166
12	12.0	1873.3	456.1	11.0	1.094
13	14.0	1882.6	465.5	12.7	1.032
14	16.0	1894.1	476.9	14.3	0.981
15	18.0	1903.4	486.2	15.9	0.935
16	20.0	1912.5	495.3	17.5	0.895
17	22.0	1920.8	503.6	19.0	0.859
18	24.0	1929.2	512.1	20.4	0.827
19	26.0	1936.4	519.3	21.8	0.797
20	28.0	1943.6	526.5	23.2	0.770
21	30.0	1948.9	531.8	24.6	0.746
22	35.0	1964.4	547.2	27.9	0.691
23	40.0	1978.4	561.2	31.0	0.646
24	45.0	1989.8	572.7	33.9	0.607
25	50.0	2000.8	583.7	36.6	0.573
26	55.0	2010.4	593.2	39.3	0.543
27	60.0	2019.5	602.3	41.7	0.516
28	70.0	2033.9	616.7	46.3	0.471
29	80.0	2045.3	628.2	50.5	0.433
30	90.0	2055.7	638.6	54.3	0.402
31	100.0	2063.8	646.6	57.8	0.375
32	110.0	2070.6	653.4	61.0	0.351
33	120.0	2076.9	659.7	64.0	0.331
34	135.0	2086.9	669.7	68.0	0.304
35	150.0	2091.5	674.4	71.6	0.282
36	165.0	2096.2	679.0	74.8	0.262
37	180.0	2100.6	683.5	77.8	0.246
38	195.0	2103.8	686.7	80.5	0.231
39	210.0	2107.8	690.7	82.9	0.218
40	225.0	2110.4	693.2	85.1	0.206
G 41	241.5	2113.6	696.4	87.4	0.195

REMARKS:

TICKET NO: 69547600
 CLOCK NO: 14283 HOUR: 12



GAUGE NO: 7489
 DEPTH: 6057.0

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	626.7			
2	2.0	651.0	24.3		
3	4.0	601.7	-49.2		
4	6.0	541.9	-59.9		
5	8.0	547.9	6.1		
6	10.0	571.6	23.6		
7	12.0	590.9	19.3		
8	14.0	608.9	18.0		
C 9	16.8	641.6	32.8		
FIRST CLOSED-IN					
C 1	0.0	641.6			
2	1.0	973.8	332.1	1.0	1.236
3	2.0	1202.4	560.7	1.8	0.979
4	3.0	1484.3	842.6	2.6	0.817
5	4.0	1684.1	1042.4	3.2	0.716
6	5.0	1805.0	1163.3	3.8	0.642
7	6.0	1867.5	1225.8	4.4	0.580
8	7.0	1891.6	1249.9	4.9	0.533
9	8.0	1907.3	1265.7	5.4	0.492
10	9.0	1919.0	1277.3	5.9	0.458
11	10.0	1931.7	1290.0	6.3	0.429
12	12.0	1951.7	1310.1	7.0	0.381
13	14.0	1967.9	1326.2	7.6	0.343
14	16.0	1982.1	1340.5	8.2	0.312
15	18.0	1995.7	1354.0	8.7	0.287
16	20.0	2006.5	1364.8	9.1	0.265
17	22.0	2017.2	1375.6	9.5	0.247
18	24.0	2028.0	1386.3	9.9	0.231
19	26.0	2036.1	1394.5	10.2	0.217
20	28.0	2043.9	1402.2	10.5	0.205
21	30.0	2052.0	1410.4	10.8	0.193
22	35.0	2067.7	1426.1	11.4	0.171
23	40.0	2081.5	1439.9	11.8	0.153
24	45.0	2092.5	1450.8	12.3	0.138
25	50.0	2103.0	1461.4	12.6	0.126
26	55.0	2110.3	1468.7	12.9	0.116
D 27	60.6	2117.8	1476.2	13.2	0.107
SECOND FLOW					
E 1	0.0	978.5			
2	10.0	810.0	-168.5		
3	20.0	883.7	73.8		
4	30.0	941.4	57.7		
5	40.0	999.6	58.1		
6	50.0	1052.8	53.2		
7	60.0	1107.5	54.7		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND FLOW - CONTINUED					
8	70.0	1146.8	39.2		
9	80.0	1202.4	55.6		
10	90.0	1282.3	80.0		
11	100.0	1332.5	50.2		
12	110.0	1378.2	45.7		
F 13	120.1	1420.5	42.2		
SECOND CLOSED-IN					
F 1	0.0	1420.5			
2	1.0	1742.7	322.2	1.0	2.143
3	2.0	1791.8	371.3	2.0	1.836
4	3.0	1813.8	393.3	2.9	1.670
5	4.0	1827.2	406.7	3.9	1.542
6	5.0	1837.9	417.5	4.8	1.454
7	6.0	1846.3	425.9	5.8	1.375
8	7.0	1853.2	432.8	6.6	1.314
9	8.0	1860.1	439.7	7.5	1.259
10	9.0	1866.4	445.9	8.5	1.209
11	10.0	1871.8	451.3	9.3	1.167
12	12.0	1883.2	462.7	11.0	1.094
13	14.0	1893.3	472.8	12.7	1.031
14	16.0	1902.2	481.7	14.3	0.980
15	18.0	1911.9	491.4	15.9	0.935
16	20.0	1919.4	498.9	17.4	0.895
17	22.0	1928.0	507.5	19.0	0.859
18	24.0	1936.4	515.9	20.4	0.827
19	26.0	1943.8	523.3	21.9	0.797
20	28.0	1949.4	528.9	23.3	0.770
21	30.0	1956.5	536.0	24.6	0.746
22	35.0	1971.8	551.3	27.9	0.692
23	40.0	1985.1	564.7	31.0	0.646
24	45.0	1997.6	577.2	33.9	0.607
25	50.0	2009.0	588.6	36.6	0.573
26	55.0	2018.1	597.6	39.3	0.543
27	60.0	2027.1	606.6	41.7	0.516
28	70.0	2040.4	620.0	46.3	0.471
29	80.0	2054.4	633.9	50.5	0.433
30	90.0	2065.2	644.7	54.3	0.402
31	100.0	2073.5	653.1	57.8	0.375
32	110.0	2079.8	659.3	61.0	0.351
33	120.0	2087.1	666.6	64.0	0.331
34	135.0	2094.8	674.4	68.0	0.304
35	150.0	2099.8	679.3	71.6	0.282
36	165.0	2104.1	683.6	74.8	0.262
37	180.0	2109.9	689.4	77.8	0.246
38	195.0	2113.8	693.3	80.5	0.231
39	210.0	2117.0	696.5	82.9	0.218
<input type="checkbox"/> 40	210.3	2117.0	696.5	82.9	0.218
G 41	NO DATA FOR THIS POINT				

LEGEND:
 CHART TIME EXPIRED
 REMARKS:

TICKET NO: 69547600
 CLOCK NO: 9756 HOUR: 24



GAUGE NO: 2033
 DEPTH: 6137.0

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	679.4			
2	2.0	675.8	-3.6		
3	4.0	616.1	-59.7		
4	6.0	558.9	-57.2		
5	8.0	556.4	-2.5		
6	10.0	568.4	12.0		
7	12.0	588.7	20.3		
8	14.0	608.8	20.1		
C 9	16.8	631.3	22.5		
FIRST CLOSED-IN					
C 1	0.0	631.3			
2	1.0	924.7	293.5	0.9	1.254
3	2.0	1166.4	535.1	1.8	0.982
4	3.0	1411.7	780.5	2.6	0.815
5	4.0	1639.5	1008.2	3.3	0.714
6	5.0	1796.9	1165.7	3.8	0.642
7	6.0	1869.9	1238.6	4.4	0.581
8	7.0	1891.7	1260.5	5.0	0.531
9	8.0	1907.6	1276.3	5.4	0.492
10	9.0	1922.7	1291.4	5.9	0.458
11	10.0	1933.6	1302.3	6.3	0.429
12	12.0	1955.2	1324.0	7.0	0.381
13	14.0	1974.8	1343.5	7.6	0.343
14	16.0	1988.3	1357.0	8.2	0.312
15	18.0	2000.7	1369.4	8.7	0.287
16	20.0	2013.8	1382.5	9.1	0.265
17	22.0	2026.2	1395.0	9.5	0.247
18	24.0	2035.0	1403.8	9.9	0.231
19	26.0	2044.4	1413.1	10.2	0.217
20	28.0	2053.2	1422.0	10.5	0.204
21	30.0	2061.1	1429.8	10.8	0.193
22	35.0	2077.5	1446.3	11.4	0.171
23	40.0	2092.6	1461.4	11.8	0.153
24	45.0	2104.0	1472.8	12.3	0.138
25	50.0	2114.7	1483.5	12.6	0.126
26	55.1	2123.7	1492.4	12.9	0.116
D 27	60.6	2131.0	1499.8	13.2	0.107
SECOND FLOW					
E 1	0.0	831.1			
2	10.0	814.8	-16.4		
3	20.0	892.0	77.3		
4	30.0	950.8	58.8		
5	40.0	1005.9	55.1		
6	50.0	1062.1	56.2		
7	60.0	1116.1	54.0		
8	70.0	1154.5	38.4		

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND FLOW - CONTINUED					
9	80.0	1210.0	55.5		
10	90.0	1288.4	78.5		
11	100.0	1340.3	51.9		
12	110.0	1383.8	43.5		
F 13	120.1	1426.7	43.0		
SECOND CLOSED-IN					
F 1	0.0	1426.7			
2	1.0	1717.9	291.1	1.0	2.142
3	2.0	1787.2	360.5	2.0	1.844
4	3.0	1816.4	389.7	2.9	1.671
5	4.0	1830.4	403.7	3.9	1.546
6	5.0	1840.8	414.1	4.8	1.453
7	6.0	1850.1	423.4	5.7	1.377
8	7.0	1858.0	431.3	6.7	1.312
9	8.0	1863.5	436.7	7.6	1.258
10	9.0	1864.8	438.1	8.4	1.210
11	10.0	1876.5	449.8	9.3	1.167
12	12.0	1889.6	462.9	11.1	1.092
13	14.0	1899.6	472.9	12.7	1.032
14	16.0	1909.1	482.3	14.3	0.980
15	18.0	1918.4	491.7	15.9	0.935
16	20.0	1927.3	500.6	17.5	0.895
17	22.0	1935.1	508.3	18.9	0.859
18	24.0	1943.2	516.5	20.4	0.827
19	26.0	1951.9	525.1	21.9	0.797
20	28.0	1957.9	531.1	23.3	0.770
21	30.0	1964.5	537.8	24.6	0.745
22	35.0	1981.3	554.6	27.9	0.691
23	40.0	1995.3	568.6	31.0	0.646
24	45.0	2006.8	580.1	33.9	0.607
25	50.0	2017.1	590.4	36.6	0.573
26	55.0	2027.1	600.4	39.3	0.543
27	60.0	2035.8	609.1	41.7	0.516
28	70.0	2052.0	625.3	46.3	0.471
29	80.0	2064.6	637.8	50.5	0.433
30	90.0	2074.6	647.9	54.3	0.402
31	100.0	2083.4	656.7	57.8	0.375
32	110.0	2091.3	664.6	61.0	0.351
33	120.0	2097.7	671.0	64.0	0.331
34	135.0	2106.7	680.0	68.0	0.304
35	150.0	2111.2	684.5	71.6	0.282
36	165.0	2116.2	689.4	74.8	0.262
37	180.0	2121.3	694.5	77.8	0.246
38	195.0	2124.3	697.6	80.5	0.231
39	210.0	2127.1	700.4	82.9	0.218
40	225.0	2130.6	703.9	85.1	0.206
G 41	241.5	2132.5	705.8	87.4	0.195

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5260.0	
3		DRILL COLLARS.....	6.250	2.250	683.0	
5		CROSSOVER.....	6.000	3.000	1.5	
51		PUMP OUT REVERSING SUB.....	6.000	3.000	1.0	5944.0
5		CROSSOVER.....	6.000	3.000	1.0	
3		DRILL COLLARS.....	6.250	2.250	60.0	
5		CROSSOVER.....	6.000	3.000	1.5	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	6007.5
5		CROSSOVER.....	6.000	3.000	1.0	
3		DRILL COLLARS.....	6.250	2.250	30.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.600	0.750	7.5	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	6048.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	6053.0
80		AP RUNNING CASE.....	5.000	2.250	5.0	6057.0
15		JAR.....	5.030	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6070.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6076.0
19		ANCHOR PIPE SAFETY JOINT.....	5.750	1.750	4.0	
5		CROSSOVER.....	6.000	3.000	1.0	
3		DRILL COLLARS.....	6.250	2.250	35.0	
5		CROSSOVER.....	6.000	3.000	1.0	
20		FLUSH JOINT ANCHOR.....	5.750	3.000	17.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	6137.0
TOTAL DEPTH						6140.0

EQUIPMENT DATA

EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6 QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu} \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Damage Ratio	$DR = .183 \frac{P^* - P_f}{m}$	—
Theoretical Potential w / Damage Removed	$Q_1 = Q DR$	BPD
Approx. Radius of Investigation	$r_i = 4.63 \sqrt{kt}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637 Q_g T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi \mu c_1 r_w^2} + 3.23 \right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87 mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_1}}$	ft

CONFIDENTIAL

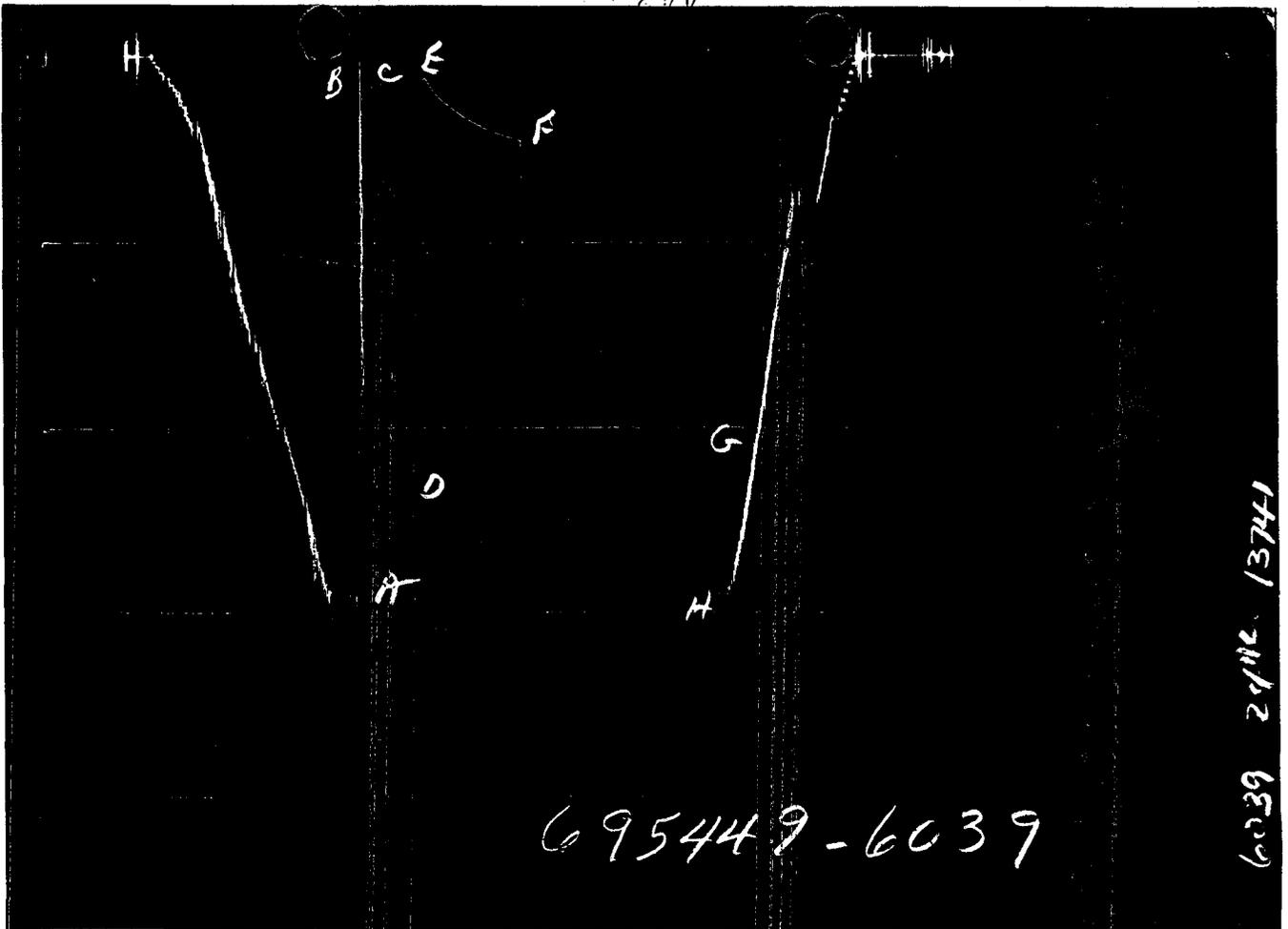


TICKET NO. 6031-000
 WASHINGTON
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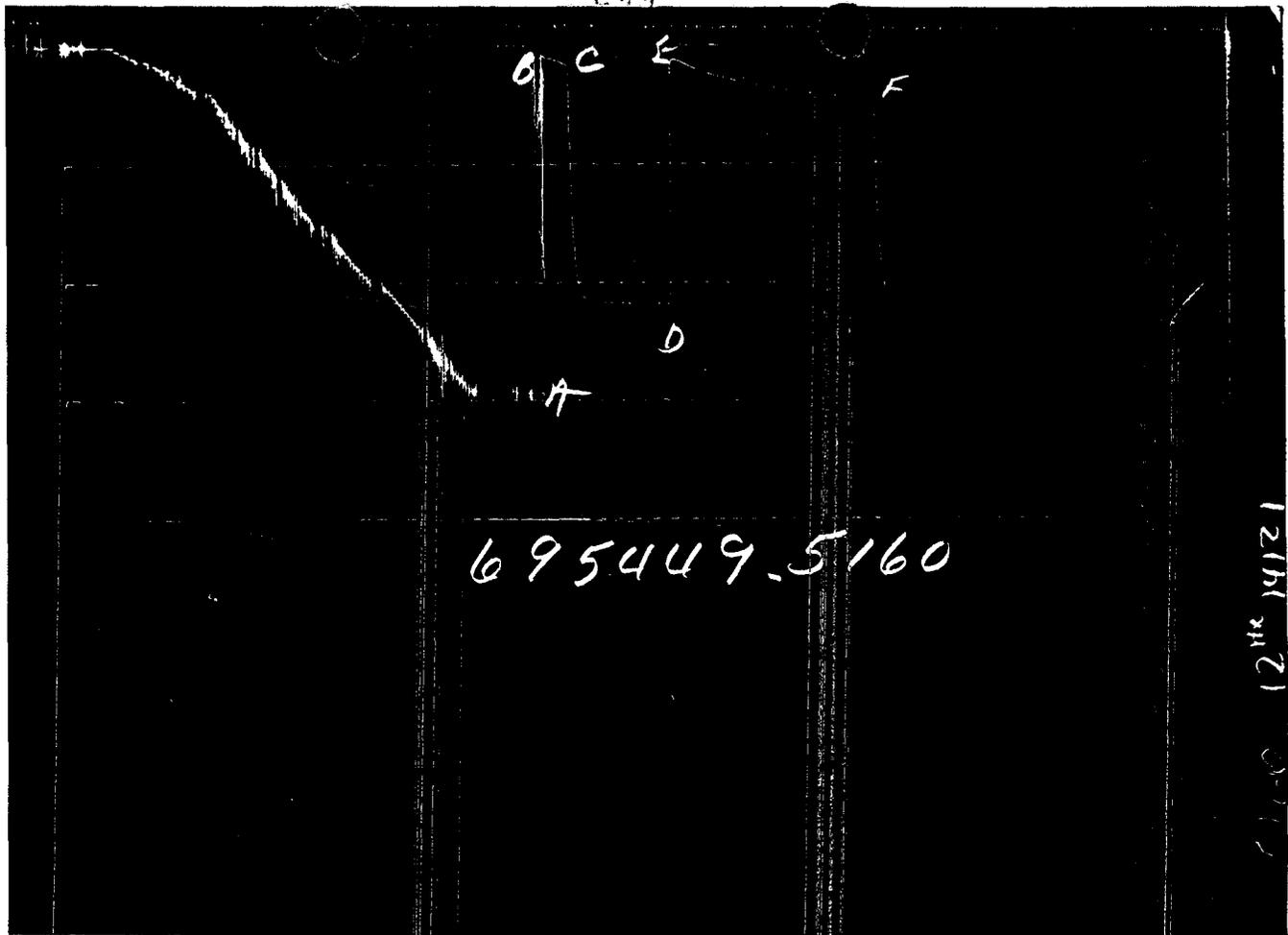
FORMATION TESTING SERVICE REPORT

LEGAL LOCATION	31-37S-24E	FIELD AREA	BLANDING	COUNTY	SAN JUAN	STATE	UTAH	DR
LEASE NAME	1-31	WELL NO.	TEST NO.	TESTED INTERVAL	6033.1 - 6080.1	LEASE OWNER/COMPANY NAME	MARATHON OIL COMPANY	



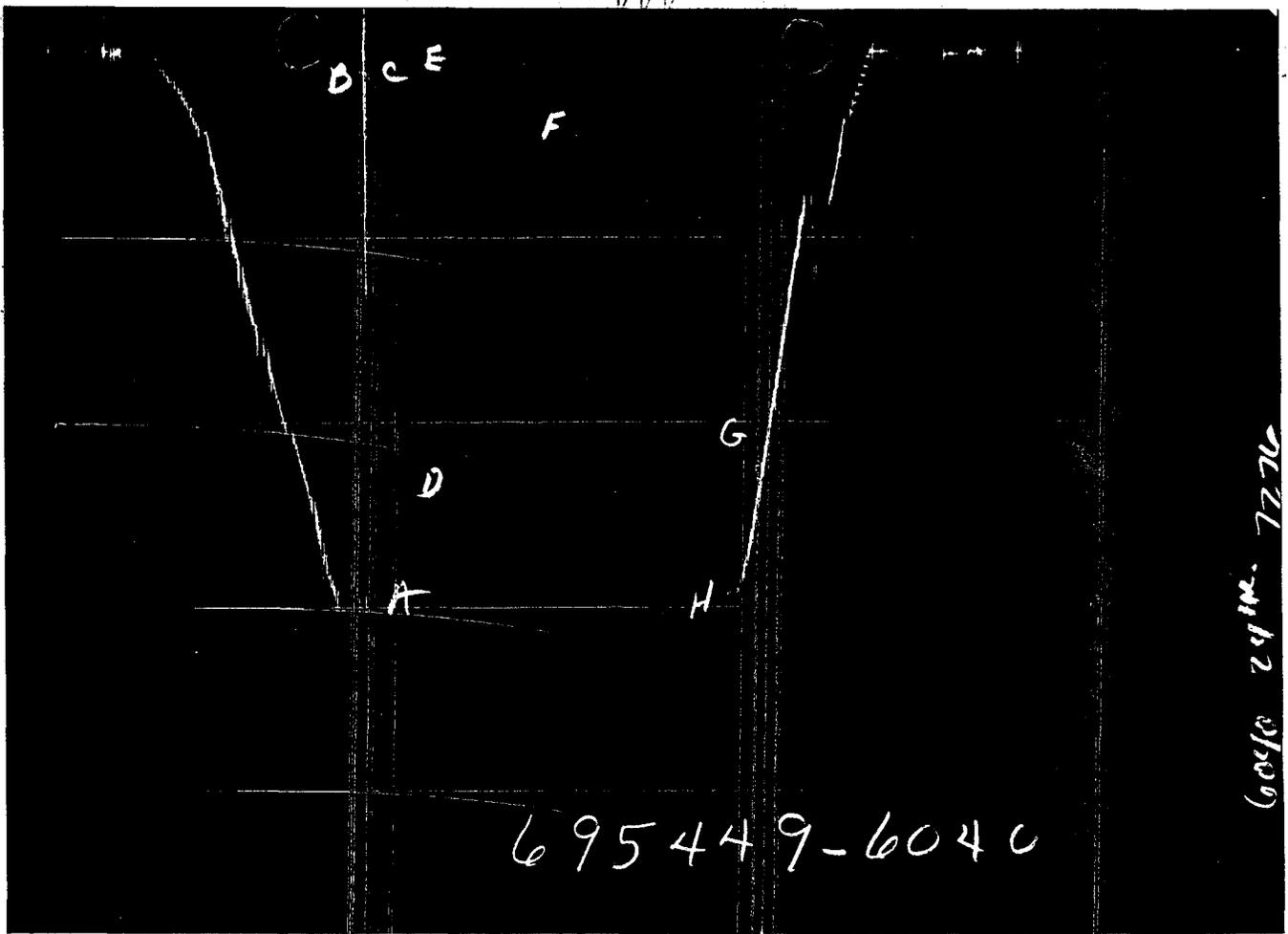
GAUGE NO: 6039 DEPTH: 6007.0 BLANKED OFF: NO HOUR OF CLOCK: 2

ID	DESCRIPTION	PRESSURE		TIME		TYP
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2892	2920.1			
B	INITIAL FIRST FLOW	54	76.0	16.0	15.1	F
C	FINAL FIRST FLOW	161	174.1			
C	INITIAL FIRST CLOSED-IN	161	174.1	61.0	60.6	C
D	FINAL FIRST CLOSED-IN	2150	2171.2			
E	INITIAL SECOND FLOW	107	118.9	121.0	122.6	F
F	FINAL SECOND FLOW	442	459.4			
F	INITIAL SECOND CLOSED-IN	442	459.4	240.0	239.7	C
G	FINAL SECOND CLOSED-IN	2136	2161.9			
H	FINAL HYDROSTATIC	2892	2905.5			



GAUGE NO: 5160 DEPTH: 6011.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2911	2927.1			
B	INITIAL FIRST FLOW	64	82.3			
C	FINAL FIRST FLOW	150	173.3	16.0	15.1	F
C	INITIAL FIRST CLOSED-IN	150	173.3			
D	FINAL FIRST CLOSED-IN		2179.0	61.0	60.6	C
E	INITIAL SECOND FLOW	107	121.4			
F	FINAL SECOND FLOW	427	461.1	121.0	122.6	F
F	INITIAL SECOND CLOSED-IN	427	461.1			
G	FINAL SECOND CLOSED-IN			240.0		C
H	FINAL HYDROSTATIC	2911				



GAUGE NO: 6040 DEPTH: 6077.0 BLANKED OFF: YES HOUR OF CLOCK:

ID	DESCRIPTION	PRESSURE		TIME		T
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2938	2952.7			
B	INITIAL FIRST FLOW	108	124.6			
C	FINAL FIRST FLOW	188	188.6	16.0	15.1	
C	INITIAL FIRST CLOSED-IN	188	188.6			
D	FINAL FIRST CLOSED-IN	2180	2189.1	61.0	60.6	
E	INITIAL SECOND FLOW	135	139.9			
F	FINAL SECOND FLOW	457	480.4	121.0	122.6	
F	INITIAL SECOND CLOSED-IN	457	480.4			
G	FINAL SECOND CLOSED-IN	2153	2176.8	240.0	239.7	
H	FINAL HYDROSTATIC	2924	2942.7			

EQUIPMENT & HOLE DATA

FORMATION TESTED: UPPER ISMAY

NET PAY (ft): 37.0

GROSS TESTED FOOTAGE: 47.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.750

ELEVATION (ft): 5696

TOTAL DEPTH (ft): 6080.0

PACKER DEPTH(S) (ft): 6027, 6033

FINAL SURFACE CHOKE (in): 0.297

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 9.10

MUD VISCOSITY (sec): 46

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 126 @ 6076.0 ft

TICKET NUMBER: 69544900

DATE: 12-12-83 TEST NO: 1

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: FARMINGTON

TESTER: D. GUNN

WITNESS: BROWN

DRILLING CONTRACTOR: ENERGY SEARCH #2

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
MUD PIT	1.000 @ 53 °F	4545 ppm
SAMPLER (OIL, GAS, CUT)	@ °F	ppm
TOP (OIL AND MUD)	@ °F	ppm
	@ °F	ppm
	@ °F	ppm
	@ °F	ppm

SAMPLER DATA

Pstg AT SURFACE: 1600

cu.ft. OF GAS: 9.20

cc OF OIL: 100

cc OF WATER: 0

cc OF MUD: 0

TOTAL LIQUID cc: 100

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): 48.0 @ 60 °F

GAS/OIL RATIO (cu.ft. per bbl): 14603

GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

534' OF MUD AND GAS CUT OIL (2.62 BARRELS)

MEASURED FROM
TESTER VALVE

REMARKS:

GAUGE #6039 IS STAIR STEPPING DURING THE INITIAL CLOSED IN PRESSURE OIL IN SAMPLER IS HIGHLY GAS CUT

24
TYPE
F
C
F
C

TYPE & SIZE MEASURING DEVICE:				6" POSITIVE CHOKE		TICKET NO: 695
TIME	CHOKE SIZE	SURFACE PRESSURE PSI	GAS RATE MCF	LIQUID RATE BPD	REMARKS	
12-12-83						
1830						ON LOCATION-CIRCULATED ON BOTTOM
2100						TRIPPED OUT OF HOLE WITH DRILL STRING
12-13-83						
0100						PICKED UP TOOLS
0245						WENT IN HOLE WITH DST #1
0704						ON BOTTOM
0710	1/8BH	2 OZ.				OPENED TOOL WITH A STRONG BLOW BOTTOM OF BUCKET
0715	"	16#				STRONG BLOW, BOTTOM OF BUCKET
0720	"	45#				SAME
0723	1/4	64#				SWITCH TO CHOKE-NO GAS
0726	.25	72#				CLOSED TOOL-NO GAS TO SURFACE
0731						GAS TO SURFACE ON FIRST CIP
0827	19/64	8#				OPENED TOOL-GAS TO SURFACE
0832	"	54#				
0837	"	75				
0842	"	94				
0847	"	140				
0902	"	154				
0907	"	169				
0912	"	179				
0917	"	190				
0922	"	200				
0927	"	200+	500			(DIFFERENT GAUGE NOT AS ACCURATE) (2000 PSI GAUGE)
0945	"	220+				NO FLUID TO SURFACE-ALL GAS
0952	"	225+				SAME
1012	"	250+				SAME
1028	"	250+				CLOSED TOOL-NO FLUID AT SURFACE-ALL GAS
1428						PULLED OFF BOTTOM-OPENED BYPASS
1441						TRIPPED OUT OF HOLE WITH DST #1
1610						SHUT DOWN TO REVERSE OUT

TICKET NO: 69544900

CLOCK NO: 13741 HOUR: 24



GAUGE NO: 6039

DEPTH: 6007.0

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	76.0		
	2	3.0	104.2	28.2	
	3	6.0	114.5	10.3	
	4	9.0	133.8	19.3	
	5	12.0	155.5	21.7	
C	6	15.1	174.1	18.6	
FIRST CLOSED-IN					
C	1	0.0	174.1		
<input type="checkbox"/>	2	7.5	2109.2	1935.0	5.0 0.480
<input type="checkbox"/>	3	14.1	2155.4	1981.3	7.3 0.316
	4	16.0	2161.5	1987.3	7.8 0.288
	5	18.0	2162.0	1987.9	8.2 0.264
	6	20.0	2163.7	1989.6	8.6 0.244
	7	22.0	2164.8	1990.7	9.0 0.227
	8	24.0	2165.5	1991.4	9.3 0.212
	9	26.0	2166.8	1992.7	9.6 0.199
	10	28.0	2167.4	1993.3	9.8 0.187
	11	30.0	2168.1	1993.9	10.0 0.177
	12	35.0	2168.9	1994.7	10.5 0.156
	13	40.0	2170.1	1996.0	11.0 0.139
	14	45.0	2170.1	1996.0	11.3 0.126
	15	50.0	2170.8	1996.6	11.6 0.115
	16	55.0	2170.9	1996.8	11.8 0.105
D	17	60.6	2171.2	1997.0	12.1 0.097
SECOND FLOW					
E	1	0.0	118.9		
	2	20.0	227.6	108.7	
	3	40.0	298.9	71.3	
	4	60.0	356.6	57.6	
	5	80.0	398.5	42.0	
	6	100.0	430.0	31.5	
	7	120.0	456.8	26.8	
F	8	122.6	459.4	2.5	
SECOND CLOSED-IN					
F	1	0.0	459.4		
	2	1.0	1291.4	832.0	1.0 2.141
	3	2.0	1663.9	1204.5	1.9 1.849
	4	3.0	1863.6	1404.2	2.9 1.670
	5	4.0	1959.7	1500.3	3.9 1.551
	6	5.0	2024.5	1565.1	4.8 1.454
	7	6.0	2058.4	1599.0	5.7 1.380
	8	7.0	2080.5	1621.1	6.7 1.314

REF	MINUTES	PRESSURE	ΔP	$\frac{t \times \Delta t}{t + \Delta t}$	\log
SECOND CLOSED-IN - CONTINUED					
	9	8.0	2095.4	1636.0	7.6 1.
	10	9.0	2104.3	1644.9	8.5 1.
	11	10.0	2110.0	1650.6	9.3 1.
	12	12.0	2119.7	1660.3	11.0 1.
	13	14.0	2125.6	1666.2	12.7 1.
	14	16.0	2128.6	1669.2	14.3 0.
	15	18.0	2131.5	1672.2	15.9 0.
	16	20.0	2134.1	1674.7	17.5 0.
	17	22.0	2135.7	1676.3	19.0 0.
	18	24.0	2137.5	1678.1	20.4 0.
	19	26.0	2138.7	1679.3	21.9 0.
	20	28.0	2139.9	1680.5	23.3 0.
	21	30.0	2140.7	1681.3	24.6 0.
	22	35.0	2143.3	1683.9	27.9 0.
	23	40.0	2145.0	1685.6	31.0 0.
	24	45.0	2147.2	1687.8	33.9 0.
	25	50.0	2148.0	1688.6	36.7 0.
	26	55.0	2149.2	1689.8	39.3 0.
	27	60.0	2150.7	1691.3	41.8 0.
	28	70.0	2151.8	1692.4	46.4 0.
	29	80.0	2153.0	1693.6	50.6 0.
	30	90.0	2154.2	1694.8	54.4 0.
	31	100.0	2155.9	1696.5	57.9 0.
	32	110.0	2155.9	1696.5	61.1 0.
	33	120.0	2156.7	1697.4	64.1 0.
	34	135.0	2158.1	1698.7	68.2 0.
	35	150.0	2158.8	1699.4	71.8 0.
	36	165.0	2159.6	1700.2	75.1 0.
	37	180.0	2160.1	1700.7	78.0 0.
	38	195.0	2160.8	1701.4	80.7 0.
	39	210.0	2161.1	1701.7	83.2 0.
	40	225.0	2161.5	1702.1	85.4 0.
G	41	239.7	2161.9	1702.5	87.5 0.

LEGEND:
 STAIR STEPS

REMARKS:

TICKET NO: 69544900
 CLOCK NO: 14121 HOUR: 12



GAUGE NO: 5160
 DEPTH: 6011.0

1.25
1.21
1.17
1.09
1.03
0.98
0.93
0.89
0.86
0.82
0.79
0.77
0.74
0.69
0.64
0.60
0.57
0.54
0.51
0.47
0.43
0.40
0.37
0.35
0.33
0.30
0.28
0.26
0.24
0.23
0.21
0.20
0.19

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	82.3		
	2	3.0	103.8	21.6	
	3	6.0	114.5	10.7	
	4	9.0	131.8	17.3	
	5	12.0	151.5	19.7	
C	6	15.1	173.3	21.8	
FIRST CLOSED-IN					
C	1	0.0	173.3		
	2	1.0	890.8	717.5	1.0 1.197
	3	2.0	1487.9	1314.6	1.8 0.934
	4	3.0	1749.4	1576.1	2.5 0.786
	5	4.0	1915.0	1741.8	3.2 0.678
	6	5.0	1999.8	1826.5	3.8 0.603
	7	6.0	2057.8	1884.5	4.3 0.546
	8	7.0	2093.6	1920.4	4.8 0.498
	9	8.0	2117.4	1944.1	5.2 0.460
	10	9.0	2132.6	1959.3	5.6 0.428
	11	10.0	2143.6	1970.4	6.0 0.399
	12	12.0	2156.1	1982.9	6.7 0.353
	13	14.0	2163.6	1990.3	7.3 0.318
	14	16.0	2167.2	1993.9	7.8 0.289
	15	18.0	2170.1	1996.8	8.2 0.264
	16	20.0	2170.1	1996.8	8.6 0.244
	17	22.0	2172.0	1998.7	8.9 0.227
	18	24.0	2172.2	1999.0	9.3 0.212
	19	26.0	2174.4	2001.1	9.6 0.199
	20	28.0	2174.6	2001.3	9.8 0.187
	21	30.0	2175.2	2001.9	10.0 0.177
	22	35.0	2177.1	2003.8	10.5 0.156
	23	40.0	2178.2	2004.9	11.0 0.139
	24	45.0	2178.2	2004.9	11.3 0.126
	25	50.0	2178.2	2004.9	11.6 0.115
	26	55.0	2178.8	2005.5	11.8 0.105
D	27	60.6	2179.0	2005.7	12.1 0.097
SECOND FLOW					
E	1	0.0	121.4		
	2	20.0	225.2	103.8	
	3	40.0	298.5	73.3	
	4	60.0	355.1	56.6	
	5	80.0	398.9	43.8	
	6	100.0	431.8	32.9	
	7	120.0	457.9	26.1	
F	8	122.6	461.1	3.2	

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$	
SECOND CLOSED-IN						
F	1	0.0	461.1			
	2	1.0	1210.2	749.1	1.0 2.146	
	3	2.0	1590.9	1129.8	2.0 1.845	
	4	3.0	1814.0	1352.9	2.9 1.671	
	5	4.0	1948.7	1487.6	3.9 1.546	
	6	5.0	2011.0	1549.9	4.8 1.457	
	7	6.0	2053.2	1592.1	5.8 1.379	
	8	7.0	2079.7	1618.5	6.6 1.317	
	9	8.0	2096.2	1635.1	7.6 1.258	
	10	9.0	2108.3	1647.2	8.5 1.211	
	11	10.0	2116.1	1655.0	9.3 1.169	
	12	12.0	2125.0	1663.9	11.1 1.095	
	13	14.0	2131.8	1670.7	12.7 1.034	
	14	16.0	2135.8	1674.7	14.3 0.982	
	15	18.0	2139.6	1678.5	15.9 0.937	
	16	20.0	2141.9	1680.8	17.5 0.897	
	17	22.0	2142.8	1681.7	19.0 0.860	
	18	24.0	2144.9	1683.8	20.4 0.829	
	19	26.0	2145.8	1684.7	21.9 0.799	
	20	28.0	2148.1	1687.0	23.3 0.772	
	21	30.0	2148.1	1687.0	24.6 0.748	
	22	35.0	2151.7	1690.6	27.9 0.693	
	23	40.0	2153.8	1692.7	31.0 0.648	
	24	45.0	2154.9	1693.8	33.9 0.609	
	25	50.0	2156.1	1695.0	36.7 0.574	
	26	55.0	2157.8	1696.7	39.3 0.545	
	27	60.0	2159.3	1698.2	41.8 0.518	
	28	70.0	2160.8	1699.7	46.4 0.472	
	29	80.0	2162.1	1701.0	50.6 0.435	
	30	90.0	2163.6	1702.4	54.4 0.403	
	31	100.0	2164.4	1703.3	57.9 0.376	
	32	110.0	2165.0	1703.9	61.2 0.353	
	33	120.0	2164.8	1703.7	64.1 0.332	
	34	135.0	2166.7	1705.6	68.2 0.305	
	35	150.0	2167.8	1706.7	71.8 0.283	
	36	165.0	2168.4	1707.3	75.1 0.264	
	37	180.0	2169.5	1708.4	78.0 0.247	
	38	195.0	2169.5	1708.4	80.7 0.232	
	39	210.0	2170.3	1709.2	83.2 0.219	
	40	211.9	2170.3	1709.2	83.5 0.217	
G	41	NO DATA FOR THIS POINT				

LEGEND:
 CHART TIME EXPRED

REMARKS:

TICKET NO: 69544900

CLOCK NO: 7276 HOUR: 24



GAUGE NO: 6040

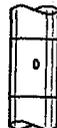
DEPTH: 6077.0

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	124.6		
	2	3.0	125.9	1.3	
	3	6.0	136.4	10.5	
	4	9.0	152.0	15.6	
	5	12.0	172.2	20.2	
C	6	15.1	188.6	16.4	
FIRST CLOSED-IN					
C	1	0.0	188.6		
<input type="checkbox"/>	2	1.7	1037.8	849.2	1.5 0.998
<input type="checkbox"/>	3	2.5	1419.5	1230.9	2.1 0.848
<input type="checkbox"/>	4	3.5	1739.3	1550.7	2.9 0.721
<input type="checkbox"/>	5	4.5	1904.2	1715.6	3.5 0.638
<input type="checkbox"/>	6	5.5	2010.9	1822.4	4.0 0.572
<input type="checkbox"/>	7	6.6	2070.1	1881.6	4.6 0.515
<input type="checkbox"/>	8	7.7	2108.6	1920.1	5.1 0.471
<input type="checkbox"/>	9	8.0	2129.9	1941.3	5.2 0.462
	10	9.0	2144.2	1955.6	5.6 0.427
	11	10.0	2153.0	1964.4	6.0 0.398
	12	12.0	2164.9	1976.3	6.7 0.353
	13	14.0	2172.0	1983.5	7.3 0.318
	14	16.0	2175.7	1987.1	7.8 0.289
	15	18.0	2177.8	1989.3	8.2 0.264
	16	20.0	2179.7	1991.2	8.6 0.244
	17	22.0	2180.9	1992.4	8.9 0.227
	18	24.0	2181.6	1993.0	9.3 0.212
	19	26.0	2182.8	1994.3	9.5 0.199
	20	28.0	2183.6	1995.1	9.8 0.187
	21	30.0	2183.6	1995.1	10.0 0.177
	22	35.0	2185.7	1997.1	10.6 0.156
	23	40.0	2186.6	1998.0	11.0 0.139
	24	45.0	2187.3	1998.7	11.3 0.126
	25	50.0	2187.3	1998.7	11.6 0.115
	26	55.0	2188.4	1999.8	11.8 0.105
D	27	60.6	2189.1	2000.5	12.1 0.097
SECOND FLOW					
E	1	0.0	139.9		
	2	20.0	244.0	104.0	
	3	40.0	317.6	73.7	
	4	60.0	374.2	56.6	
	5	80.0	418.4	44.2	
	6	100.0	448.3	29.8	
	7	120.0	474.7	26.5	
F	8	122.6	480.4	5.6	

REF	MINUTES	PRESSURE	AP	$\frac{t \times \Delta t}{t + \Delta t}$	$\log \frac{t + \Delta t}{\Delta t}$
SECOND CLOSED-IN					
F	1	0.0	480.4		
	2	1.0	1377.7	897.3	1.0 2.145
	3	2.0	1596.9	1116.5	2.0 1.847
	4	3.0	1861.8	1381.4	3.0 1.666
	5	4.0	1944.2	1463.8	3.9 1.549
	6	5.0	2034.9	1554.5	4.8 1.454
	7	6.0	2082.2	1601.8	5.7 1.380
	8	7.0	2098.0	1617.6	6.7 1.315
	9	8.0	2113.6	1633.3	7.6 1.259
	10	9.0	2122.0	1641.7	8.4 1.214
	11	10.0	2130.0	1649.6	9.3 1.169
	12	12.0	2137.2	1656.8	11.0 1.096
	13	14.0	2141.9	1661.5	12.7 1.034
	14	16.0	2145.3	1664.9	14.4 0.982
	15	18.0	2147.4	1667.1	15.9 0.937
	16	20.0	2149.9	1669.5	17.5 0.896
	17	22.0	2151.8	1671.4	18.9 0.862
	18	24.0	2153.1	1672.7	20.5 0.828
	19	26.0	2154.7	1674.4	21.9 0.798
	20	28.0	2155.9	1675.6	23.2 0.773
	21	30.0	2157.3	1676.9	24.6 0.747
	22	35.0	2159.1	1678.7	27.9 0.693
	23	40.0	2160.3	1679.9	31.0 0.648
	24	45.0	2163.1	1682.7	33.9 0.609
	25	50.0	2164.1	1683.7	36.7 0.574
	26	55.0	2165.4	1685.0	39.3 0.545
	27	60.0	2165.8	1685.4	41.8 0.518
	28	70.0	2169.6	1689.2	46.4 0.472
	29	80.0	2170.3	1689.9	50.6 0.435
	30	90.0	2170.9	1690.6	54.4 0.403
	31	100.0	2172.3	1691.9	57.9 0.376
	32	110.0	2173.0	1692.6	61.1 0.353
	33	120.0	2173.6	1693.3	64.1 0.332
	34	135.0	2174.7	1694.4	68.2 0.305
	35	150.0	2175.3	1694.9	71.8 0.283
	36	165.0	2175.8	1695.4	75.1 0.264
	37	180.0	2176.4	1696.0	78.0 0.247
	38	195.0	2177.0	1696.7	80.7 0.232
	39	210.0	2177.0	1696.7	83.2 0.219
	40	225.0	2177.4	1697.1	85.4 0.207
G	41	239.7	2176.8	1696.4	87.5 0.197

LEGEND:
 STAIR STEPS

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	5199.0	
3		DRILL COLLARS.....	6.250	2.250	748.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	5311.0
3		DRILL COLLARS.....	6.250	2.250	60.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.030	0.750	7.5	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	6005.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	6007.0
80		AP RUNNING CASE.....	5.000	2.250	5.0	6011.0
15		JAR.....	5.030	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6027.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	6033.0
19		ANCHOR PIPE SAFETY JOINT.....	5.750	1.500	4.0	
20		FLUSH JOINT ANCHOR.....	5.750	3.000	37.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	6077.0
TOTAL DEPTH						6080.0

EQUIPMENT DATA

EQUATIONS FOR DST LIQUID WELL ANALYSIS

Transmissibility	$\frac{kh}{\mu} = \frac{162.6 QB}{m}$	$\frac{\text{md-ft}}{\text{cp}}$
Indicated Flow Capacity	$kh = \frac{kh}{\mu} \mu$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Damage Ratio	$DR = .183 \frac{P^* - P_f}{m}$	—
Theoretical Potential w / Damage Removed	$Q_t = Q DR$	BPD
Approx. Radius of Investigation	$r_i = 4.63 \sqrt{kt}$	ft

EQUATIONS FOR DST GAS WELL ANALYSIS

Indicated Flow Capacity	$kh = \frac{1637 Q_g T}{m}$	md-ft
Average Effective Permeability	$k = \frac{kh}{h}$	md
Skin Factor	$S = 1.151 \left[\frac{m(P^*) - m(P_f)}{m} - \text{LOG} \frac{kt}{\phi \mu c_{fg} r_w^2} + 3.23 \right]$	—
Damage Ratio	$DR = \frac{m(P^*) - m(P_f)}{m(P^*) - m(P_f) - 0.87 mS}$	—
Indicated Flow Rate (Maximum)	$AOF_1 = \frac{Q_g m(P^*)}{m(P^*) - m(P_f)}$	MCFD
Indicated Flow Rate (Minimum)	$AOF_2 = Q_g \sqrt{\frac{m(P^*)}{m(P^*) - m(P_f)}}$	MCFD
Approx. Radius of Investigation	$r_i = 0.032 \sqrt{\frac{kt}{\phi \mu c_g}}$	ft

CORE LABORATORIES, INC.



Petroleum Reservoir Engineering

COMPANY MARATHON OIL COMPANY FILE NO. 3803-3314
WELL MCCRACKEN SPRING 1-31 DATE 12-DEC-83
FIELD WILDCAT FORMATION PARADOX ELEV. 5696 KB
COUNTY SAN JUAN STATE UTAH DRLG. FLD. WATER BASE MUD CORES _____
LOCATION SE NE SEC 30, T37S, R24E

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

Gamma Ray

RADIATION INCREASE →

Permeability _____

MILLIDARCIES

Porosity _____

PERCENT

0 0 20 40 60 80 100

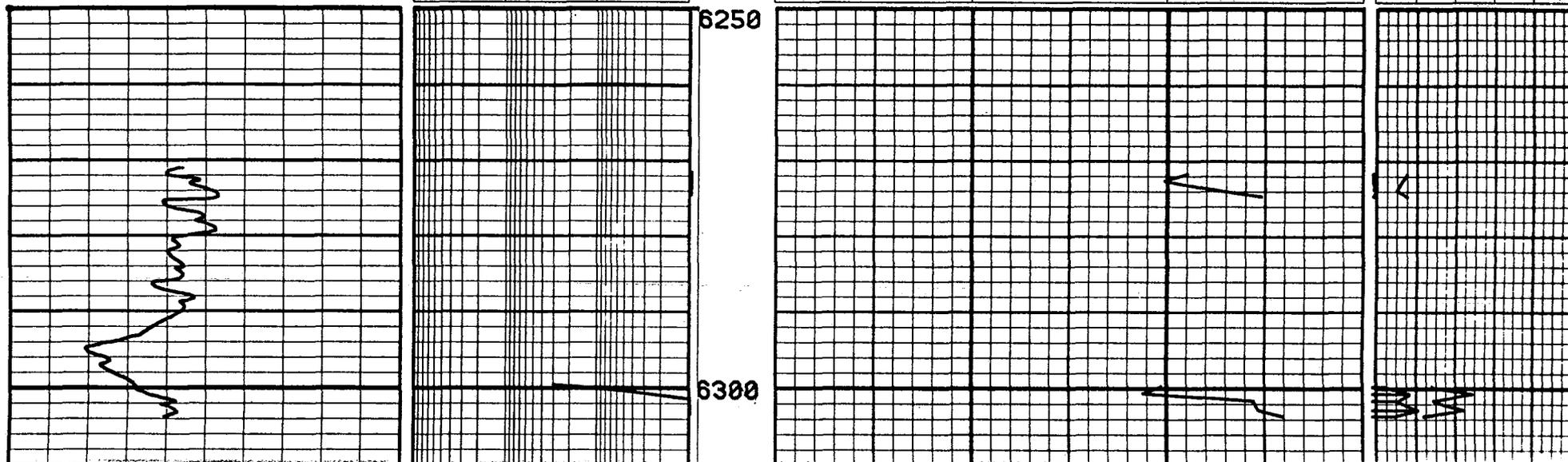
100 10 1.0 .1

Depth
Feet

20 10

6250

6300



CORE LABORATORIES, INC.
 Petroleum Reservoir Engineering
 DALLAS, TEXAS

Page 2 of 2File 3806-G-1417

Company MARATHON OIL COMPANY Formation _____
 Well MC CRACKEN SPRINGS 1-31 County _____
 Field WILDCAT State UTAH

Chromatographic Gas Analysis

Hydrocarbon Analysis of Treater Gas Sample

COMPONENT	MOL PER CENT	G. P. M.	DENSITY @ 60° F. GRAMS PER CUBIC CENTIMETER	° API @ 60° F.	MOLECULAR WEIGHT
Carbon Dioxide	.29				
Nitrogen	1.82				
Methane	77.08				
Ethane	11.63	3.092			
Propane	5.82	1.592			
iso-Butane	.67	.218			
n-Butane	1.67	.523			
iso-Pentane	.35	.127			
n-Pentane	.49	.176			
Hexanes Plus	.18	.077			
	100.00	5.805			

Calculated gas gravity (air=1.000) = .732

Calculated gross heating value = 1246 BTU
 per cubic foot of dry gas at 14.65 psia

Collected at 29 psig and 60 F.

SAMPLE DETAILS

Type Gas
 Client Sample No. _____ Cylinder No. 2
 Date Sampled 8-23-84 Temperature _____ °F
 Sampling Pressure _____ psig Sampled By _____

walt ok

CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

NAME OF COMPANY: MARATHON OIL COMPANY

WELL NAME: MC CRACKEN SPRINGS 1-31

SECTION SENE 31 TOWNSHIP 37S RANGE 24E COUNTY San Juan

DRILLING CONTRACTOR Energy Search

RIG # 2

SPUDDED: DATE 11-25-83

TIME 6:00 AM

How Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Walt West

TELEPHONE # 307-577-1555

DATE 11-28-83 SIGNED AS

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C 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, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2,140' FNL & 940' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

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

14. API NO.
43-037-30956 (11-14-83)

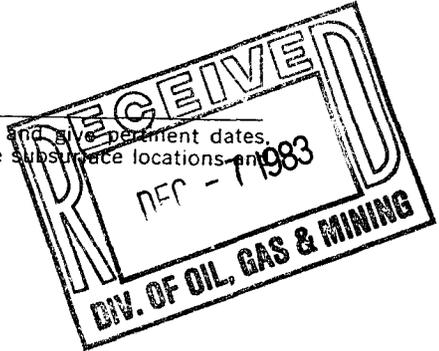
15. ELEVATIONS (SHOW DF, KDB, AND WD)
5,683' GL, 5,696' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF <input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE <input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES <input type="checkbox"/>	<input type="checkbox"/>
ABANDON* <input type="checkbox"/>	<input type="checkbox"/>
(other) <u>Please see attachment</u>	

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*



PROGRESS REPORT

From: 11-26-83 to 12-1-83



Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct.
SIGNED [Signature] TITLE Drilling Superintendent DATE 12-2-83

(This space for Federal or State office use)

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

MCCRACKEN SPRINGS #1-31

- 11-26-83 559' MADE 471' IN MORRISON FORMATION. MW 8.8, VIS 37. SPUD WELL @ 6:00 A.M.
11-25-83. DRLD TO 559'.
- 11-27-83 1,310' MADE 751' IN NAVAJO FORMATION. MW 8.9, VIS 37. DRLG @ 1,310', NO PROB.
- 11-28-83 1,900' MADE 590' IN WINGATE FORMATION. MW 9.7, VIS 40. DRLD TO 1,900', NO PROB. POH
FOR LOGS.
- 11-29-83 1,900' MADE 0' IN WINGATE FORMATION. MW: H.O. RAN DIL-GR-SP. RUN 52 JTS 9-5/8"
CSG SHOE @ 1,893'. CMTED W/535 SXS CLITE FOLLOWED BY 270 SXS CL "B". CIRC 50
BBLS CMT TO SURFACE. CIP @ 4:30 P.M. 11-28-83. WOC. PRESENTLY NU BOPE.
- 11-30-83 2,175' MADE 275' IN WINGATE FORMATION. MW 8.7, VIS 33. FIN NU BOPE. TEST TO 200#,
1,500# O.K. TEST CSG TO 1,500# O.K. TEST SHOE TO 450#. DRLG AHEAD, NO PROB.
- 12-1-83 2,692' MADE 517' IN CHINLE FORMATION. MW 8.7, VIS 36. PRESENTLY DRLG AHEAD.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C 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, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2,140' FNL & 940' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF <input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE <input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES <input type="checkbox"/>	<input type="checkbox"/>
ABANDON* <input type="checkbox"/>	<input type="checkbox"/>
(other) Please see attachment	

5. LEASE
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-30956 (11-14-83)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5,683' GL, 5,696' KB

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*

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PROGRESS REPORT

From: 12-2 To: 12-21

RECEIVED
DEC 29 1983

**DIVISION OF
OIL, GAS & MINING**

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct.
SIGNED Gary E. Newberry TITLE Drilling Superintendent DATE December 21, 1983

(This space for Federal or State office use)

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

MCCRACKEN SPRINGS #1-31

12-2-83 3,356' MW 8.9, VIS 36. PRESENTLY DRLG.
12-3-83 3,822' MW 9.0, VIS 40. DRLG AHEAD 3,822'.
12-4-83 4,251' MW 8.9+, VIS 45.
12-5-83 4,482' MW 8.9+, VIS 44. PRESENTLY DRLG AHEAD NO PROB.
12-6-83 4,811' MW 9.0, VIS 44. DRLG AHEAD
12-7-83 5,152' MW 9.0, VIS 44.
12-8-83 5,360' MW 8.9, VIS 43.
12-9-83 5,669' MW 9.0, VIS 41.
12-10-83 5,939' MW 9.1, VIS 40, DRLD TO 5,669'. NO PROBLEMS.
12-11-83 6,035' MW 9.1, VIS 44.
12-12-83 6,080' MW 9.1, VIS 40. CORED 6,035'-6,065'. CBU. CORED 6,080'. CBU.
12-13-83 6,080' MW 9.1, VIS 45.
12-14-83 6,080' MW 9.1, VIS 43.
12-15-83 6,140' MW 9.1, VIS 44. CORED 6,080'-6,140'. REC 60'. COND HOLE FOR DST #2.
12-16-83 6,140' MW 9.1, VIS 44. PU DST TOOLS. SET PKRS @ 6,070', 6,076'.
12-17-83 6,140' MW 9.1, VIS 42. HAD GAS CUT TO SURF 1 HR INTO DST.
12-18-83 6,255' MW 9.1, VIS 45. DST #2 RECOVERED 3 BO.
12-19-83 6,328' MW 9.1, VIS 43. PU CORE BBL. RIH. PRESENTLY CORING 6,271'-6,328'.
12-20-83 6,370' MW 9.1, VIS 56. REC 33', CUT 60'.
12-21-83 6,370' MW 9.1, VIS 55.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C 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, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2,140' FNL & 940' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>		<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>		<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>		<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>		<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>		<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>		<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>		<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		<input type="checkbox"/>
(other) Please see attachment			

5. LEASE
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-30956 (11-14-83)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5,683' GL, 5,696' KB

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*

CONFIDENTIAL

PROGRESS REPORT

From: 12-22-83 To: 12-30-83

RECEIVED
JAN 03 1983

**DIVISION OF
OIL, GAS & MINING**

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct.
SIGNED Guy A. Newberry TITLE Drilling Superintendent DATE December 30, 1983

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

MCCRACKEN SPRINGS #1-31

12-22-83 6,370' MADE 0'. SHUT-DOWN DUE TO FATALITY.

12-23-83 6,370' MADE 0'. WAIT ON OSHA. LEO WILLIAMS INSPECTED ACCIDENT AND RIG.

12-24-83 6,370' MADE 0'. RIG AND RUN 149 JTS 7" 20# CSG LANDED @ 6,370'. CMT CSG, 665 SX
DOWELL "LITE" FOLLOWED BY 220 CLASS "B". CIP @ 4:45 PM 12-23-83. RELEASED
RIG @ 3:00 A.M. 12-24-83.

CONFIDENTIAL

12-24-83/

12-30-83 6,370' WAITING ON COMPLETION.

CONFIDENTIAL

CORE ANALYSIS REPORT

FOR

MARATHON OIL COMPANY

MCCRACKEN SPRING 1-31
WILDCAT
SAN JUAN COUNTY, UTAH

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JAN 18 1961

DIVISION OF
OIL, GAS & MINING

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

PAGE 1

MARATHON OIL COMPANY
 MCCracken SPRING 1-31
 WILDCAT
 SAN JUAN COUNTY, UTAH

DATE : 12-DEC-83
 FORMATION : PARADOX
 DRLG. FLUID: WATER BASE MUD
 LOCATION : SE NE SEC 30, T37S, R24E

FILE NO : 3803-3314
 ANALYSTS : G.G.
 ELEVATION: 5696 KB

FULL DIAMETER CORE ANALYSIS--BOYLE'S LAW POROSITY

PRELIMINARY REPORT

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
1	6035.0-36.0	6.40	6.30	18.0	7.2	32.1	2.83	DOL, BRN RTHY/VFXLN ANHY
2	6036.0-37.0	3.00	2.90	16.6	12.8	20.2	2.82	DOL, BRN RTHY/VFXLN ANHY
3	6037.0-38.0	2.10	1.80	6.0	15.1	43.7	2.83	DOL, BRN RTHY/VFXLN ANHY
4	6038.0-39.0	<0.01	*	1.0	15.7	31.4	2.73	LM, GY VFXLN
5	6039.0-40.0	<0.01	*	0.9	9.7	19.4	2.73	LM, GY VFXLN
6	6040.0-41.0	1.60	0.42	5.0	18.5	37.0	2.81	DOL, BRN VFXLN
7	6041.0-42.0	0.84	*	14.5	14.5	19.7	2.80	DOL, BRN RTHY/VFXLN ANHY
8	6042.0-43.0	0.43	0.42	10.6	19.9	24.4	2.82	DOL, BRN RTHY/VFXLN ANHY
9	6043.0-44.0	1.00	0.87	9.1	33.5	17.7	2.85	DOL, BRN RTHY/VFXLN ANHY
10	6044.0-45.0	0.86	*	9.3	20.2	15.1	2.84	DOL, BRN RTHY/VFXLN ANHY
11	6045.0-46.0	1.80	1.60	9.5	21.8	13.7	2.85	DOL, BRN RTHY/VFXLN ANHY
12	6046.0-47.0	0.62	0.52	8.7	36.0	15.4	2.85	DOL, BRN RTHY/VFXLN ANHY
13	6047.0-48.0	1.60	1.50	10.5	26.0	19.9	2.82	DOL, GY/BRN VFXLN ANHY SL/VGY
14	6048.0-49.0	3.20	1.30	9.8	25.9	13.6	2.83	DOL, GY/BRN VFXLN SL/VGY
15	6049.0-50.0	1.10	0.89	10.6	23.3	16.9	2.82	DOL, GY/BRN VFXLN ANHY SL/VGY
16	6050.0-51.0	0.87	0.84	8.4	17.3	17.3	2.85	DOL, GY/BRN VFXLN ANHY SL/VGY
17	6051.0-52.0	1.30	0.91	9.5	15.1	17.6	2.83	DOL, GY/BRN VFXLN ANHY SL/VGY
18	6052.0-53.0	1.30	1.30	7.2	40.2	22.9	2.85	DOL, GY/BRN VFXLN ANHY
19	6053.0-54.0	0.86	0.77	7.1	48.5	21.2	2.85	DOL, GY/BRN VFXLN ANHY
20	6054.0-55.0	0.45	0.33	4.2	23.2	19.9	2.88	DOL, GY/BRN VFXLN ANHY
21	6055.0-56.0	4.50	3.50	10.9	12.7	28.6	2.84	DOL, BRN RTHY/VFXLN ANHY
22	6056.0-57.0	0.30	0.27	13.3	23.0	38.4	2.82	DOL, BRN RTHY/VFXLN ANHY
23	6057.0-58.0	0.06	*	10.2	19.1	39.3	2.82	DOL, BRN RTHY/VFXLN ANHY
24	6058.0-59.0	0.65	0.83	9.3	33.1	30.1	2.85	DOL, GY/BRN VFXLN ANHY SL/VGY
25	6059.0-60.0	7.30	*	11.5	15.4	40.5	2.82	DOL, GY/BRN VFXLN ANHY SL/VGY
26	6060.0-61.0	4.30	3.70	12.8	20.6	31.4	2.83	DOL, GY/BRN VFXLN ANHY SL/VGY
27	6061.0-62.0	2.00	1.90	13.7	17.6	32.7	2.84	DOL, GY/BRN VFXLN ANHY SL/VGY
28	6062.0-63.0	2.80	2.20	22.8	16.1	27.1	2.83	DOL, GY/BRN VFXLN ANHY SL/VGY

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
 DALLAS, TEXAS

MARATHON OIL COMPANY
 MCCracken Spring 1-31

DATE : 12-DEC-83
 FORMATION : PARADOX

FILE NO : 3803-3314
 ANALYSTS : G.G.

FULL DIAMETER CORE 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
29	6063.0-64.0	2.00	1.90	12.9	20.1	33.8	2.84	DOL, GY/BRN VFXLN ANHY SL/VGY
30	6064.0-65.0	3.30	2.40	8.8	16.1	50.4	2.84	DOL, GY/BRN VFXLN ANHY SL/VGY
31	6065.0-66.0	7.60	5.20	12.9	13.1	27.5	2.83	DOL, GY/BRN VFXLN ANHY SL/VGY
32	6066.0-67.0	11.	9.30	15.6	12.1	40.2	2.81	DOL, GY/BRN VFXLN ANHY SL/VGY
33	6067.0-68.0	2.70	2.20	7.8	17.0	34.0	2.83	DOL, Y/BRN VFXLN SL/VGY
34	6068.0-69.0	2.00	1.40	7.0	6.8	27.3	2.83	DOL, GY/BRN VFXLN ANHY SL/VGY
35	6069.0-70.0	1.20	1.10	5.7	21.5	17.9	2.81	DOL, GY/BRN VFXLN SL/VGY
36	6070.0-71.0	1.50	1.20	4.6	16.4	11.0	2.78	DOL, GY/BRN VFXLN SL/VGY
37	6071.0-72.0	18.	15.	11.0	13.9	15.4	2.79	DOL, GY/BRN VFXLN ANHY SL/VGY
38	6072.0-73.0	2.40	1.80	8.1	12.0	19.1	2.81	DOL, GY/BRN VFXLN ANHY SL/VGY
39	6073.0-74.0	0.50	0.28	6.7	19.0	33.2	2.83	DOL, GY/BRN VFXLN ANHY
40	6074.0-75.0	2.10	1.80	11.1	22.8	37.2	2.83	DOL, BRN RTHY/VFXLN ANHY
41	6075.0-76.0	0.95	0.90	12.4	30.0	26.6	2.83	DOL, BRN RTHY/VFXLN ANHY
42	6076.0-77.0	1.50	1.30	17.4	2.7	54.8	2.79	DOL, BRN RTHY/VFXLN ANHY
43	6077.0-78.0	13.	*	16.4	4.9	69.2	2.78	DOL, BRN RTHY/VFXLN ANHY
44	6078.0-79.0	4.20	4.00	20.9	15.9	40.8	2.79	DOL, BRN RTHY/VFXLN ANHY
45	6079.0-80.0	2.20	*	24.8	13.0	54.8	2.82	DOL, BRN RTHY/VFXLN ANHY OVF
46	6080.0-81.0	11.	11.	18.2	8.8	40.6	2.84	DOL, GY VFXLN
47	6081.0-82.0	0.07	0.07	3.2	15.3	38.7	2.78	LM, GY VFXLN ANHY
48	6082.0-83.0	0.31	0.17	7.5	9.5	19.0	2.78	LM, GY VFXLN ANHY
49	6083.0-84.0	21.	18.	12.8	15.1	43.5	2.77	LM, GY VFXLN ANHY
50	6084.0-85.0	15.	*	12.4	15.3	38.0	2.75	LM, GY/BRN VFXLN VGY ANHY
51	6085.0-86.0	140.	113.	20.1	25.9	32.7	2.70	LM, GY/BRN VFXLN VGY
52	6086.0-87.0	15.	*	12.0	7.9	22.8	2.71	LM, GY/BRN VFXLN VGY
53	6087.0-88.0	43.	25.	17.0	18.2	42.7	2.71	LM, GY/BRN VFXLN VGY
54	6088.0-89.0	38.	25.	16.1	21.8	26.7	2.72	LM, GY/BRN VFXLN VGY
55	6089.0-90.0	67.	58.	19.1	14.5	21.8	2.71	LM, GY/BRN VFXLN VGY
56	6090.0-91.0	15.	9.80	15.4	8.8	27.8	2.72	LM, GY/BRN VFXLN VGY
57	6091.0-92.0	15.	14.	13.5	9.0	21.7	2.71	LM, GY/BRN VFXLN VGY
58	6092.0-93.0	2.50	2.20	9.4	10.8	13.0	2.73	LM, GY/BRN VFXLN SL/VGY

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

PAGE 3

MARATHON OIL COMPANY
 MCCracken SPRING 1-31

DATE : 12-DEC-83
 FORMATION : PARADOX

FILE NO : 3803-3314
 ANALYSTS : G.G.

FULL DIAMETER CORE ANALYSIS--BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
59	6093.0-94.0	1.20	1.20	9.0	13.1	36.0	2.74	LM, GY/BRN VFXLN SL/UGY
60	6094.0-95.0	0.85	0.63	7.6	11.5	36.1	2.74	LM, GY/BRN VFXLN SL/UGY
61	6095.0-96.0	6.60	6.40	15.6	16.0	38.1	2.71	LM, GY/BRN VFXLN SL/DOL SL/UGY
62	6096.0-97.0	16.	14.	17.8	15.9	44.8	2.75	LM, GY/BRN VFXLN SL/DOL SL/UGY
63	6097.0-98.0	9.90	9.40	15.5	12.2	29.5	2.76	LM, GY/BRN VFXLN SL/DOL
64	6098.0-99.0	0.29	0.15	6.9	15.6	19.2	2.78	LM, GY/BRN VFXLN SL/DOL
65	6099.0-00.0	15.	15.	18.7	22.6	25.4	2.84	DOL, BRN VFXLN ANHY
66	6100.0-01.0	4.90	4.90	21.3	21.5	33.3	2.80	DOL, BRN VFXLN ANHY
67	6101.0-02.0	0.71	0.71	17.5	21.5	30.6	2.82	DOL, BRN VFXLN SL/ANHY
68	6102.0-03.0	0.26	0.25	14.2	3.0	60.8	2.82	DOL, BRN VFXLN SL/ANHY
69	6103.0-04.0	0.65	0.60	17.1	18.4	37.8	2.81	DOL, BRN VFXLN SL/ANHY
70	6104.0-05.0	0.96	0.76	16.8	21.3	30.0	2.82	DOL, BRN VFXLN SL/ANHY
71	6105.0-06.0	3.80	3.80	18.4	22.4	31.5	2.82	DOL, BRN VFXLN SL/ANHY
72	6106.0-07.0	5.10	4.30	18.3	23.2	44.8	2.83	DOL, BRN VFXLN SL/ANHY
73	6107.0-08.0	3.60	3.30	15.8	25.2	24.1	2.83	DOL, BRN VFXLN SL/ANHY
74	6108.0-09.0	0.03	0.01	4.1	12.0	26.6	2.81	LM, BRN VFXLN DOL
75	6109.0-10.0	<0.01	*	3.9	21.0	31.5	2.79	LM, BRN VFXLN DOL
76	6110.0-11.0	0.09	0.08	5.6	18.2	38.0	2.79	LM, BRN VFXLN DOL
77	6111.0-12.0	6.00	5.40	18.3	14.4	41.1	2.81	LM, BRN VFXLN DOL
78	6112.0-13.0	3.00	2.50	11.0	18.9	27.8	2.86	DOL, BRN VFXLN SL/ANHY
79	6113.0-14.0	0.89	0.89	14.9	24.4	38.8	2.85	DOL, BRN VFXLN SL/ANHY
80	6114.0-15.0	1.40	1.10	18.8	0.7	73.9	2.81	DOL, BRN RTHY/VFXLN SL/ANHY
81	6115.0-16.0	0.03	*	4.0	2.7	69.9	2.75	LM, GY RTHY/VFXLN SL/DOL SL/ANHY
82	6116.0-17.0	0.02	0.01	3.1	0.0	63.3	2.75	LM, GY VFXLN FOSS STY
83	6117.0-18.0	0.01	0.01	2.9	0.0	52.8	2.74	LM, GY VFXLN FOSS
84	6118.0-19.0	<0.01	*	1.8	7.2	57.6	2.72	LM, GY VFXLN FOSS
85	6119.0-20.0	<0.01	*	2.0	8.3	33.1	2.74	LM, GY VFXLN FOSS
86	6120.0-21.0	<0.01	*	1.6	7.6	45.8	2.72	LM, GY VFXLN FOSS
87	6121.0-22.0	<0.01	*	1.1	17.3	34.5	2.70	LM, GY VFXLN FOSS
88	6122.0-23.0	<0.01	*	1.8	11.8	23.7	2.70	LM, GY VFXLN FOSS

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
 DALLAS, TEXAS

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MARATHON OIL COMPANY
 MCCracken SPRING 1-31

DATE : 12-DEC-83
 FORMATION : PARADOX

FILE NO : 3803-3314
 ANALYSTS : G.G.

FULL DIAMETER CORE 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
89	6123.0-24.0	<0.01	*	2.7	12.7	25.4	2.70	LM, GY VFXLN FOSS
90	6124.0-25.0	<0.01	*	1.0	11.9	47.8	2.68	LM, DKGY VFXLN FOSS SL/SHY
	6125.0-40.0							NO ANALYSIS--SHALE
	6140.0-71.0							DRILLED INTERVAL
91	6271.0-72.0	<0.01	*	8.9	0.0	83.3	2.79	DOL, GY VFXLN
92	6272.0-73.0	<0.01	*	10.0	0.0	85.6	2.80	DOL, BRN RTHY/VFXLN
93	6273.0-74.0	<0.01	*	7.5	1.7	87.9	2.75	DOL, GY VFXLN SL/CALC
94	6274.0-75.0	<0.01	*	5.0	0.0	82.4	2.74	DOL, GY VFXLN SL/CALC
	6275.0-93.0							NO ANALYSIS--SHALY LIMESTONE
	6293.0-99.0							NO ANALYSIS--ANHYDRITE
95	6299.0-00.0	0.29	*	10.2	7.8	68.7	2.75	DOL, GY/BRN RTHY/VFXLN SL/CALC HF
96	6300.0-01.0	0.04	*	11.1	19.7	48.1	2.75	DOL, BRN RTHY/VFXLN SL/CALC
97	6301.0-02.0	<0.01	*	5.4	13.2	68.6	2.75	LM, GY VFXLN SL/DOL
98	6302.0-03.0	<0.01	*	5.1	23.5	52.9	2.75	LM, GY VFXLN SL/DOL
99	6303.0-04.0	<0.01	*	3.8	12.3	74.0	2.76	LM, GY VFXLN SL/DOL
	6304.0-31.0							LOST CORE

* SAMPLE NOT SUITABLE FOR FULL DIAMETER ANALYSIS

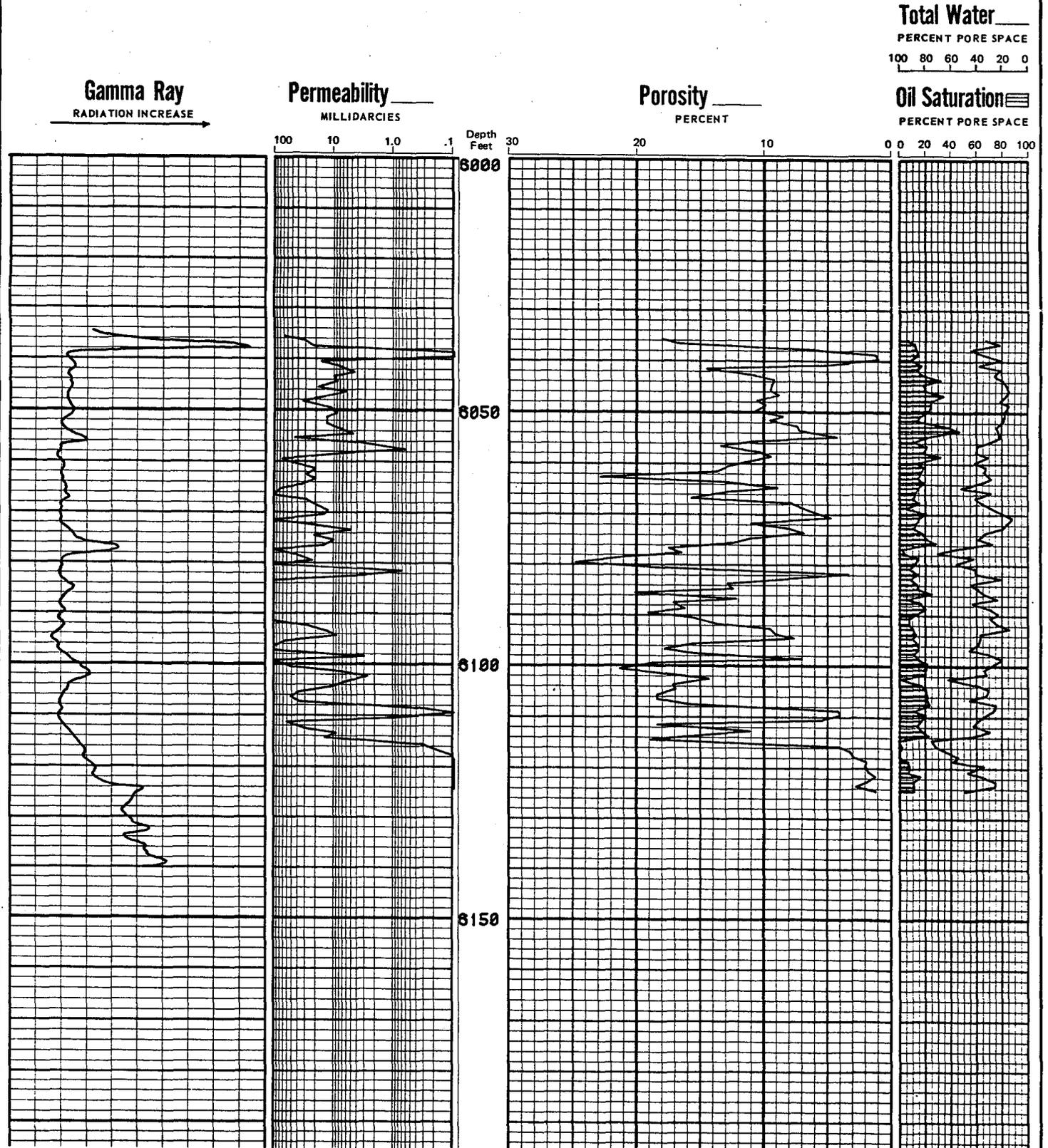


COMPANY MARATHON OIL COMPANY FILE NO. 3803-3314
 WELL MCCRACKEN SPRING 1-31 DATE 12-DEC-83
 FIELD WILDCAT FORMATION PARADOX ELEV. 5696 KB
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WATER BASE MUD CORES _____
 LOCATION SE NE SEC 30, T37S, R24E

CORRELATION COREGRAPH

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VERTICAL SCALE: 5" = 100'



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIP
(Other Instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Marathon Oil Company

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

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
2,140' FNL & 940' FEL

14. PERMIT NO. (11-14-83)
43-037-30956

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5,683' GL, 5,696' KB

CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Spring

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

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) Please See Below <input checked="" 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 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.)*

We are in the stage of completing the above captioned well and request authorization to flare the gas in accordance with NTL4-A.

Determination of gas will be made when the well is completed and evaluation tests have been completed.

Due to the timing of the move of records and authority from the BLM office in Salt Lake City, Utah, to the Moab District, the above was discussed by telephone with Mr. Bill Martens, BLM, SLC office, and Walt West, MOC, January 20, 1984. A Sundry is being mailed to the Moab District.

RECEIVED
JAN 25 1984

DIVISION OF
OIL, GAS & MINING

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

SIGNED

Doyle J. Jones

TITLE

District
Operations Manager

DATE

January 20, 1984

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

Jed

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

CONFIDENTIAL

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 Form 9-331-C 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, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2,140' FNL & 940' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

5. LEASE
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-30956 (11-14-83)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5,683' GL, 5,696' KB

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>		<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>		<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>		<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>		<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>		<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>		<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>		<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		<input type="checkbox"/>
(other) Please see attachment			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*

PROGRESS REPORT

From: 1-7-84 to: 2-28-84

RECEIVED
MAR 1 1984

**DIVISION OF
OIL, GAS & MINING**

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct.
SIGNED J. H. Snyder TITLE Operations Superintendent DATE February 28, 1984

(This space for Federal or State office use)

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

MCCRACKEN SPRINGS #1-31

- 2-20-84 SITP 380#, SICP 1,075#, BLEW TBG DOWN TO 0 IN 5 MIN. WELL FLOWED 10 BBL OF FLUID. THIS WAS @ 8:00 A.M., @ 11:00 A.M. TP = 0, CP = 1,100. NO FURTHER FLOW OF GAS OR FLUID FROM TBG. SWI. WILL CONTINUE SWABBING OPERATION ON MONDAY 2-20-84.
- 2-21-84 SITP = 350#, SICP = 1,400#. BLEW TBG DOWN TO 0 PSI. RIH W/SWAB. TAGGED FLUID @ 2,500'. PULLED SWAB FROM 3,500'. AFTER 1ST SWAB RUN, WELL FLOWED 43 BBL OF FLUID TO TANK THRU 16/64" CHOKE. TP = 350 @ 10:30 A.M., TURNED WELL THRU TEST SEPERATOR. FROM 8:00 A.M.-6:00 P.M. WELL FLOWED 55 BBL OF OIL, 46% WC, MCF 71, 10 HR GOR = 1,290, FTP = 460, CP = 925, SEP PRESS = 240 @ 6:00 P.M., OPENED CHOKE TO 32/64.
- 2-22-84 12 HR FLOW TEST FOR PERIOD ENDING 6:00 A.M. 2-21-84, BO 61, BW 4.3, TF 65.3, WC 6.5%, MCF 203, GOR 3,341, CHOKE 32/64, SEP PRESS 240, TP 250, CP 690, SEP TEMP 110°, WELL FLOWS IN LONG SURGES OF GAS AND FLUID. 12 HR TEST 6:00 A.M.-6:00 P.M., BO 117, TF 127, WC 8%, MCF 150, GOR 1,282, CHOKE 16/64, TP 420, CP 725, SEP PRESS 250, SEP TEMP 104°. BLED CP FROM 700 PSI TO 650 PSI IN 25 MIN. FTP FELL FROM 350 PSI TO 230 PSI DURING GAS BLEED-OFF.
- 2-23-84 12 HR FLOW TEST FROM 6:00 P.M. 2-21 TO 6:00 A.M. 2-22-84, EXTRAPOLATED TO 24 HRS, BO 80, BW 3.4, TF 83.4, WC 4%, MCF 407, GOR 5,087, TP 430, CP 740, SEP PRESS 240, TEMP 104°, CHOKE 15/64, 12 HR TEST FROM 6:00 A.M. TO 6:00 P.M. 2-22-84, EXTRAPOLATED TO 24 HRS, BO 89, BW 10, TF 99, WC 10%, MCF 427, GOR 4,797, TP 360, CP 630, SEP PRESS 240, TEMP 108°, CHOKE 18/64.
- 2-24-84 12 HR TEST FROM 6:00 P.M. 2-22-84 TO 6:00 A.M. 2-23-84, EXTRAPOLATED TO 24 HRS, BO 72, BW 8, TF 80, WC 6%, MCF 448, GOR 6,222, TP 370, CP 660, SEP PRESS 240, TEMP 100°, CHOKE 18/64. 12 HR TEST FROM 6:00 A.M. TO 6:00 P.M. 2-22-84, EXTRAPOLATED TO 24 HRS, BO 110, BW 7.2, TF 117.2, WC 6%, MCF 442, GOR 4,018, TP 360, CP 650, SEP PRESS 240, TEMP 102°, CHOKE 18/64. CHECKED BRADENHEAD, NO PRESS BETWEEN SURFACE CSG & PROD CSG @ 5:15 P.M. RELEASED COMPLETION UNIT.
- 2-25-84 12 HR TEST FROM 6:00 P.M. 2-23-84 TO 6:00 A.M. 2-24-84, BO 118.34, BW 3.4, TF 51.74, WC 6.6%, MCF 231, GOR 4,812, TP 360, CP 650, SEP PRESS 240, TEMP 104, CHOKE 18/64. 12 HR TEST FROM 6:00 A.M. 2-24-84 TO 6:00 P.M. 2-24-84, BO 42, BW 3, TF 45, WC 6.6%, MCF 235, CP 630, SEP PRESS 240, TEMP 100°, CHOKE 18/64.
- 2-26-84 12 HR TEST FROM 6:00 P.M. 2-24-84 TO 6:00 P.M. 2-25-84, BO 33, BW 7, TF 36, WC 8%, MCF 221, GOR 6,696, TP 350, CP 635, SEP PRESS 240, TEMP 101°, CHOKE 18/64. 12 HR TEST FROM 6:00 A.M. 2-25-84 TO 6:00 P.M. 2-25-84, BO 56.5, BW 1.5, TF 58, WC 3%, MCF 237, GOR 4,194, TP 360, CP 625, SEP PRESS 200, TEMP 102°, CHOKE 18/64.
- 2-27-84 12 HR TEST FROM 6:00 P.M. 2-25-84 TO 6:00 A.M. 2-26-84, BO 48.3, BW 2.1, TF 50.4, WC 5%, MCF 238, GOR 4,927, TP 350, CP 620, SEP PRESS 180, TEMP 102°, CHOKE 18/64. 12 HR TEST FROM 6:00 A.M. 2-26-84 TO 6:00 P.M. 2-26-84, BO 35, BW 2, TF 37, WC 5%, MCF 214, GOR 6,114, TP 360, CP 620, SEP PRESS 70, TEMP 104°, CHOKE 18/64.
- 2-28-84 24 HR TEST FROM 6:00 P.M. 2-26-84 TO 6:00 P.M. 2-27-84, BO 78, BW 106, BTF 81, 462 MCF, 5,923 GOR, 350# FTP, 620# CP, 18/64" CHOKE.

MCCRACKEN SPRINGS #1-31

2-13-84 SDFS.

2-14-84 SITP 400#, SICP 200#, BLEW TBG FOR 4 MIN, WELL BEGAN FLOWING OIL. CTU & RIH TO 6,090' KB. PRESS TESTED LINES TO 5,000 PSI. CIRC HOLE CLEAN OF OIL AT RATE OF 1.5 BPM W/WATER. PMPD 1.8 BBL OF ACID OUT INTO CSG AT RATE 1.5 BPM. WASHED OVER PERFS FROM 6,054'-6,090' AT RATE OF .5 BPM W/17.8 BBL OF 15% HCL W/.4% 14N DEMULSIFIER, .2% CORROSION HAL50 INHIBITOR. WASHED OVER THE PERFS W/7 RUNS W/11.5 BBL OF ACID AT RATE OF .5 BPM. HELD CIRC WHILE POOH AT RATE OF .25 (1/4) BPM DOWN TBG W/17.8 BBL OF TREATED WATER. ACID HAD BEEN ON PERFS FOR 1 HR & 25 MIN BEFORE START OF DISPLACEMENT. PMPD 6.5 BBL @ RATE .25 BPM AT 400 PSI. COMPLETED DISPLACEMENT AT 1/4 BPM W/PRES INCREASING TO 650 PSI. RU TO SWAB. ON 5TH RUN, HAD SWABBEED BACK 51 BBL W/INDICATION OF SPENT ACID RETURN. MADE TOTAL OF 7 RUNS. FLUID SWABBED BACK 71 BBL. NO INDICATION OF OIL. SWI, SDN.

2-15-84 SITP 75#, SICP 0, BLEW TBG DOWN TO TANK, RIH W/SWAB, TAGGED FLUID @ 1,500' ON 1ST 3 RUNS, OIL SHOWED DURING MIDDLE OF EACH RUN. ON 5TH RUN, PULLED FROM SN @ RATE 6,022' KB. WELL FLOWED TO TANK FOR 45 MIN AFTER RUN. WTR GAS & OIL. FROM 5TH TO 10TH RUN, MADE 1 RUN PER HR. WELL WOULD SURGE & FLOW GAS & FLUID BETWEEN RUNS. TOTAL FLUID SWABBED & FLOWED = 105 BBL W/AVERAGE WATER CUT OF OF 50%. SWI. SDN.

2-16-84 SITP 475#. BLEW WELL DOWN TO TANK, IN APPROX 10 MIN WELL BEGAN FLOWING W/CHOKE WIDE OPEN. SET CHOKE @ 16/64". WELL FLOWED CLEAN OIL FOR 8 HRS. DURING 9TH HR OF FLOWING, WELL BEGAN PRODUCING YELLOW EMULSION TO TANK. GAUGED TANK & SWITCHED WELL THRU TEST SEPERATOR. TEST SEPERATOR FILLED UP & STABILIZED @ 6:00 P.M. TOTAL FLUID FLOWED TO TANK FOR 9 HRS = 56 BBL. ALL SAMPLES INDICATED 100% OIL. AVERAGE TP = 100 PSI THRU 16/64" CHOKE. WELL LEFT FLOWING THRU TEST SEPERATOR OVERNIGHT.

2-17-84 FLOWED WELL THRU TEST SEPERATOR FOR 24 HRS. WELL FLOWED 82 BBL OF OIL, 0 BBL OF WATER, MCF = 85, GOR = 1,036, TBG = 67, SEP PRESS = 54, CHOKE 28/64. WELL SURGES GAS & FLUID.

2-18-84 FLOWED WELL THRU TEST SEPERATOR OVERNIGHT. RIH W/PARAFFIN KNIFE TO SN. FOUND NO PARAFFIN, MADE 1 SWAB RUN FROM SN. OIL FLOWED TO TANK THRU TEST SEPERATOR = 86 BBL. WATER = 0, AVERAGE OF 75 MCF, GOR = 872, CHOKE = 40/64.

2-19-84 12 HR FLOW TEST PRIOR TO ACID JOB (FRI 6:00 PM TO SAT 6:00 AM) 23 BO, 0 BW, MCF 42, CHOKE 40/64, TP 40, ACIDIZE WELL. PRESS TESTED LINES TO 4,900 PSI. PMPD 250#, PLUG OF BENZOIC ACID FLAKES MIXED 3/4# PER GAL IN A J-133 20# GEL AT 3 BPM FOLLOWED W/500 GAL 15% HCL ACID W/.4% DEMULSIFIER & .2% INHIBOTOR. PMPD AT RATE OF 3 BPM. DISPLACED ACID W/24 BBL OF FRESH WATER TO PLACE 1ST PLUG ON FORMATION TO DETERMINE SIZE OF 2ND PLUG NEEDED. PRESS WAS 0 W/1ST PLUG ON FORMATION. MIXED & PMPD 550# BEXZOIC FLAKES MIXED 3/4# PER GAL IN GEL. WHEN 2ND PLUG HIT FORM, PRESS INCREASED TO 550 PSI. FOLLOWED 2ND PLUG W/9 BBL OF 15% HCL W/SAME ADDITIVES AS FIRST ACID PMPD. AT 3 BPM PRESS WAS 2,900 PSI WHEN ACID WAS ON FORMATION. SHOWED GOOD BLOCKING ACTION ON LOWER PERFS. PRESS DROPPED FROM 2,900 PSI TO 2,600 PSI. FOLLOWED 9 BBL OF ACID W/ANOTHER 200# PLUG OF BENZOIC ACID FLAKES. WHEN 3RD PLUG ARRIVED ON FORM, RATE WAS 1.5 BPM @ 2,600 PSI. FOLLOWED 3RD PLUG W/9 BBL OF ACID (15% HCL W/SAME ADDITIVES) AT 3 BPM W/ACID ON PERFS RATE WAS 1.2 BPM AT 2,600 PSI, FOLLOWED BY 41 BBL OF FLUSH. PMPD @ RATE OF 2.7 BPM, PRESS DROPPED FROM 2,600 PSI TO 0. LAST 3 BBL OF FLUSH PMPD AT 0 PSI. ISIP = 0. WELL ON VACUUM. RU TO SWAB. TAGGED FLUID @ 1,200'. TOTAL FLUID SWABBED BACK WAS 184 BBL. LAST 6 SWAB RUNS WERE 65-70% WATER. OF THE 184 BBL FLUID RECOVERED, 16 BBL WERE OIL. SWI. SDN. TOTAL LOAD FLUID LEFT TO BE RECOVERED FROM ALL STIMULATIONS & CEMENT JOBS = 56 BBL. TOTAL LOAD FLUID FOR THIS ACID JOB = 115 BBL.

MCCRACKEN SPRINGS #1-31

- 2-8-84 RIH W/COILED TBG TO 6,114' KB. PMPD 6 BBL OF 15% ACID W/ADDITIVES, FOLLOWED BY 6.6 BBL OF TREATED WTR. SPOTTED ACID THRU PERFORATIONS @ 6,095'-6,106', 6,111'-6,114' KB, BALANCE UP THE TBG. DISPLACED ACID INTO FORMATION W/6 BBL OF WTR. RATE = 1/8 BPM TO 1/2 BPM @ 2,700 PSI WHEN FORMATION BROKE. PRESS DROPPED TO 500 PSI AFTER PMPG 6 BBL INTO FORMATION. RIH W/SWAB. MADE 11 RUNS, ON 5TH RUN, STRONG GAS BLOW AFTER RUN. (20 MIN) FROM 5TH RUN TO 11TH RUN FOUND FLUID LEVEL @ 5,000'. CAUGHT SAMPLE WHICH WAS 70% WTR. TOTAL FLUID RECOVERED WAS 62 BBL.
- 2-9-84 SITP 175, GR 1,150, RIH W/SWAB, ON 1ST RUN. FOUND FLUID LEVEL @ 1,500'. PULLED 8.55 BBL FLUID, 50% WTR. 2ND RUN 100% OIL, PULLED 100% OIL THRU 11TH RUN. SD FOR 1 HR. ON 12TH RUN PULLED 5 BBL OF OIL W/TRACE OF WTR. SAME FOR 13TH & 14TH RUNS SWABBED 85 BBL IN 14 RUNS. 10% WTR. GOOD GAS BLOW AFTER EACH RUN. SWI. SDN.
- 2-10-84 SITP 250 PSI, BLEW TBG DOWN. RIH W/SWAB & TAGGED FLUID @ 2,000'. ON 1ST THRU 6TH RUN, TBG WOULD FLOW GAS & OIL AFTER EACH RUN. GAS CUT FLUID STARTED BETWEEN 4,000' & 5,000' TOTAL FLUID SWABBED & FLOWED = 47 BBL, 100% OIL. OPENED PKR PORTS, EQUALIZED TBG & CSG. POOH W/TBG & PKR. SWI. SDN. WILL PERFORATE UPPER ISMAY ZONE IN AM.
- 2-11-84 RU GEOSOURCE TO PERFORATE. NO FLUID LEVEL WHILE RIH W/CSG GUN. CHECKED CSG COLLARS 5,972, 6,011', 6,054 & 6,099'. PERFORATED ISMAY 6,073'-6,090', ON 1ST RUN W/DUAL FIRE GUN. PERFORATED W/69 SHOTS, ALL SHOTS FIRED. NO IMMEDIATE CHANGE IN PRESS NOTED. POOH W/CSG GUN. 20 MIN AFTER PERFORATING CP = 25 PSI. RIH W/2ND GUN CHECKING SAME COLLARS. FOUND FLUID LEVEL @ 1,600'. PERFORATED ISMAY 6,054'-6,065' W/45 SHOTS. TOTAL PERFORATIONS = 6,054'-6,065' & 6,073'-6,090' W/4" CSG GUN, 4 SPF, 23 GRAM CHARGES, .43 HOLES, 120° PHASING, 114 SHOT TOTAL, ALL SHOTS FIRED. RIH W/ A-2 7" 26# LOCKSET PKR WITH ON & OFF TOOL, 2-6' 2-7/8" TBG SUB, 1' SN, 196 JTS N-80 2-7/8" TBG & 1-4' SUB 1 JT UNDER TBG HANGER. TALLIED IN HOLW W/TBG, ND BOP. SET LOCKSET PKR @ 6,041' KB. CAME OFF PKR W/ ON & OFF TOOL. REVERSE CIRC 190 BBL. FRESH WTR MIXED W/COAT D 14 PKR FLUID. GOT BACK ONTO PKR W/ON & OFF TOOL. INSTALLED TBG HANGER (DONUT) & HUNG IN TBG BOWL IN 1,900# TENSION. LOADED & PRESS TESTED CSG TO 1,100 PSI. PRESS HELD. TREADED UP WELL. SWI. SDN.
- 2-12-84 SITP = 0, SICP 250 (PRESS FROM PRESS TEST ON FRI.) WKM TESTED TREE TO 3,000 PSI. TESTED FINE, NO LEAKS. ON 1ST RUN W/SWAB; TAGGED FLUID @ 1,500'. AFTER 9 RUNS, SWABBED BACK TOTAL OF 47 BBL AT WHICH POINT FOUND TRACE OF OIL. ON 16TH AND FINAL RUN, HAD 25% WTR & 75% OIL. ON LAST 8 RUNS, FLUID LEVEL HELD @ 5,500', TOTAL FLUID SWABBED = 76 BBL. SWI. SDN.

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MCCRACKEN SPRINGS #1-31

- 1-27-84 SICP = 300#. RAN IN HOLE W/RETRIEVING HEAD, TURNED HOLE W/WTR, PU RBP & RAN IN HOLE W/PERF GUN - TAGGED PBSD @ 6,140', PULLED UP HOLE, PERFORATED ISMAY 6,028' TO 6,030' W/9 HOLES - ALL SHOTS FIRED. STARTED IN HOLE W/PKR. SDFN.
- 1-28-84 RAN IN HOLE W/PKR, SET PKR @ 6,046' KB, PRESS UP ON BACKSIDE, HOLE STARTED COMMUNICATING AFTER PMPG 14 BW @ 1-1/2 B/M INCREASED RATE TO 2-3/4 B/M @ 2,800#. PRESS STARTED INCREASING, REDUCED & ESTABLISHED A RATE OF 1-1/2 B/M @ 2,900#, PMPD 83 BW, STARTED PMPG DOWN TBG, ESTABLISHED A RATE 2-3/4 B/M @ 3,000# W/GOOD SHOW OF COMMUNICATION TO CSG, PULLED PKR TO 5,984 & SET, PRESS UP BACKSIDE TO 2,500# PKR HELD O.K. STARTED OUT OF HOLE W/PKR, SDFN.
- 1-29-84 FINISHED PULLING PKR, (PKR O.K.) RAN CMT RETAINER, SET @ 6,046', RAN TBG, STUNG INTO RETAINER, REVERSED W/80 BBLs, PMPD DOWN TUB, ESTABLISHED RATE 2 B/M @ 2,250#, MIXED & PMPD 50 SX CMT W/ADDITIVES, DISPLACED CMT W/31 BBLs DOWN TBG, UNSTUNG FROM RETAINER PULLED 2 STDS & REVERSED W/70 BBLs WTR, REV APPROX 3 BBLs CMT, PULLED 3 STDS, PRESS STAGED CMT @ 1/4/STAGE, OBTAINED SQUEEZE PRESS 2,650#, 1/2 BBLs CMT LEFT IN CSG, SWI W/2,650# ON CSG.
- 1-30-84 STATIC.
- 1-31-84 SIT & C PRESS = 2,800#, PULLED TBG, PU 6" BIT & 3-1/2" DC'S, RIH, TAGGED CMT @ 5,966', DRILLED OUT TO CMT RETAINER @ 6,046' KB, PRES UP ON SQUEEZE TO 3,000#, HELD O.K. 1-5 MIN COH W/BIT & DC, SDFN.
- 2-1-84 RAN IN HOLE W/PKR, SET PKR @ 5,961', RIGGED TO SWAB, COULD NOT GET SWAB DOWN TBG, WILL RUN CUTTERS IN A.M. SDFN.
- 2-2-84 RIH W/PARAFFIN KNIFE. CUT PARAFFIN OUT OF TBG. SWABBED DRY. LEFT WELL SET FOR 2 HRS. PUT ON NEW SWAB CUPS & RIH TO SN. NO INDICATION OF FLUID ENTRY. POOH W/TBG & PKR. SWI. SDN.
- 2-3-84 RIH W/6" BIT, 4-3-1/2" DRILL COLLARS & TBG STRING. TAGGED CMT RETAINER @ 6,046' KB. DRLD OUT CMT RETAINER. CMT BELOW RETAINER SOLID & HARD. FELL OUT OF SOLID CMT @ 6,097' KB, SOFT CMT OR SAND FROM 6,097'-6,118'. CIRC SAND OFF OF RPB TO 6,140' KB. CIRC HOLE CLEAN. PULLED UP HOLE. SWI, SDN.
- 2-4-84 POOH W/TBG, DRILL COLLARS & BIT. LD DC'S. RAN BACK IN HOLE W/6" BIT, 7" CSG SCRAPER & TBG. RAN SCRAPER TO 6,130' KB. POOH W/TBG & SCRAPER.
- 2-5-84 RIH W/CSG GUN. PERFORATED ISMAY 6,095'-6,106', 6,111-6,114' KB W/4 SPF, 23 GRAM WITH 120° PHASING. RIH W/MODEL R DOUBLEGRIP PKR. SET PKR @ 6,049' KB. PRESS BACKSIDE TO 725 PSI. RIH W/SWAB & SWABBED TBG FROM SN @ 6,010'. TOTAL FLUID RECOVERED WAS 33 BBL OF WTR IN 7 RUNS. NO INDICATION OF OIL. SD FOR 1 HR. RIH W/SWAB. TAGGED FLUID @ 5,600', SWABBED FROM SN (410' OF FILLUP) SWABBED 2.33 BW. SD FOR 20 MIN, MADE SWAB RUN, NO FLUID RECOVERED.
- 2-6-84 SDFS.
- 2-7-84 SITP 100#, SICP 600#, RIH W/SWAB. TAGGED FLUID @ 2,000' ON 1ST SWAB, PULLED 1,000 OF FLUID WHICH 1ST 200' ALL OIL. MADE 4 RUNS. LAST 2 RUNS FROM SN TOTAL FLUID RECOVERED FROM RUNS = 24 BBL. SD FOR 1 HR. PULLED SWAB FROM SN, RECOVERED .5 BBL FLUID (50% WTR) SD FOR 2 HRS, PULLED SWAB FROM SN, REC 2.9 BBL FLUID, VERY SMALL AMT OF OIL. SD FOR 2 MORE HRS. MADE RUN & REC .57 BBL FLUID (75% WTR) TOTAL FLUID APPROX 28 BBL, NO GAS BLOW BETWEEN RUNS. SWI, SDN.

MCCRACKEN SPRINGS #1-31

1-16-84 SDFS.

1-17-84 SET CMT RETAINER @ 6,144' KB STUNG INTO RETAINER ESTABLISHED A RATE OF 1-1/2 BPM @ 4,000#. DISPLACED 7-1/2 BBLs CMT SLURRY BELOW RETAINER, SQUEEZE PRESS OF 4,000# WAS OBTAINED W/NO BLEED OFF, UNSTUNG FROM RETAINER PULLED UP HOLE 3' & REVERSED OUT.

1-18-84 RIH W/RBP, MODEL "R" DOUBLEGRIP PKR. FOUND PBT @ 6,130' KB, SET PKR (RBP RET HD) @ 6,114' KB. SPOTTED 750 GAL 15% HCL ACID W/ADDITIVES THRU TBG. HELD 500 PSI ON BACKSIDE WHILE DISPLACING ACID. DISPLACED ACID W/20 BBLs OF TREATED WTR. SHUT BACKSIDE IN W/400 PSI. PULLED UPHOLE & SET PKR @ 6,022' KB. OPENED PKR PORTS & PMPD 2 BW DOWN BACKSIDE. CLOSED PKR PORTS & SET PKR W/12,000# PRESS BACKSIDE TO 1,000 PSI. PERFORATED ISMAY 6,095'-6,106' & 6,111'-6,114' KB W/58 SHOTS. DECENTRALIZED THRU TBG HOLLOW CARRIER; 2" GUN) ALL SHOTS FIRED. PMPD 20 BBL TREATED WTR TO DISPLACED ACID INTO FORMATION. FORMATION BROKE DOWN @ 6,250 PSI. PMPD ACID AWAY @ RATE OF 1.5 BPM @ 2,380 PSI. ISIP = 1,500 PSI. OPENED PKR PORTS & REVERSED CIRCULATED 10 BW TO CLEAR BACKSIDE. CLOSED PORTS & PUT 600 PSI ON BACKSIDE. RD HOWCO. JOB COMPLETE. RU FOR SWABBING. ON 1ST RUN, TAGGED FLUID @ 300'. ON 8TH RUN, WELL BEGAN FLOWING & CHASED SWAB OUT OF TBG. SWABBED 45 BBL, FLOWED 60 BBL TO TANK. TOTAL FLUID RECOVERY = 105 BBL. WELL FLOWED GAS & OIL. SWI. SDN.

1-19-84 SITP = 1,525 OPENING TANK GAUGE = 2'-11' OPENED TBG TO TANK @ 8:00 A.M.

9:00 AM FTP = 475	FLOWED 166 BBL TO TANK
10:00 AM FTP = 550	FLOWED 13.34 BBL TO TANK
11:00 AM FTP = 575	13.34
12:00 PM 650	10
1:00 PM 600	8.33
2:00 PM 575	10
3:00 500	10
4:00 525	8.3
5:00 PM 600	5

TOTAL = 90 BBL IN 9 HRS. SAMPLES @ WELLHD APPEARED TO CONTAIN PARAFFIN NO APPARENT WTR IN WELLHD SAMPLES. NO CHOKE IN SYSTEM. WELL SURGES & FLOWS GAS W/OIL.

1-20-84 SITP = 1,500 PSI, BLED TBG DOWN TO 600 PSI IN 30 MIN & BEGAN FLOWING WELL TO TANK. SWI @ 2:00 PM & COLOR CUT TANK. SPOTS OF WTR IN SUSPENSION FROM 0-10.3" AFTER 30 MIN SW, TG BUILT TO 1020 PSI. BEGAN FLOWING WELL AGAIN @ 2:30 PM WELL FLOWED 93.52 BO IN 10 HRS. TOOK SAMPLES OF OIL TO DOWELL FOR TESTING. TEST = 5% WTR. SWI TO MAKE TIE-INS FOR SEPERATOR. TURNED WELL THRU TEST SEPARATOR @ 8:30 PM.

1-21-84 10 HR FLOW TEST, FTP = 844#, SEP PRESS = 620, CHOKE 20/64", WTR = .50 BBL, OIL = 58.5 BBL, TF = 59 BBL, MCFD = 886, TEMP = 110°, GOR = 6,310.

1-22-84 BO 125, BW .9, TF 126, WC .7%, MCF 627, GOR 5,016, FTP 770, SEP PRESS 630, CHOKE = 20/64", 24-1/2 HRS.

1-23-84 BO 127, BW 1.2, TF 128.2, WC .9%, MCF 642, GOR 5,055, FTP 730, SEP PRESS 630, CHOKE 20/64" 24 HRS.

1-24-84 CUT PARAFFIN. RAN TEMP LOG OVER ISMAY ZONE.

1-25-84 TEMP LOGS INDICATE COMMUNICATION BETWEEN THE GAS ZONE AND THE

1-26-84 SITP = 1,200#. BLEW WELL DOWN, PULLED PKR, SI.

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1-7-84 MOVED COMPLETION UNIT ON LOCATION.

1-8-84 INSTALLED TBG HD & BOP. PRESS TESTED BOP.

1-9-84 SDFS.

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1-10-84 RIH W/BIT & SCRAPER, 203 JTS OF 2-78/" N-80 TBG. DRLD TO 6,266' KB. CIRC HOLE CLEAN. POOH W/TBG, SCRAPER & BIT. SWI. SDN.

1-11-84 RIH W/CBL-GR-CCL-VDL PLUS WAVEFORM. PBTB @ 6,262' KB. LOGGED FROM PBTB TO 5,950', PRESS UP CSG TO 1,000 PSI. LOGGED PBTB TO 1450. CMT TOP 1650' KB. GOOD BOND ACROSS DESERT CREEK & ISMAY (>80%). RAN CHECK SHOT SURVEY.

1-12-84 RIH W/MODEL "R" DOUBLEGRIP PKR TO 6,254' KB. RU DOWELL, PMPD 30 BBL OF 15% HCL ACID W/ADDITIVES. DISPLACED ACID DOWN TBG W/8.5 BBL OF TREATED WTR. SHUT IN BACKSIDE, PULLED 2 JTS OF TBG, SET PKR @ 6,197' KB. OPENED CIRC PORTS ON PKR & REVERSED 2 BBL OF WTR. CLOSED PORTS ON PKR. RIH W/1 PERFORATING GUN, CHECKED COLLAR @ 6,229' KB. PERFORATED 6,238'-6,244' W/24 SHOTS. 6,250'-6,254' W/16 SHOTS POOH W/GUN. 2 SHOTS @ 6,241' DID NOT FIRE & 1 SHOT AT 6,244' DID NOT FIRE. PRESS UP BACKSIDE 1,000 PSI. STARTED DISPLACING ACID. PRESS UP TO 4,000 PSI, PERFS BROKE DOWN. STARTED PMPG INTO PERFS @ 1 BPM @ 3,800-3,900 FOR 5 BBL INCREASED RATE TO 65 BPM. PRESS INCREASED TO 4,300 PSI AFTER PMPG 2 BBL, PRESS BROKE BACK TO 3,500 PSI & RATE INCREASED TO 2 BPM DISPL REMAINING ACID @ 2 BPM PRESS BUILT BACK TO 3,600 PSI-3,700 PSI. ISIP OF 3,500 PSI. BLED BACK TO 3,200 IN 5 MIN. BACKSIDE STILL HELD 1000 PSI. BLED OFF TBG & CSG TO PIT. BEGAN SWABBING. ACID JOB WAS COMPLETED @ 1:50 P.M. SWABBED WELL DOWN TO SN @ 6,159' IN 5 RUNS. RECOVERED 44 BBL OF LOAD FLUID. LAST 2 RUNS SWABBING FROM SN RECOVERING 4 BBL PER RUN ON LAST TWO RUNS SWAB FLUID WAS ACID WTR.

1-13-84 SITP 45#, RAN SWAB, TAGGED FLD @ 5,959 (220' FLD) PULLED SWAB, NO FLUID RECOVERY, CHKD CUPS (FOUND OK) INSTALLED NEW CUPS, TAGGED FLD @ 5,959', SN @ 6,159' KB, NO FLD RECOVERY, CALLED CASPER TO SQUEEZE DESERT CREEK, CASPER OK'D JOB. RU HOWCO, EST RATE 2-1/2 B/M @ 3,200#. MIXED AND PMPD 25 SX CMT (5.6 BBLS) DISPLACED CMT TO PERF @ 2 BPM, DISPLACED W/A TOTAL OF 38 BW. STAGING 1/4 BBL EVERY 5 MIN, OBTAINED A SQUEEZE TO 4,000#. COULD NOT REVERSE OUT. RELEASED PKR & COH, FOUND 12 JTS TBG FULL OF CMT, RECALCULATED CMT BEHIND THE PIPE = 1.1 BBLS, PBTB @ 6,197' KB. SDFN.

1-14-84 RIH W/MODEL R DOUBLEGRIP PKR, SET PKR @ 6,114' KB. PRESS TESTED CMT JOB ON DESERT CREEK PERFS, PPD INTO PERFS @ 2 B/M @ 3,800#. RELEASED PKR LOWERED & SET @ 6,144' KB. RU HALLIBURTON TO RESQUEEZE, ESTABLISHED RATE 2-1/2 B/M @ 3,600#. MIXED & PMPD 25 SX CMT, DISPLACED TO 6,175' KN W/ 38 BW, SD 10 MIN, PMPD 1/4 B @ 3,600#, SD 20 MIN. PMPM 1/4 B @ 3,600#. SD FORM 1 HR 15 MIN, BLED OFF PRESS, OPENED CIRC PORT ON PKR, REVERSED W/75 BW, CLOSED CIRC PORTS, PRESS BACKSIDE @ 7:30 P.M. WILL TEST SQUEEZE IN A.M.

1-15-84 SITP 1,100#, BACKSIDE 300#. PRESS UP ON 2ND SQUEEZE JOB (W/1,000# ON BACKSIDE) TO 3,000# HELD OK, INCREASED PRESS TO 3,400#, STARTED TAKING FLD. ATTEMPTED TO STAGE SQUEEZE W/18' OF CMT SLURRY ABOVE TOP PERF @ 6,238 (CUP OF CMT SLURRY WAS STILL A LIQUID @ 9:30 A.M. 1-14-84) (16 HRS) COULD NOT OBTAIN A RATE OF 2 B/M @ 4,000#, SD, RD HALLIBURTON, RELEASED & PULLED PKR (WILL SET A CMT RETAINER @ 6,144' KB MONDAY 1-16-84 AND CMT W/50 SX CMT W/2% CACL) SDFS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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 Form 9-331-C 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, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 2,140' FNL & 940' FEL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>		<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>		<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>		<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>		<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>		<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>		<input type="checkbox"/>
CHANGE ZONES	<input type="checkbox"/>		<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>		<input type="checkbox"/>
(other) Please see attachment			

5. LEASE
U-51246

6. IF INDIAN ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. API NO.
43-037-30956 (11-14-83)

15. ELEVATIONS (SHOW DF, KDB, AND WD)
5,683' GL, 5,696' KB

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)*

PROGRESS REPORT

From: 2-29-84 to: 3-10-84

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct
SIGNED: J. H. Snyder TITLE: Operations Superintendent DATE: 4-6-84

(This space for Federal or State office use)

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

MCCRACKEN SPRINGS #1-31

- 2-29-84 24 HR WELL TEST 66.7 BOD, .40 BWD, 67.1 BFD, .60% WC, 482 MCFPD, 7,726 GOR @ 6:00 A.M. CHANGED CHOKE FROM 16/64" TO 14/64". TBG PSI INCREASED FROM 675 PSIG TO 760 PSIG.
- 3-1-84 24 HR WELL TEST. 68.8 BOD, .4 BWD, 69 BFD, 474 MCFD, 6,909 GOR, 510# TP, 800# CP, 14/64" CHOKE. SOLD 5 LOAD OIL = 902 BBL.
- 3-2-84 24 HR WELL TEST. 60.8 BOD, .9 BWD, 61.5 BFD, 1.1% WC, 422 MCFD, (7,927 GOR), 510# TP, 800# CP, 14/64" CHOKE.
- 3-3-84 6 P.M. TO 3-2-84 6 A.M. "FINAL" 12 HR WELL TEST 38.3 BO, 0 BW, 38.3 BF, 0% WC, 245 MCF, 6,396 GOR, 510 TP, 800 CP, 14/64" CHOKE. SWI @ 6: A.M. ABOUT 1,100 BBL OF OIL ON LOCATION TO BE SOLD! WSI & LOCKED.
- 3-9-84 PERMIAN HAULING OIL OFF LOCATION.
- 3-10-84 FINISHED HAULING 1038.62 BBL OIL OFF LOCATION. TKS RELEASED, WILL CLEAN REMAINDER OF TK BOTTS & PUT IN STK TK ON LOCATION.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-51846
2. NAME OF OPERATOR Marathon Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P.O. Box 2659, Casper, Wyoming 82602		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 2140' FNL & 940' FEL SW SE NE		8. FARM OR LEASE NAME Mc Cracken Springs
14. PERMIT NO. 11-14-83 43-037-30956		9. WELL NO. 1-31
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5683' GL. 5696' KB		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., E., M., OR BLK. AND SURVEY OR AREA Sec. 31, T37S. R24E
		12. COUNTY OR PARISH 13. STATE San Juan Ut

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

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

Please See Below

(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.)

We request permission to meter and flare natural gas for a period of 30 days for the purpose of testing and establishing production history of the above captioned well.

The above request was discussed between Mr. Bob Graff, District Petroleum Engr., and Walt West, MOC 7-2-84.

RECEIVED

JUL 5 1984

DIVISION OF OIL
GAS & MINING

Note: Federal (BLM) approval of this Sundry Notice is also required prior to commencing operations

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 7/31/84
BY: John R. Baga

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

SIGNED Doyle L. Jones

District Operations Manager

July 2, 1984

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

DATE

*See Instructions on Reverse Side



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

July 6, 1984

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

Gentlemen:

Re: Request for Flaring, McCracken Springs # 1-31, Sec. 31,
T. 37S, R. 24E, San Juan County, Utah.

In regard to your recent Sundry Notices requesting to flare associated gas and test the above captioned well, it is the opinion of Division staff that gas flaring during the test period should be restricted to conform to Rule C-27 of the General Rules and Regulations of the Board of Oil, Gas and Mining. For your information, I am enclosing a copy of Rule C-27 and interpretation as approved by the Board on March 22, 1984.

Please note that associated gas may be flared at less than 100 MCF/D for a period of one month following a 72 hour test for determination of producing rate. Flaring in excess of this amount requires the submittal of a justification statement as described by Rule C-27 and the Board must review and approve such a request at its next regularly scheduled monthly meeting.

If it is your intent to request an extension of the flaring restrictions of Rule C-27, please advise the Division such that this item can be scheduled for Board review at its July 26th meeting. Any additional information you wish to include as a justification statement should be submitted to the Division prior to the Board meeting.

If you have any questions concerning this matter, please feel free to contact me.

Yours Truly,

John R. Baza
John R. Baza
Petroleum Engineer

JRB/sb
Attachment
cc: R. J. Firth, DOGM
92280-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPL
(Other instructions
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

RECEIVED

JUL 20 1984

DIVISION OF OIL
GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.

U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

REC'D MDO JUN 29 1984

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Mc Cracken Springs

9. WELL NO.

1-31

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T37S, R24E

12. COUNTY OR PARISH 13. STATE

San Juan UT

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

2140' FNL & 940' FEL SW SE NE

14. PERMIT NO. 11-14-83

43-037-30956

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

5683' GL, 5696' KB

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

Please See Below

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(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.)*

Marathon Oil Company requests permission to meter and flare raw natural gas for an indefinite period of time for McCracken Spring #1-31 well. The anticipated maximum rate of gas to be flared during the life of this well is 1,500 MCFD. The estimated initial production from this well is 80 BOPD.

Economic analysis indicates that flaring is the only available means of gas disposition since no gas pipe lines exist in this remote area. The nearest available gas pipeline is approximately 16 miles southeast of McCracken Springs #1-31, and is believed to be the closest gas sales line. Installation of a pipeline to this line would require a minimum investment of \$2,700,000. Based on the latest test production for the #1-31 well, this yields a constant dollar, BFIT ROR of 1.9%, a 0.09 profit-to-investment ratio, and a payout time of 10.4 years. These economics are clearly unacceptable; hence, we could not justify production of the well and the 320,000 BO would remain shut-in for an indeterminate period of time.

The above proposal was discussed between Mr. Bob Graff, BLM, District Petroleum Engr., and Walt West 6-21-84.

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

SIGNED

Bob Graff

TITLE District Operations Manager

DATE June 27, 1984

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

*See Instructions on Reverse Side

6-27-84 JTK

McCracken Springs #1-31
 Source: Morning Reports

47 6540

K-E
 1 YEAR BY DAYS 3 LOG CYCLES
 MATHPL & ENGINE'G CO. MADE IN U.S.A.

Water Cut

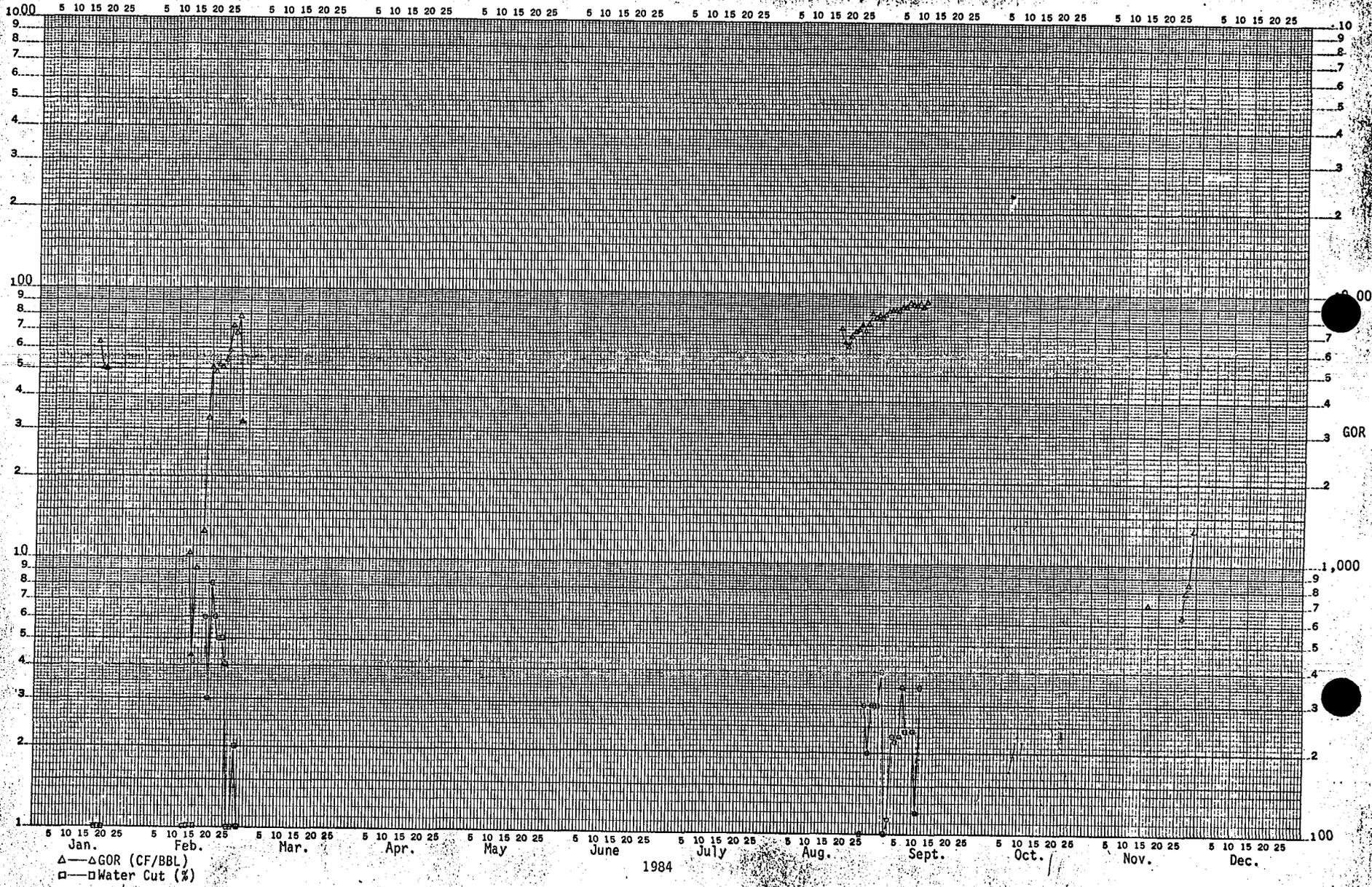


Figure 3

47 6540

YEAR BY DAYS x 3 LOG CYCLES
 MOTT & CO. INC. MINNAPOLIS

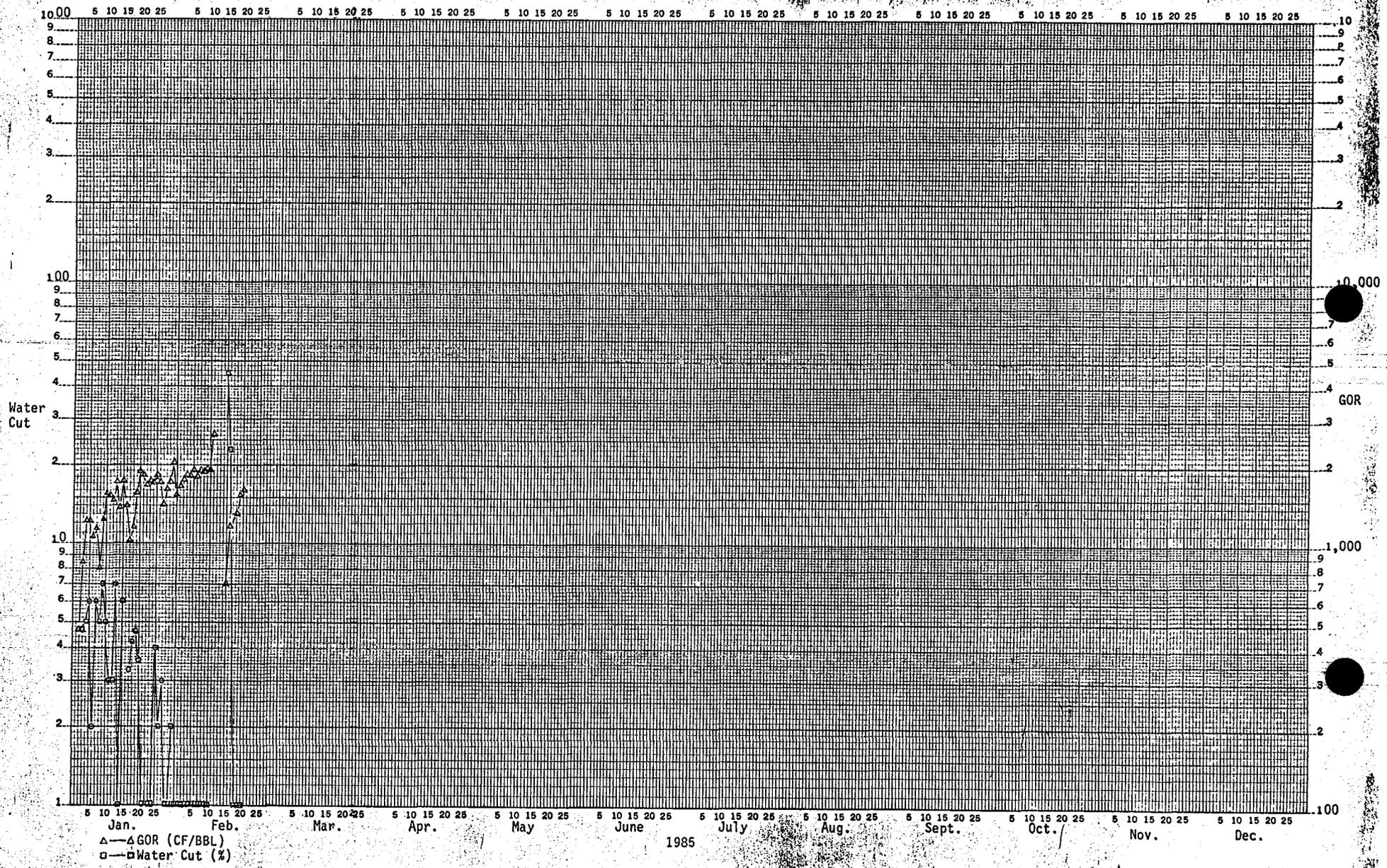
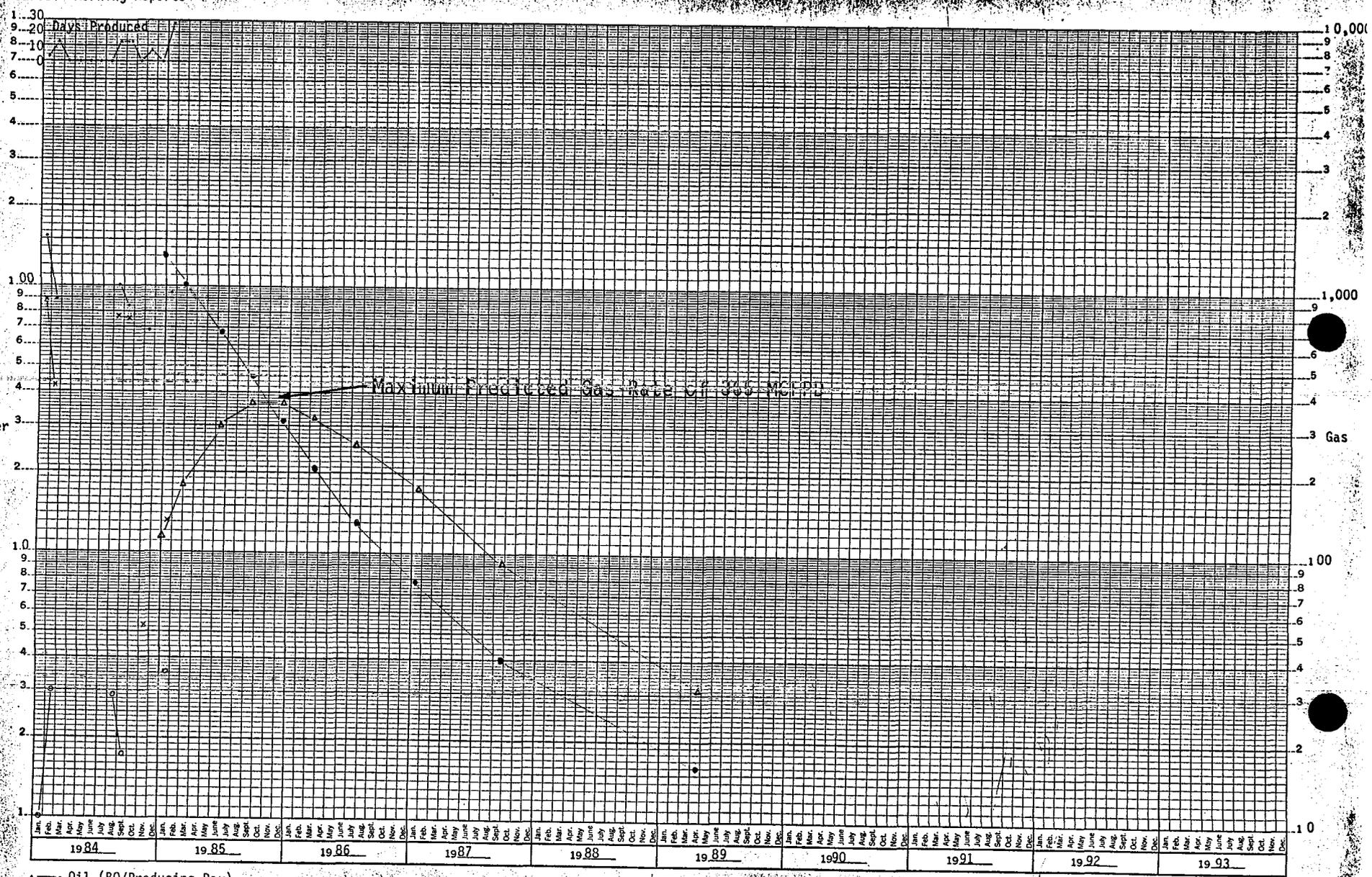


Figure 4

47 6740

10 YEARS BY MONTHS x 3 LOG CYCLES
HUBBARD & SHERIDAN CO. MADE IN U.S.A.

Oil
Water



●—● Oil (BO/Producing Day)
x—x Gas (MCF/Producing Day)
○—○ Water (BW/Producing Day)

Projected Reservoir Performance---Based on Material Balance/ Turner Method

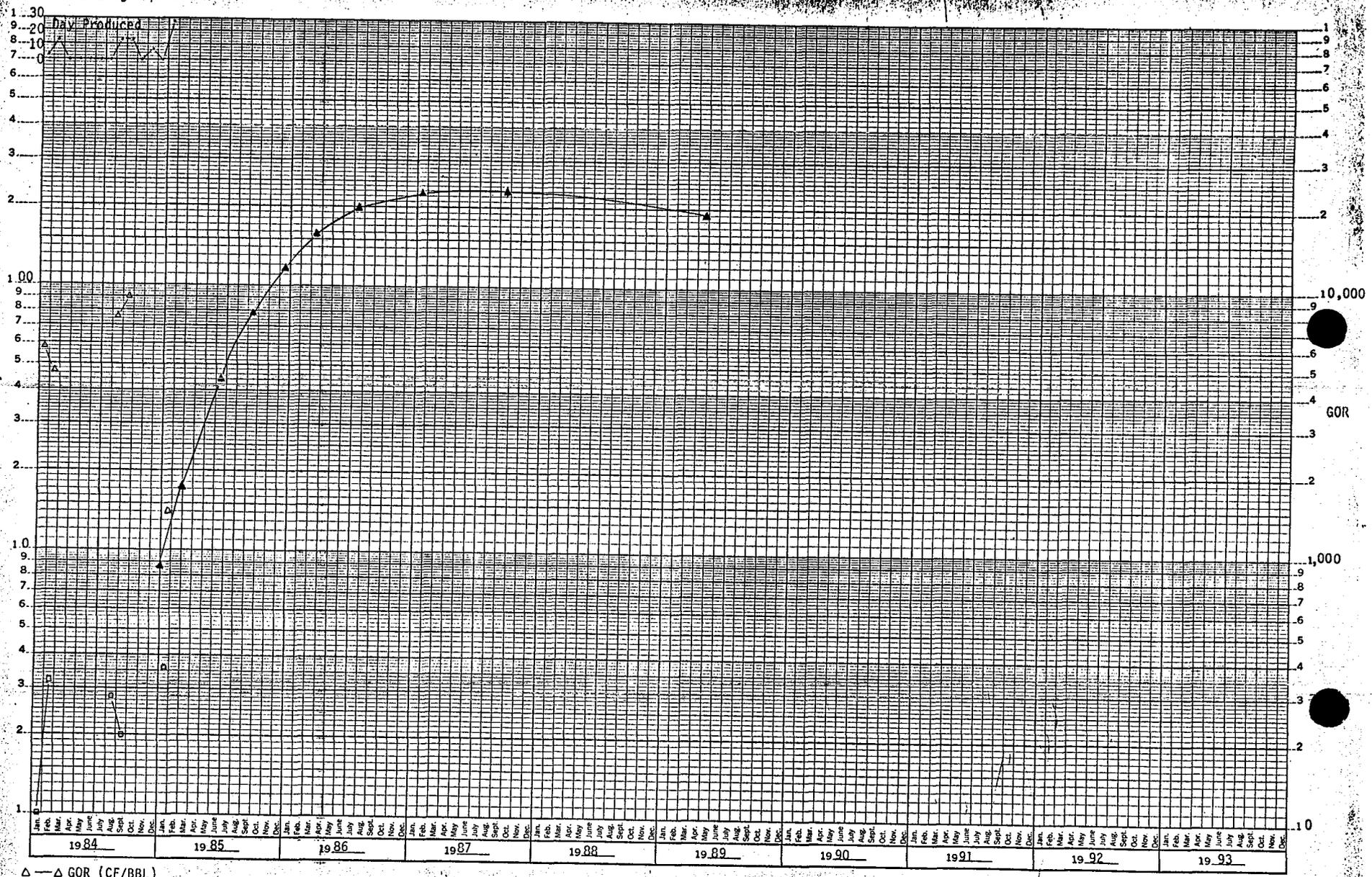
Figure 5

Projected oil ●—●
Projected gas ▲—▲

47 6740

18 YEARS BY MONTHS & 3 LOG CYCLES
K&S
KURT & ELLER CO. MADE IN U.S.A.

Water Cut



△ — GOR (CF/BBL)
□ — Water Cut (%)

Projected Reservoir Performance-----Based on Material Balance/ Tarner Method

Figure 6

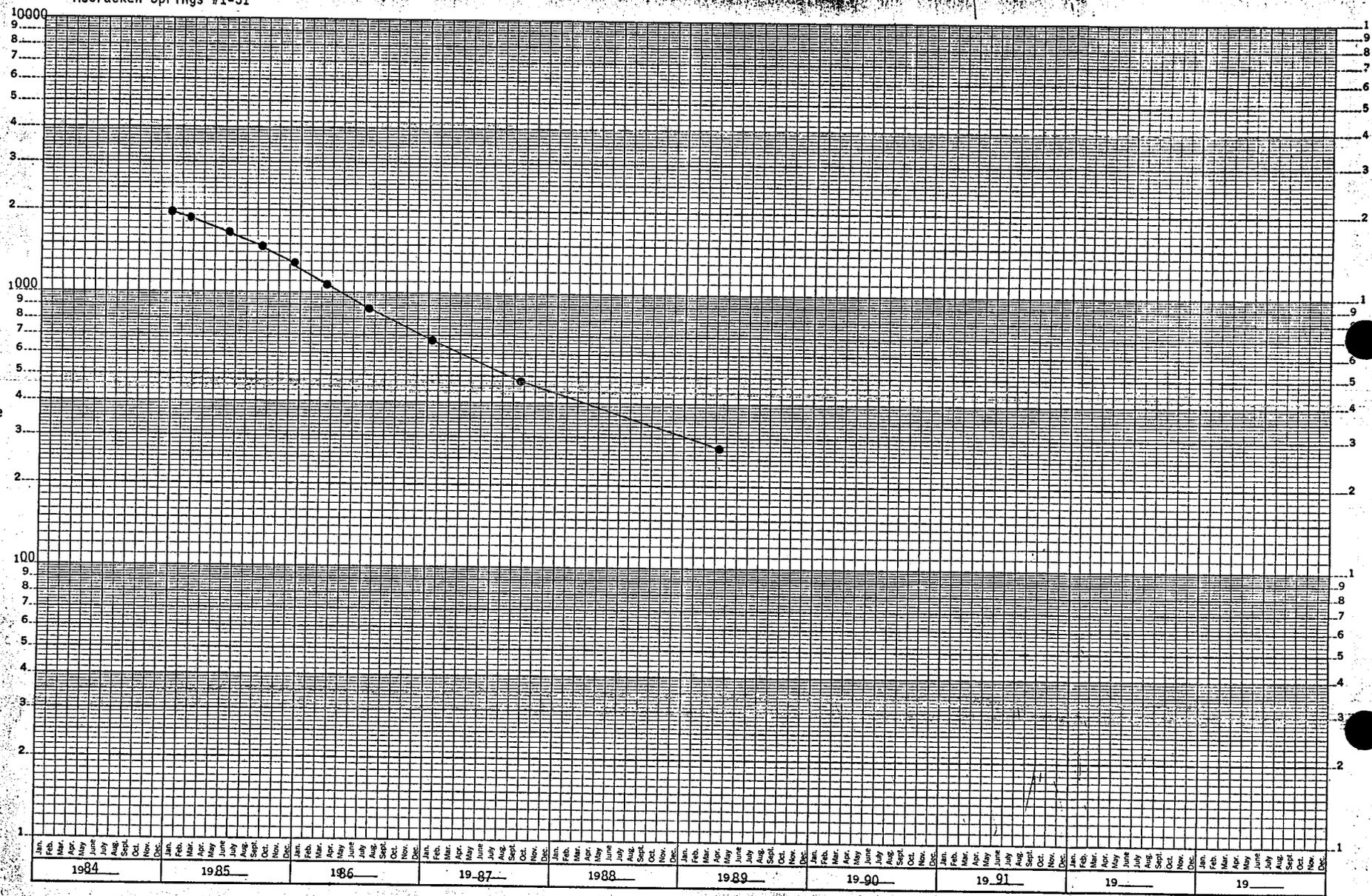
Projected GOR ▲ — ▲

McCracken Springs #1-31

47 6740

10 YEARS BY MONTHS x 3 LOG CYCLES
K&E
KUMMEL & EBBEN CO. MADE IN U.S.A.

Pressure
PSI



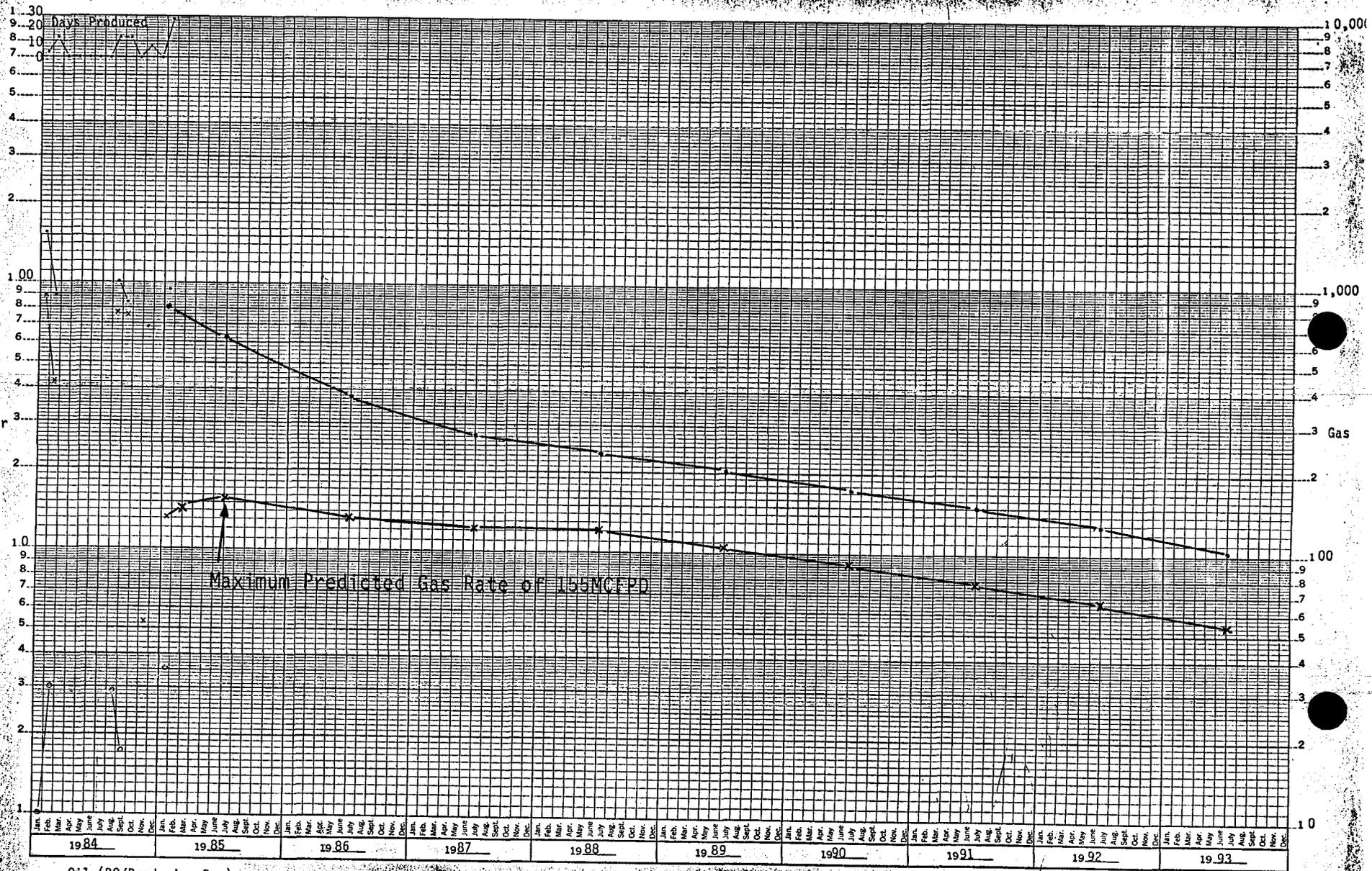
Projected Reservoir Performance-----Based on Material Balance/ Tarner Method

Figure 7 Reservoir Pressure vs Time

47 6740

10 YEARS BY MONTHS BY 3 LOG CYCLES
K&S
KUMFEL & BROWN CO. MADE IN U.S.A.

Oil
Water



•—• Oil (BW/Producing Day)
x—x Gas (MCF/Producing Day)
o—o Water (BW/Producing Day)

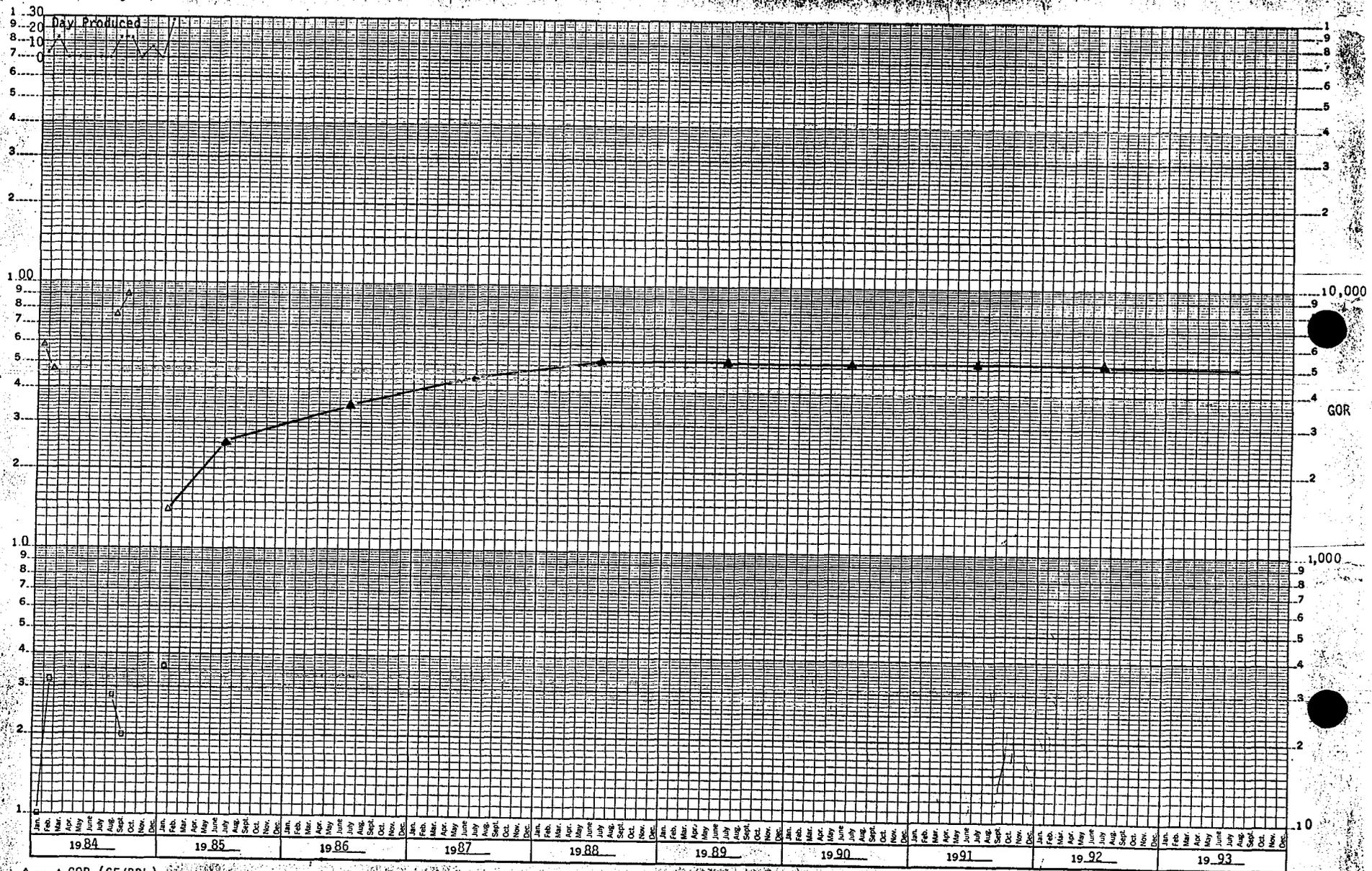
Projected Reservoir Performance— Based on Tin Cup Mesa Model

Figure 8

Projected Oil —•—•
Projected Gas x—x

47 6740

10 YEARS BY MONTHS, 3 LOG CYCLES
NEWELL & ESSER CO. MINNAPOLIS



△ — GOR (CF/BBL)
□ — Water Cut (%)

Projected Reservoir Performance----Based on Tin Cup Mesa Model

Figure 9

Projected GOR

EZUMA FED.



PAN
3 DEADMAN CANYON
T.D. 6410

29

28

M.O.C.
11-92

31

MOC
10-88

32

M.O.C. et al
9-88

33

MARATHON
1-31 McCracken SPGS.
T.D. 6370

MARATHON
1-32 McCracken SPGS.
TD 6390

T
37
S

6

M.O.C. et al
9-88

M.O.C.
3-90

5

DUN
WEL
T.D.

DUNCAN
4-2

T
38
S

M.O.C. et al
1-89

IN UNIT

7

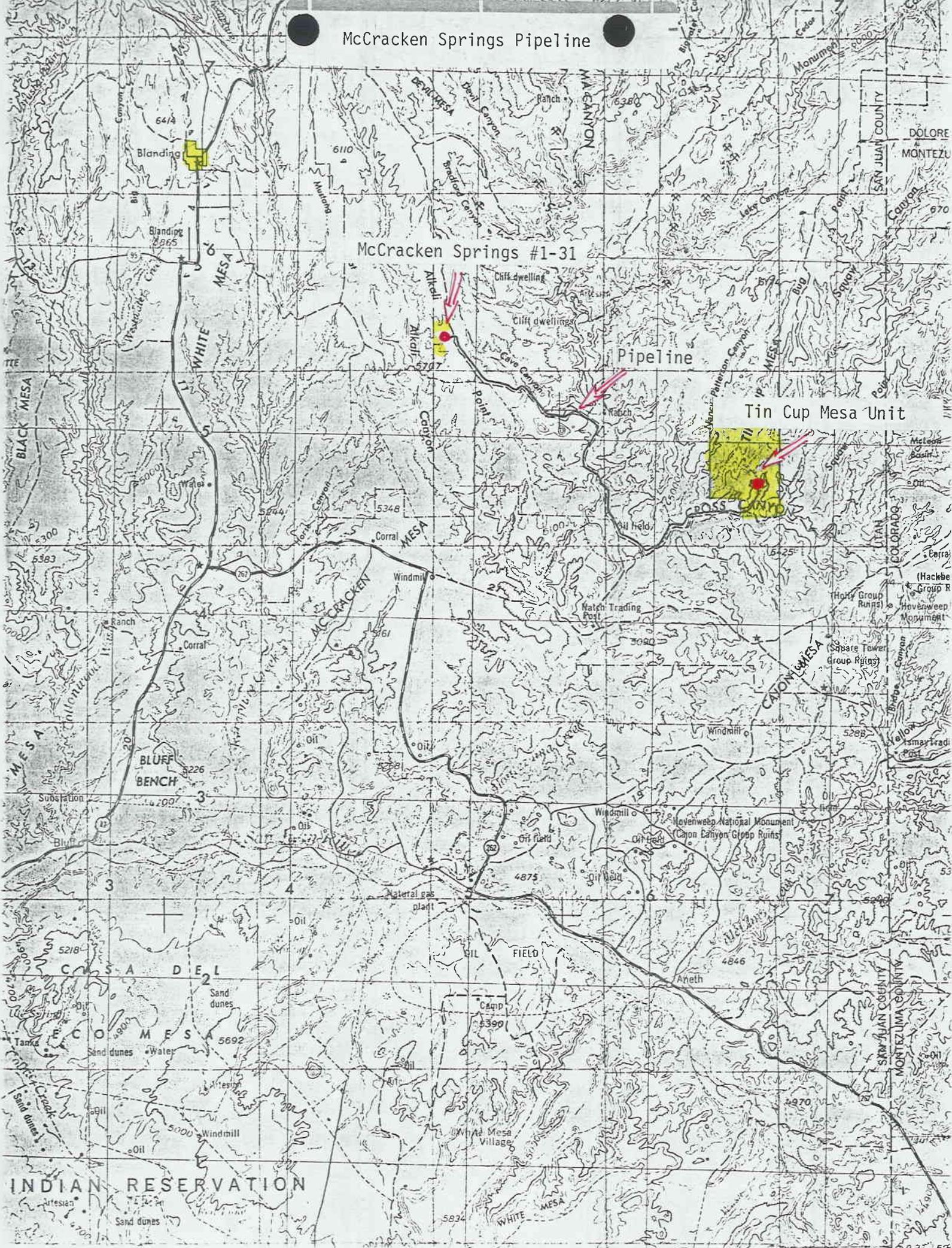
8

9



H. K. BARTLETT
1 BUG CANYON
T.D. 6275

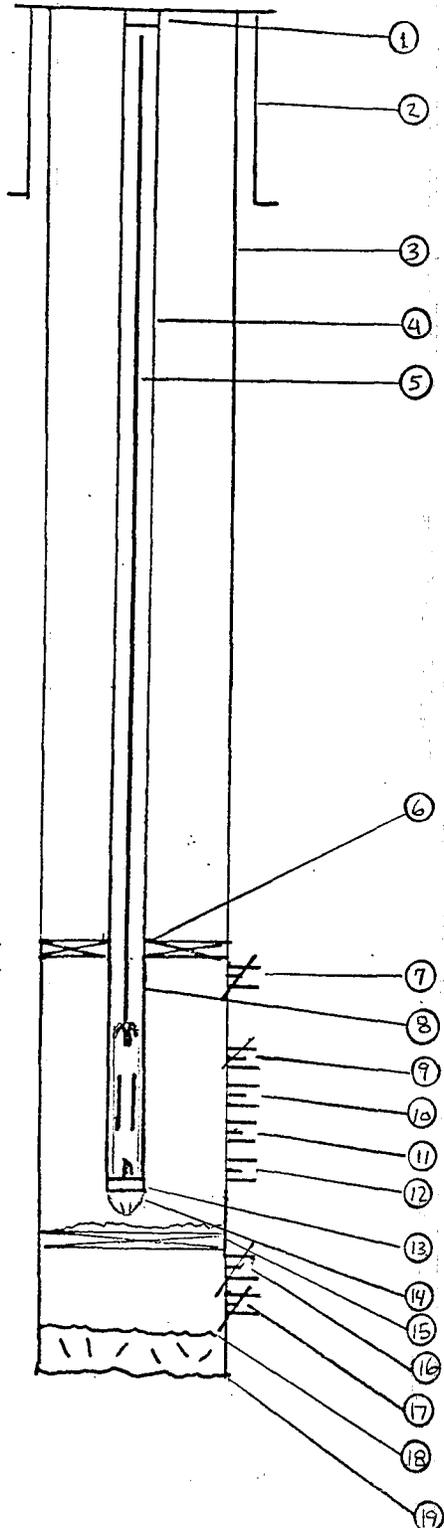
McCracken Springs Pipeline



McCracken Springs #1-31

All Measurements KB
 5,683' GL 5,696' KB

DESCRIPTION



1. 1-8' 2 7/8" Tbg. Sub.
2. 9 5/8", 40#, K-55 and N-80 Csg. set at 1,393'.
3. 7", 26#, K-55 Csg. set at 6,370'.
4. 195 Joints of 2 7/8", 6.5#, N-80 Tbg.
5. 142 3/4" Rods, 101 7/8" Rods with Scraper.
6. Tubing Anchor @ 6,024'.
7. Cement squeezed Perfs 6,028-6,030'.
8. 3 Joints of 2 7/8", 6.5# N-80 Tbg.
9. Cement squeezed Perfs 6,054-6,060'.
 Ismay Perfs 6,060-6,065'.
10. Reperfed 6,073-6,090' 4 SPF.
11. Reperfed 6,095-6,106' 4 SPF.
12. Ismay Perfs 6,111-6,114' 4 SPF.
13. Seating Nipple @ 6,120'.
14. Mud Anchor @ 6,121'.
15. Cement Retainer @ 6,144' PBTD 6,140'.
16. Cement squeezed Desert Creek Perfs
 6,238-6,244' and 6,250-6,254'.
17. Cement Top 6,266'.
18. TD 6,370'.

McCRACKEN SPRING #1-31

COMPENSATED NEUTRON

Upper Ismay

5990

6000

GAS ZONE

6100

Hovenweep

6123

Lower Ismay

6167

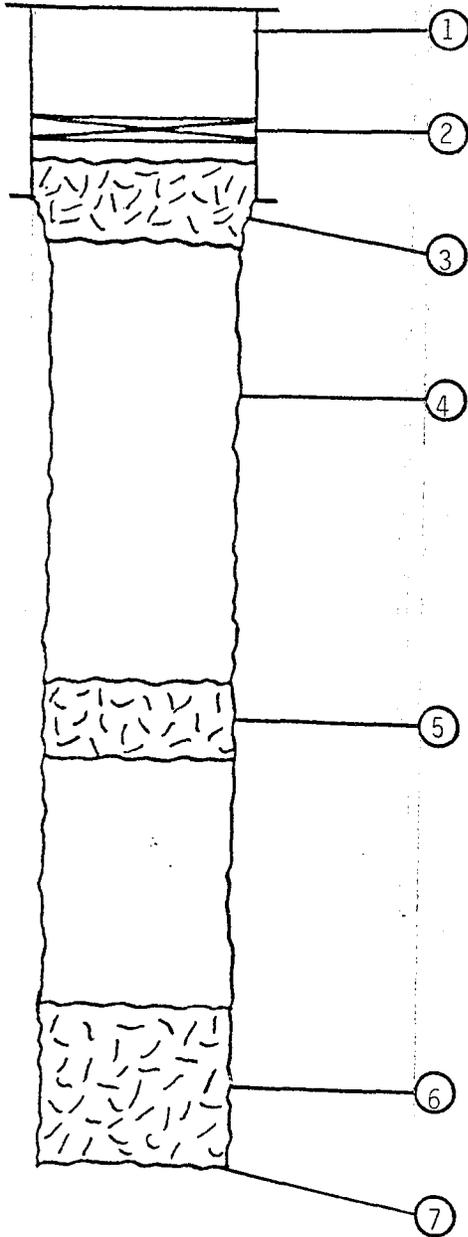
6200

Perforations:

6,028-6,030'	4 JSF	Squeezed
6,054-6,060'	4 JSF	Squeezed
6,060-6,065'	4 JSF	
6,073-6,093'	4 JSF	
6,095-6,106'	4 JSF	Squeezed/Reperfed
6,111-6,114'	4 JSF	Squeezed/Reperfed

MC CRACKEN SPRINGS #1-32

ALL MEASUREMENTS KB
5,680' GL 5,692' KB
May 15, 1934

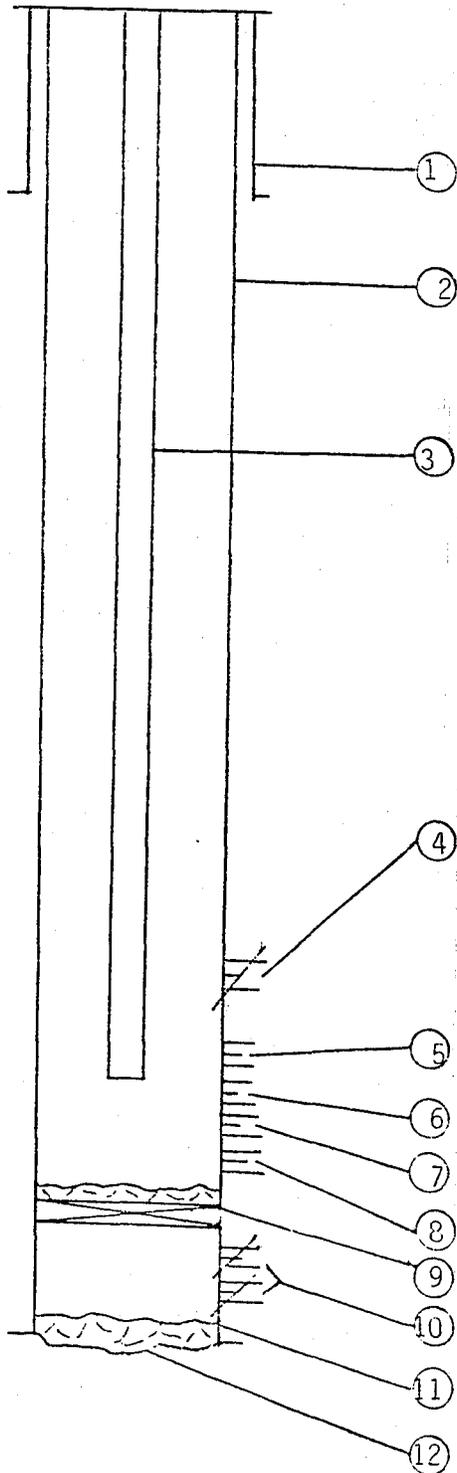


1. 9 5/8" 36# S-80 Csg. set at 1,951'.
2. EZSV Retainer set at 1,700'.
3. Cement Plug 1,750' to 2,150' consisting of 160 Sacks of Class "B" Cement.
4. 8 3/4" drilled Hole to 6,390'.
5. Cement Plug 3,987' to 4,117' consisting of 50 Sacks of Class "B" Cement.
6. Cement Plug 5,800' to 6,390' consisting of 235 Sacks of Class "B" Cement.
7. TD 6,390'.

[Handwritten signature and initials]

McCRACKEN SPRINGS #1-31

All Measurements KB
5,683' GL 5,696' KB



DESCRIPTION

1. 9-5/8", 40#, K-55 and N-80 Csg. set at 1,893'.
2. 7", 26#, K-55 Csg. set at 6,370'.
3. 2-7/8", 6.5#, N-80 Tbg. to 6122'.
4. Cement squeezed Perfs. 6,028'-6,030'.
5. Ismay Perfs. 6060'-6,065' 45 Shots.
6. Ismay Perfs. 6,073'-6,090' 69 Shots.
7. Ismay Perfs. 6,095'-6,106' 4 SPF.
8. Ismay Perfs. 6,111'-6,114' 4 SPF.
9. Cement Retainer at 6,144' PBD 6,140'.
10. Cement squeezed Desert Creek Perfs. 6,238'-6,244' and 6,250'-6,254'.
11. Cement Top 6,266'.
12. TD 6,370'.



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

July 31, 1984

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

ATTENTION: Walt West

Gentlemen:

Re: Well No. McCracken Springs # 1-31, Sec. 31, T. 37S,
R. 24E, San Juan County, Utah.

This letter will provide written approval of your recent Sundry Notice dated July 2, 1984, requesting to meter and flare gas from the above referenced well for a thirty day period. It is understood that the well will be tested for the purposes of evaluating production potential during completion. You will be required to perform appropriate production tests as described in the General Rules and Regulations of the Board of Oil, Gas and Mining after completion operations on the well are terminated and you are prepared to produce the well.

Please note that a previous letter dated July 6, 1984, assumed that you had completed the well. However, a telephone conversation with Mr. Walt West of your Casper office on July 25, indicated that this was not the case. Therefore, Rule C-27 is not applicable until such a time as completion operations are terminated. Furthermore, gas flaring as indicated on your Sundry Notice dated July 2, 1984 is permitted.

If you have additional questions, please contact this office.

Sincerely,

John R. Baza
Petroleum Engineer

JRB/sb
Enclosure
cc: D.R. Nielson
R.J. Firth
BLM-Moab District Office
92280-18

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

SUBMIT IN TRIPLICATE
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

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 law. See also space 17 below.)
At surface
2140' FNL & 940' FEL

14. PERMIT NO. (11-14-83)
43-037-30956

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5683' GL, 5696' KB

RECEIVED

AUG 27 1984

**DIVISION OF OIL
GAS & MINING**

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>

(Other) Please See Below

(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 captioned well was turned to production 1:30 p.m., 8-20-84, and is in the process of being tested. As initial test period of 30 days was verbally approved. Subsequent testing will require further approval and justification.

CONFIDENTIAL

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

SIGNED Doyle L. Jones TITLE District Operations Manager DATE August 23, 1984

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY: _____

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
(Other instructions on
reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

4

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

2140' FNL & 940' FEL SW SE NE

14. PERMIT NO. 11-14-83
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10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <input type="checkbox"/>	Please See Below <input checked="" 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.)*

Well was tested from 8-20-84 (1:30 PM) and shut in on 9-15-84 at 1:05 PM - A shut in BHPS was ran on the well until 9-29-84, on this date the Bomb was pulled, the tree valves were closed, chained and padlocked.

I hereby certify that the foregoing is true and correct

SIGNED Doyle L. Jones TITLE District Operations Manager DATE October 3, 1984

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

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 an approved requirement. See also space 17 below.)
At surface
2140' FNL & 940' FEL SW SE NE

14. PERMIT NO. 11-14-83
43-037-30956

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5683' GL, 5696' KB

**CONFIDENTIAL
RECEIVED**

NOV 05 1984

DIVISION OF OIL
GAS & MINING

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

(Other) Please See Below

(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.)

We propose to perform the following procedure in an attempt to isolate the gas cap from the oil productive intervals in our McCracken Springs 1-31 Well San Juan Co. Utah.

1. Check for possible tubing or packer leaks.
2. Cover the producing interval 6060-6114 with sand to prevent formation damage during cementing.
3. Set a cement retainer at 6042 and circulate squeeze suspected communication with the gas zone (6028-6036)
4. Drill out retainer and clean out sand to 6140.
5. Swab well in and test to 30 days.

The purpose of the procedure is to try to minimize production from the gas cap, reduce our GOR, and therefore maximize the ultimate oil recovery from this reservoir.

The above proposed procedure was discussed between Mr. Bob Graff, BLM, Moab, Utah and Walt West, Marathon Oil Company 10-30-84.

18. I hereby certify that the foregoing is true and correct
SIGNED David W. Hoopman ^{10/31/84} TITLE District Operations Manager DATE October 31, 1984

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____
CONDITIONS OF APPROVAL, IF ANY:
Federal approval of this action is required before commencing operations.

ACCEPTED
APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 11/8/84
BY: John R. Bay

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPlicate
(Other instructions reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

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
2140' FNL & 940' FEL SW SE NE

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
#1-31

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

14. PERMIT NO. 11-14-83
43-037-30956

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5683' GL, 5696' KB

CONFIDENTIAL

DEC 03 1984
DIVISION OF OIL, GAS & MINING

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Please See Below</u> <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.) *

Well was swab tested following a cement squeeze for gas shut off. A sustained natural flow could not be attained by swabbing. Downhole rod pumping equipment was installed on 11-21-84. Surface equipment was installed and the well put on pump 2:00 PM 11-26-84.

Presently well is producing 100% load water with no gas being flared.

First production was reported to Mr. Bob Graff, BLM Moab, by Mr. Frank Krugh, Marathon Oil Company, on November 29, 1984, at 8:15 AM.

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

SIGNED Wayle L. Jones TITLE District Operations Manager DATE November 29, 1984

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY: _____

*See Instructions on Reverse Side

MARATHON OIL COMPANY

MCCRACKEN SPRING 1-31
 WILDCAT
 SAN JUAN COUNTY

FORMATION : PARADOX
 DRPG. FLUID: WBM
 LOCATION : SE, NE SEC. 31-37S-24E
 STATE : UTAH

DATE : 12-12-83
 FILE NO. : 3803-003314
 ANALYSTS : GG:DS
 ELEVATION: 5696 KB

FULL DIAMETER CORE ANALYSIS - BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD) MAX.	90 DEG.	POR. B.L.	FLUID OIL	SATS. WATER	GR. DNS.	DESCRIPTION
1	6035-36	6.4	6.3	18.0	7.2	32.1	2.83	DOL BRN RTHY/VFXLN ANHY
2	6036-37	3.0	2.9	16.6	12.8	20.2	2.82	DOL BRN RTHY/VFXLN ANHY
3	6037-38	2.1	1.8	6.0	15.1	43.7	2.83	DOL BRN RTHY/VFXLN ANHY
4	6038-39	<0.01	*	1.0	15.7	31.4	2.73	LM GRY VFXLN
5	6039-40	<0.01	*	0.9	9.7	19.4	2.73	LM GRY VFXLN
6	6040-41	1.6	0.42	5.0	18.5	37.0	2.81	DOL BRN VFXLN
7	6041-42	0.84	*	14.5	21.8	19.7	2.80	DOL BRN RTHY/VFXLN ANHY
8	6042-43	0.43	0.42	10.6	19.8	24.4	2.82	DOL BRN RTHY/VFXLN ANHY
9	6043-44	1.0	0.87	9.1	33.5	17.7	2.85	DOL BRN RTHY/VFXLN ANHY
10	6044-45	0.86	*	9.3	20.2	15.1	2.84	DOL BRN RTHY/VFXLN ANHY
11	6045-46	1.8	1.6	9.5	21.8	13.7	2.85	DOL BRN RTHY/VFXLN ANHY
12	6046-47	0.62	0.52	8.7	36.0	15.4	2.85	DOL BRN RTHY/VFXLN ANHY
13	6047-48	1.6	1.5	10.5	26.0	19.9	2.82	DOL GRY/BRN VFXLN ANHY SL/VUG
14	6048-49	3.2	1.3	9.8	25.9	13.6	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG
15	6049-50	1.1	0.89	10.6	23.3	16.9	2.82	DOL GRY/BRN VFXLN ANHY SL/VUG
16	6050-51	0.87	0.84	8.4	17.3	17.3	2.85	DOL GRY/BRN VFXLN ANHY SL/VUG
17	6051-52	1.3	0.91	9.5	15.1	17.6	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG
18	6052-53	1.3	1.3	7.2	40.2	22.9	2.85	DOL GRY/BRN VFXLN ANHY
19	6053-54	0.86	0.77	7.1	48.5	21.2	2.85	DOL GRY/BRN VFXLN ANHY
20	6054-55	0.45	0.33	4.2	23.2	19.9	2.88	DOL GRY/BRN VFXLN ANHY
21	6055-56	4.5	3.5	10.9	12.7	28.6	2.84	DOL BRN RTHY/VFXLN ANHY
22	6056-57	0.30	0.27	13.3	23.0	38.4	2.82	DOL BRN RTHY/VFXLN ANHY
23	6057-58	0.06	*	10.2	19.1	39.3	2.82	DOL BRN RTHY/VFXLN ANHY
24	6058-59	0.65	0.83	9.3	33.1	30.1	2.85	DOL GRY/BRN VFXLN ANHY SL/VUG
25	6059-60	7.3	*	11.5	15.4	40.5	2.84	DOL GRY/BRN VFXLN ANHY SL/VUG

Mound 1

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.

MARATHON OIL COMPANY

MCCRACKEN SPRING 1-31	FORMATION : PARADOX	DATE : 12-12-83
WILDCAT	DRLG. FLUID: WBM	FILE NO. : 3803-003314
SAN JUAN COUNTY	LOCATION : SE, NE SEC. 31-37S-24E	ANALYSTS : GG:DS
	STATE : UTAH	ELEVATION: 5696 KB

FULL DIAMETER CORE ANALYSIS - BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD)		POR. B.L.	FLUID SATS.			GR. DNS.	DESCRIPTION
		MAX.	90 DEG.		OIL	WATER			
26	6060-61	4.3	3.7	12.8	20.6	31.4	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG	
27	6061-62	2.0	1.9	13.7	17.6	32.7	2.84	DOL GRY/BRN VFXLN ANHY SL/VUG	
28	6062-63	2.8	2.2	22.8	16.1	27.1	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG	
29	6063-64	2.0	1.9	12.9	20.1	33.8	2.84	DOL GRY/BRN VFXLN ANHY SL/VUG	
30	6064-65	3.3	2.4	8.8	16.1	50.4	2.84	DOL GRY/BRN VFXLN ANHY SL/VUG	
31	6065-66	7.6	5.2	12.9	13.1	7.5	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG	
32	6066-67	11	9.3	15.6	12.1	40.2	2.81	DOL GRY/BRN VFXLN ANHY SL/VUG	
33	6067-68	2.7	2.2	7.8	17.0	34.0	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG	
34	6068-69	2.0	1.4	7.0	6.8	27.3	2.83	DOL GRY/BRN VFXLN ANHY SL/VUG	
35	6069-70	1.2	1.1	5.7	21.5	17.9	2.81	DOL GRY/BRN VFXLN ANHY SL/VUG	
36	6070-71	14.5	1.2	4.6	16.4	11.0	2.78	DOL GRY/BRN VFXLN ANHY SL/VUG	
37	6071-72	18	15	11.0	13.9	15.4	2.79	DOL GRY/BRN VFXLN ANHY SL/VUG	
38	6072-73	2.4	1.8	8.1	12.0	19.1	2.81	DOL GRY/BRN VFXLN ANHY SL/VUG	
39	6073-74	0.50	0.28	6.7	19.0	33.2	2.83	DOL GRY/BRN VFXLN ANHY	
40	6074-75	2.1	1.8	11.1	22.8	37.2	2.83	DOL BRN RTHY/VFXLN ANHY	
41	6075-76	0.95	0.90	12.4	30.0	26.6	2.83	DOL BRN RTHY/VFXLN ANHY	
42	6076-77	1.5	1.3	17.4	2.7	54.8	2.79	DOL BRN RTHY/VFXLN ANHY	
43	6077-78	13	*	16.4	4.9	69.2	2.78	DOL BRN RTHY/VFXLN ANHY	
44	6078-79	4.2	4.0	20.9	15.9	40.8	2.79	DOL BRN RTHY/VFXLN ANHY	
45	6079-80	2.2	*	24.8	13.0	54.8	2.82	DOL BRN RTHY/VFXLN ANHY DVF	
46	6080-81	11	11	18.2	8.8	40.6	2.84	DOL GRY VFXLN	
47	6081-82	0.07	0.07	3.2	15.3	38.7	2.78	LM GRY VFXLN ANHY	
48	6082-83	0.31	0.17	7.5	9.5	19.0	2.78	LM GRY VFXLN ANHY	
49	6083-84	21	18	12.8	15.1	43.5	2.77	LM GRY VFXLN ANHY	
50	6084-85	15	*	12.4	15.3	38.0	2.75	LM GRY/BRN VFXLN VUG ANHY	

Mound 2

Core

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.

MARATHON OIL COMPANY

MCCRACKEN SPRING 1-31
 WILDCAT
 SAN JUAN COUNTY

FORMATION : PARADOX
 DRLG. FLUID: WBM
 LOCATION : SE, NE SEC. 31-37S-24E
 STATE : UTAH

DATE : 12-12-83
 FILE NO. : 3803-003314
 ANALYSTS : GG:DS
 ELEVATION: 5696 KB

FULL DIAMETER CORE ANALYSIS - BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD)		POR. B.L.	FLUID SATS.		GR. DNS.	DESCRIPTION
		MAX.	90 DEG.		OIL	WATER		
51	6085-86	1.40	1.13	20.1	25.9	32.7	2.70	LM GRY/BRN VFXLN VUG
52	6086-87	15	*	12.0	7.9	22.8	2.71	LM GRY/BRN VFXLN VUG
53	6087-88	43	25	17.0	18.2	42.7	2.71	LM GRY/BRN VFXLN VUG
54	6088-89	38	25	16.1	21.8	26.7	2.72	LM GRY/BRN VFXLN VUG
55	6089-90	67	58	19.1	14.5	21.8	2.71	LM GRY/BRN VFXLN VUG
56	6090-91	15	9.8	15.4	8.8	27.8	2.72	LM GRY/BRN VFXLN VUG
57	6091-92	15	14	13.5	9.0	21.7	2.71	LM GRY/BRN VFXLN VUG
58	6092-93	2.5	2.2	9.4	10.8	13.0	2.73	LM GRY/BRN VFXLN SL/VUG
59	6093-94	1.2	1.2	9.0	13.1	36.0	2.74	LM GRY/BRN VFXLN SL/VUG
60	6094-95	0.85	0.63	7.6	11.5	36.1	2.74	LM GRY/BRN VFXLN SL/VUG
61	6095-96	6.6	6.4	15.6	16.0	38.1	2.71	LM GRY/BRN VFXLN SL/DOL SL/VUG
62	6096-97	16	14	17.8	15.9	44.8	2.75	LM GRY/BRN VFXLN SL/DOL SL/VUG
63	6097-98	9.9	9.4	15.5	12.2	29.5	2.76	LM GRY/BRN VFXLN SL/DOL
64	6098-99	0.29	0.15	6.9	15.6	19.2	2.78	LM GRY/BRN VFXLN SL/DOL
65	6099-0	15	15	18.7	22.6	25.4	2.84	DOL BRN VFXLN ANHY
66	6100-1	4.9	4.9	21.3	21.5	33.3	2.80	DOL BRN VFXLN ANHY
67	6101-2	0.71	0.71	17.5	21.5	30.6	2.82	DOL BRN VFXLN SL/ANHY
68	6102-3	0.26	0.25	14.2	3.0	60.8	2.82	DOL BRN VFXLN SL/ANHY
69	6103-4	0.65	0.60	17.1	18.4	37.8	2.81	DOL BRN VFXLN SL/ANHY
70	6104-5	0.96	0.76	16.8	21.3	30.0	2.82	DOL BRN VFXLN SL/ANHY
71	6105-6	3.8	3.8	18.4	22.4	31.5	2.82	DOL BRN VFXLN SL/ANHY
72	6106-7	5.1	4.3	18.3	23.2	44.8	2.83	DOL BRN VFXLN SL/ANHY
73	6107-8	3.6	33	15.8	25.2	24.1	2.83	DOL BRN VFXLN SL/ANHY
74	6108-9	0.03	0.01	4.1	12.0	26.6	2.81	LM BRN VFXLN DOL
75	6109-10	<0.01	*	3.9	21.0	31.5	2.79	LM BRN VFXLN DOL

↑
Mound 3

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.

MARATHON OIL COMPANY

MCCRACKEN SPRING 1-31	FORMATION : PARADOX	DATE : 12-12-83
WILDCAT	DRLG. FLUID: WBM	FILE NO. : 3809-002314
SAN JUAN COUNTY	LOCATION : SE, NE SEC. 31-37S-24E	ANALYSTS : GC:DS
	STATE : UTAH	ELEVATION: 5696 KB

FULL DIAMETER CORE ANALYSIS - BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD) MAX.	AIR (MD) 90 DEG.	POR. B.L.	FLUID OIL	SATS. WATER	GR. DNS.	DESCRIPTION
76	6110-11	0.09	0.08	5.6	15.2	38.0	2.79	LM BRN-VFXLN DOL
77	6111-12	6.0	5.4	18.3	14.4	41.1	2.81	LM BRN VFXLN DOL
78	6112-13	3.0	2.5	11.0	18.9	27.8	2.86	DOL BRN VFXLN SL/ANHY
79	6113-14	0.89	0.89	14.9	24.4	38.8	2.85	DOL BRN VFXLN SL/ANHY
80	6114-15	1.4	1.1	18.8	0.7	73.9	2.81	DOL BRN RTHY/VFXLN SL/ANHY
81	6115-16	0.03	*	4.0	2.7	69.9	2.75	LM GRY RTHY/VFXLN SL/DOL SL/ANHY
82	6116-17	0.02	0.01	3.1	0.0	63.3	2.75	LM GRY VFXLN FOSS STY
83	6117-18	0.01	0.01	2.9	0.0	52.8	2.74	LM GRY VFXLN FOSS
84	6118-19	<0.01	*	1.8	7.2	57.6	2.72	LM GRY VFXLN FOSS
85	6119-20	<0.01	*	2.0	8.3	33.1	2.74	LM GRY VFXLN FOSS
86	6120-21	<0.01	*	1.6	7.6	45.8	2.72	LM GRY VFXLN FOSS
87	6121-22	<0.01	*	1.1	17.3	34.5	2.70	LM GRY VFXLN FOSS
88	6122-23	<0.01	*	1.8	11.8	23.7	2.70	LM GRY VFXLN FOSS
89	6123-24	<0.01	*	2.7	12.7	25.4	2.70	LM GRY VFXLN FOSS
90	6124-25	<0.01	*	1.0	11.9	47.8	2.68	LM DKGRY VFXLN FOSS SL/SHL
	6125-6140							SHALE - NO ANALYSIS

Title Carb.

* SAMPLE UNSUITABLE FOR FULL DIAMETER ANALYSIS, CONV. PLUG USED
 OVF OPEN VERTICAL FRACTURE

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INCREASED RAY
DENSITY
RADIATION INCREASE

PARADOX FORMATION

PERMEABILITY
MILLIDARCY

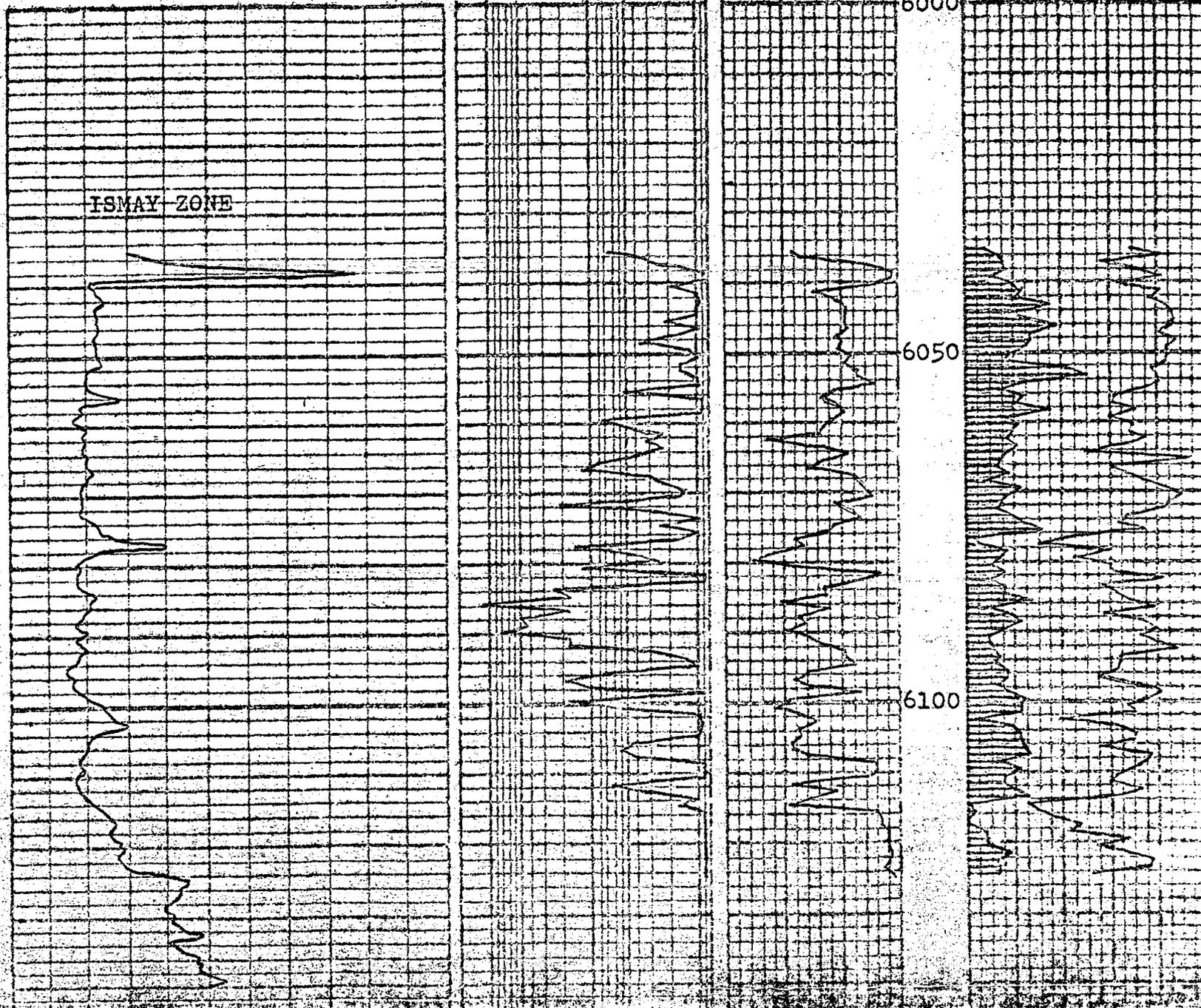
MOISTURE
CAPACITY
PERCENT

TOTAL WATER
PERCENT TOTAL WATER
80 60 40 20 0

OIL SATURATION
PERCENT PORE SPACE
0 20 40 60 80

100 50 10 5 1 30 20 10 6000 0 20 40 60 80

ISMAY ZONE





**Marathon
Oil Company**

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

March 5, 1985

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

Dear Mr. Baza:

Re: McCracken Springs Gas Disposition Analysis

Marathon requests administrative approval to extend current flaring operations at McCracken Springs #1-31 until such time as it is possible to economically transport the produced gas to market. An average of the maximum gross daily gas production projected by two reservoir analyses is approximately 260 MCFD (see Reservoir Analysis), of which approximately 45 MCFD will be utilized on-lease as fuel gas. Therefore, an average flaring maximum of 200 MCFD is anticipated. However, we request that the permit include permission to flare up to 400 MCFD for a maximum of five days during any one month with the average for the month not to exceed 200 MCFD. Currently, approximately 95 MCFD is being flared.

McCracken Springs #1-31 is a marginally economic well. A payout of current investment of over five years is anticipated if flaring operations are continued. Economic analysis shows that if additional investments to the \$1.5 MM already invested are made, no payout will occur.

Five alternatives to the flaring of gas were considered: (1) pressurized trucking of the gas, (2) construction of a 16.5 mile pipeline, (3) drilling of a new well for gas injection, (4) completion of McCracken Springs #1-32 (TA'd well) as a gas injector, and (5) dual completion of McCracken Springs #1-31 as a producer/gas injector. Two of these alternatives - dual completion of McCracken Springs #1-31 and completion of McCracken Springs #1-32 as an injector were determined to be technically unfeasible. These two alternatives are described in detail below. Several economic analyses, based solely on the additional incremental investments required for each remaining alternative, indicated that none of the remaining alternatives would payout their associated incremental costs from oil recovery and gas disposition. These analyses treated the already invested \$1.5 MM as a nonrecoverable expenditure.

Because of the poor economics associated with the three technically feasible alternatives to continued flaring of the gas, as well as the softness of the current and forecasted gas market for such small deliverabilities, Marathon would seriously consider the temporary abandonment of these oil and gas reserves until such time as gas disposition economics would improve.

John Baza
Page Two
March 5, 1985

Each of the five alternatives to gas flaring are discussed separately in the paragraphs to follow. In addition, a brief reservoir analysis and well history are included.

RESERVOIR ANALYSES - MCCRACKEN SPRINGS

The producing reservoir in the McCracken Springs Field is the Upper Ismay Carbonate. This is a horizon within the Pennsylvanian Paradox Formation, which ranges in depth from 6,000 to 6,200'. The zone is a porous carbonate algal mound, occurring as lenticular stratigraphic traps, and capped by anhydrite and carbonate mudstone. The major reservoir energy mechanism is solution-gas drive. Volumetric studies indicate original oil in place is 328,000 BO.

Due to the limited size of the reservoir, any secondary recovery projects will not be feasible. As a result, the field will be abandoned after the economic limit of 8.0 BOPD is reached.

McCracken Springs projected production was analyzed using two methods - a Material Balance/Tarner Method and Tin Cup Mesa Primary Depletion Modeling. Projected Reservoir Performance Curves for each method are attached. Actual performance is expected to lie somewhere between the results of these two predictions (155-365 MCFPD; average of 260 MCFPD). All economic evaluations were based on the most optimistic projection of reservoir performance, i.e. Tin Cup Mesa Primary Depletion Model.

Tin Cup Mesa Primary Depletion Model (Figures 8 and 9)

The reservoir performance of McCracken Springs was modeled after that of Tin Cup Mesa because of the many similarities between the two reservoirs. This model gives the most optimistic oil and gas reserves, 78,000 BO, 322,000 MCF and its GOR/Time characteristics predicts lower daily gross gas production than the Material Balance/Tarner Method.

Material Balance/Tarner Method (Figures 5, 6 and 7)

This method represents the most pessimistic production projection for McCracken Springs. Both oil and gas reserves are less than the Tin Cup Mesa Model. It does predict the highest gas production rate (365 MCFPD versus 155 MCFPD).

Material balance prediction studies indicate the reservoir pressure will rapidly decline, reaching the field's economic limit in 1986 (Figures 5-7). This results in a recovery of 40,000 BO, which is a recovery factor of 12.2% through primary depletion of the reservoir.

The following tables list several of the reservoir and fluid parameters for the field:

Reservoir Parameters

Matrix	Limestone/Dolomite
Depth (feet)	6,030
Average Permeability (md)	0.6
Average Porosity (percent)	11.5
Average Oil Saturation (percent)	55.3
Reservoir Temperature (°F)	134
Original Reservoir Pressure (psia)	2,075
Bubble Point Pressure (psia)	2,075
Approximate Net Acre-Feet	1,049
Original Oil in Place (STB)	328,000

Fluid Parameters

Oil Gravity (°API)	44
Gas Gravity (AIR=1.000)	0.732
Formation Volume Factor at Bubble Point (RB/STB)	1.500(1)
Oil Viscosity (CP)	0.3(1)

(1) Determined from Tin Cup Mesa Field

MCCRACKEN SPRINGS #1-31 WELL HISTORY

The wildcat well, McCracken Springs #1-31, Section 31, T37S, R24E, was drilled and completed by Marathon in January 1984. This well, which is operated by Marathon Oil Company, is the only producing well on this federal lease and is currently pumping 80 BOPD, 140 MCFD, and < 1 BWPD using a rod pump. The battery treater, pump jack engine and recycle pump currently consume 40-45 MCFD, which requires that 95-100 MCFD be flared.

Initially, this well was perforated in acid from 6,095-6,106' KB and 6,111-6,114' KB on January 17, 1984. Subsequent flow testing of these perforations indicated a GOR of more than 5,000 SCF/bbl. The running of temperature and acoustical logs confirmed that communication did exist between an upper gas zone and the producing perforations. On January 26, 1984, the upper gas bearing zone was perforated, circulation behind pipe established, and a squeeze performed. The producing perforations were reperf and two shallower zones, 6,073-6,090' and 6,054-6,065', were perforated and acidized. Swab and flow testing of all perforations showed a reduced GOR near 1,250 SCF/bbl, as well as reduced gas and oil production.

In an attempt to restore previous levels of oil production, the producing perms were acidized with 1,250 gallons of 15% HCl diverted with 3 benzoic flake plugs. This procedure did not increase oil production but did significantly increase gas production and raised the GOR to better than 6,000 SCF/bbl.

John Baza
Page Four
March 5, 1985

On August 20, 1984, the well was flow tested for 28 days, with a final stabilized rate of 81 BOPD, 0 BWPD, 762 MCFD, and 9,407 GOR. On November 6, 1984, a cement retainer was set, circulation behind pipe established, and a squeeze performed to again squeeze off the gas zone. The well would not flow after the squeeze. A downhole rod pump was installed on November 26, 1984, and the well put on pump and tested four days before the downhole pump failed. The well remained shut-in for one month awaiting the workover unit. On January 4, 1985, the well was put back on pump and tested for 40 days, with average production of 81 BOPD, 135 MCFD, < 1 BWPD, and 1,666 GOR. On February 13, 1985, the rods parted, at which time the perforations 6,073-90' KB and 6,095-6,106' KB were reperforated and the well returned to pumping on February 17, 1985.

MCCRACKEN SPRINGS #1-32 WELL HISTORY

McCracken Springs #1-32 was drilled in April 1984 as an offset development well located approximately 2,000' southeast of McCracken Springs #1-31. Subsequent formation logging and drill stem testing revealed very low permeability. The gas reinjection potential of this well was evaluated at that time, and it was decided that the well should be temporarily abandoned. On April 28, 1984, the well was plugged with three cement plugs and an EZSV retainer.

ALTERNATIVES TO GAS FLARING:

Pressurized Trucking For Gas Sales

In this method, produced gas is compressed on site to 2,400 psig, stored in trailer mounted tanks, transported to a sales off-loading facility, and discharged into a sales line or direct gas user facility. This method is extremely costly for volumes less than 1,000 MCFD, since costs are capital intensive. Pressure Transport, Inc. (PTI) will transport this volume of gas for a fee of \$10.30/MCF at 160 MCFD. Sales of the gas would help offset these costs, but due to the soft market conditions and such low volumes, a sales contract would be difficult if not impossible to obtain. If a high price (\$3/MCF) is assumed, trucking of the gas would generate a loss of approximately \$1,300 per day. This cost would cause the economic limit to be raised by 66 BOPD to 74 BOPD from the current 8.3 BOPD economic limit. This is based on current operations including the flaring of gas. Thus, the well would have to be P&A'd at a rate of 74 BOPD, resulting in a loss of 74,000 STB of production, which represents a loss of \$250,000 in federal royalties (50% of which is shared with the State of Utah), a loss of \$66,000 in severance taxes to the State of Utah, and a loss of \$113,000 in unescalated ad valorem taxes to the State of Utah.

Pipeline Construction For Gas Sales

Currently, the closest sales point or gas pipeline is the Tin Cup Mesa gas transmission line some 16.5 miles to the southeast of McCracken Springs #1-31. Based upon actual construction costs of that line, a gas compressor and transmission line connecting the two fields is estimated to cost from \$3.0-3.5 million. Extremely rocky terrain and the remoteness of the area are reflected in these costs. Such an investment will not payout, using both gas and oil revenue, even if a sales contract for the small gas volume could be obtained. This method is not economically acceptable; either the well would be shut-in or abandoned.

Drill New Injection Well For Gas Reinjection

The cost to drill and complete a gas injection well with flow lines and surface compression is estimated at \$920,800. Analysis indicates that this alternative will not payout using oil revenue. The well would be shut-in or abandoned.

Additionally, experience indicates that poor permeability and porosity could be encountered which would jeopardize the technical feasibility of gas injection. In the least, a very tight formation would dramatically increase compression investment and operating costs over those used in the analysis.

Complete McCracken Springs #1-32 (TA'd) As An Injector

The cost to reopen and complete the currently TA'd McCracken Springs #1-32 as an injector with surface facilities is \$597,000. This alternative is not technically feasible because of the low permeability and massive anhydrite which pinches off much of the potential Ismay injection zone. For this reason, McCracken Springs #1-32 was considered not suitable for an injector or a producer and was subsequently plugged.

Dual Complete McCracken Springs #1-31 As Producer/Injector

The cost to recomplete McCracken Springs #1-31 as a producer/injector is approximately \$456,800. However, this is not a technically feasible alternative, since experience with this well indicates that reinjection into the upper gas zone would most probably restore previous communication behind pipe with the oil producing perforations. This would result in a fivefold gas production increase and lower oil recovery.

John Baza
Page Six
March 5, 1985

OTHER PERTINENT INFORMATION

Current Production Rates (average)

80 BOPD, 140 MCFD, < 1 BWPD

Current On-Lease Fuel Consumption

40 to 45 MCFD

Estimated Recoverable Reserves

78,000 BO and 322,000 MCF

Proximity to Gas Market

16.5 miles by road to southeast (Tin Cup Mesa Facility)
Gas would then be processed and transported 10 more miles to sales point

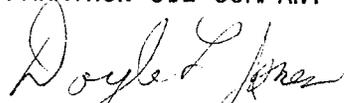
Estimated Gas Price

\$3.00/MCF maximum, based on \$2.45/MMBTU

If you should have any further questions, please advise.

Sincerely,

MARATHON OIL COMPANY



Doyle L. Jones
District Operations Manager

DLJ:ROC:pjl
Attachments

ATTACHMENTS

Production Record Graphs - Figures 1-4

Projected Reservoir Performance Graphs - Figures 5-9

Gas Analysis

Map of Area

Federal Lease Map

McCracken Springs #1-31 Wellbore Diagrams

McCracken Springs #1-32 Wellbore Diagram

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

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME.

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH | 18. STATE
San Juan | 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
SE NE 2140' FNL & 940' FEL

14. PERMIT NO. 11-14-83
43-037-30956

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
5683' GL, 5696' KB

RECEIVED

MAR 08 1985

DIVISION OF OIL
GAS & MINING

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) Please See Below	<input checked="" 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 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.)*

In accordance with Rule C-27 - Associated Gas Flaring, Marathon is seeking permission to flare gas on a permanent basis from the State of Utah, Board of Oil, Gas and Mining, produced from the above-described well.

Attached please find a statement justifying the need to flare including: a gas analysis, estimated gas reserves, proximity of well to market, estimated gas price at the nearest market, estimated cost of marketing gas, reinjection potential, amount of gas used in lease operations, and other pertinent information.

Please review this information and contact Mr. Frank Krugh (307) 577-1555 if you have any questions.

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

SIGNED Doyle Jones TITLE District Operations Mgr. DATE March 5, 1985

(This space for Federal or State office use)

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



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

April 23, 1985

Mr. Doyle L. Jones
Marathon Oil Company
P.O. Box 259
Casper, Wyoming 82602

Dear Mr. Jones:

RE: Well No. McCracken Springs 1-31, Sec.31, T.37S, R.24E,
San Juan County, Utah.

The Board of Oil, Gas and Mining has received and reviewed Marathon's request to flare gas from the above referenced well. The Board is in agreement with the economic justification to flare gas which was submitted along with the application. Therefore, the Board has approved Marathon's request under the conditions listed in the application letter dated March 5, 1985. Additionally, the Board wishes to encourage investigation into the possibility of cooperative agreements for marketing or beneficial use of any associated gas from wells in the subject area. Thus, the Board has established this as a temporary approval for a period of six months.

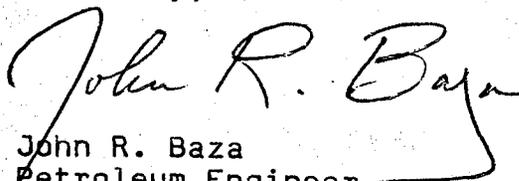
The request to flare gas was presented to the Board at their monthly meeting held on March 28, 1985. The Board approved the flaring request the same day. During the following week, verbal approval was granted by Mr. John Baza of this office to Mr. Frank Krugh of Marathon under the conditions stipulated in the application letter. The specific conditions of the approval are that no more than 200 MCF of associated gas be flared per day averaged over a one month period and up to 400 MCF per day may be flared for a maximum of five days during any one month.

In order to promote development, protect correlative rights, and prevent waste of the hydrocarbon resource, the Board wishes to encourage voluntary cooperation among operators in the McCracken Springs area. Therefore, the Board has established this approval on a temporary basis for a period of six months extending from the date of the March Board hearing. During this period, the Board requests that Marathon continue to investigate methods for beneficial use of the associated gas, either on an individual or cooperative basis.

Page 2
Marathon Oil Company
April 23, 1985

If you have any questions concerning this matter, please contact me at this office. Thank you for your consideration.

Sincerely,


John R. Baza
Petroleum Engineer

sb
cc: Dianne R. Nielson
R.J. Firth
Well File
0090T-72-73



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Moab District
P. O. Box 970
Moab, Utah 84532

IN REPLY REFER TO

3162 (U-065)
(U-20285)
(U-51846)
(U-5675)

APR 29 1985

RECEIVED

MAY 01 1985

DIVISION OF OIL
GAS & MINING

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

Attention: Ms. Pam Kenna

Re: Request on Status of Wells

Gentlemen:

We are replying to your requests for status on the following wells:

- 1) Skyline Oil Company
Well No. Federal 10-31
Sec. 10, T. 16 S., R. 13 E.
Lease U-20285

We are in the process of rescinding this APD.

- 2) Marathon Oil Company
Well No. McCracken Springs 1-31
Sec. 31, T. 37 S., R. 24 E.
Lease U-51846

This well went on production January 18, 1984.
The State of Utah Production Report of September 1984,
shows the status on this well as producing.

- 3) Southwest-Arkansas, Inc.
Well No. Bull Canyon 3
Sec. 9, T. 20 S., R. 21 E.
Lease U-5675

This well is in an INC Status as of December 12, 1984.
We have requested that Otis Energy, Inc., plug and abandon
this well.



Save Energy and You Serve America!

If you have any questions, please contact the Branch of Fluid Minerals
(801) 259-6111.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gene Saline". The signature is written in black ink and is positioned above the printed name.

District Manager



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

May 3, 1985

Mr. Doyle L. Jones
Marathon Oil Company
Po. Box 259
Casper, Wyoming 82602

Dear Mr. Jones:

Re: Well No. McCracken Springs 1-31 - Sec. 31, T. 37S., R. 24E.,
San Juan County, Utah - API #43-037-30956

This letter is to advise you that the "Well Completion or Recompletion Report and Log" for the above referenced well is due and has not been filed with this office as required by our rules and regulations.

Please complete the enclosed Form OGC-3, and forward it to this office as soon as possible, but not later than May 17, 1985.

Sincerely,

A handwritten signature in cursive script that reads "Pam Kenna".

Pam Kenna
Well Records Specialist

Enclosure

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

0170S/70

RECEIVED

56 64 01 8

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

MAY 13 1985 U-51846

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL [X] GAS WELL [] DRY [] Other []

6. IF INDIAN, ALLOTTEE OR TRIBE NAME DIVISION OF OIL GAS & MINING

b. TYPE OF COMPLETION: NEW WELL [X] WORK OVER [] DEEP-EN [] PLUG BACK [] DIFF. RESVR. [] Other []

7. FARM OR LEASE NAME McCracken Springs

2. NAME OF OPERATOR Marathon Oil Company

9. WELL NO. 1-31

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

10. FIELD AND POOL, OR WILDCAT Wildcat

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface SW SE NE 2140' FNL & 940' FEL

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

At top prod. interval reported below At total depth

Sec. 31, T37S, R24E

14. PERMIT NO. 43-037-30956 DATE ISSUED 11-14-83

12. COUNTY OR PARISH San Juan 13. STATE Utah

15. DATE SPUDDED 11-25-83 16. DATE T.D. REACHED 12-23-83 17. DATE COMPL. (Ready to prod.) 11-26-84 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 5696' KB 19. ELEV. CASINGHEAD 5683' GL

20. TOTAL DEPTH, MD & TVD 6370' KB 21. PLUG, BACK T.D., MD & TVD 6140' KB 22. IF MULTIPLE COMPL., HOW MANY* 0 23. INTERVALS DRILLED BY 6370' KB ROTARY TOOLS CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* Ismay 6060'-6095' 6095'-6106' 6073'-6090' 6111'-6114' 25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN Temp. Log, Noise Log, DIL/SFI, LDT/CNL, BHC Sonic, NGT, CBL/VDI 27. WAS WELL CORED Yes

Table with 6 columns: CASING SIZE, WEIGHT, LB./FT., DEPTH SET (MD), HOLE SIZE, CEMENTING RECORD, AMOUNT PULLED. Includes data for 9-5/8" and 7" casing sizes.

Table with 8 columns: SIZE, TOP (MD), BOTTOM (MD), SACKS CEMENT*, SCREEN (MD), SIZE, DEPTH SET (MD), PACKER SET (MD). Includes LINER RECORD and TUBING RECORD data.

31. PERFORATION RECORD (Interval, size and number) 6060'-6065' 6073'-6090' 6095'-6106' 6111'-6114' All perms. 4 JSPF 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) AMOUNT AND KIND OF MATERIAL USED Please See Attachment

33.* PRODUCTION DATE FIRST PRODUCTION 1-18-84 PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Pumping 2-1/2 x 1-1/2 x 16 WELL STATUS (Producing or shut-in) Producing

DATE OF TEST 1-22-85 HOURS TESTED 24 CHOKER SIZE PROD'N FOR TEST PERIOD OIL—BBL. 109 GAS—MCF. 149 WATER—BBL. 5 GAS-OIL RATIO 1367 FLOW. TUBING PRESS. CASING PRESSURE 28 PSI CALCULATED 24-HOUR RATE OIL—BBL. 109 GAS—MCF. 149 WATER—BBL. 5 OIL GRAVITY-API (CORR.) 44.0

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) Presently some gas used for fuel and the remainder is being vented to flare. TEST WITNESSED BY Jim VanGilder

35. LIST OF ATTACHMENTS Attachment "A" and Wellbore Diagram

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records SIGNED [Signature] TITLE District Production Manager DATE May 7, 1985

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 38, below regarding separate reports for separate completions.

Item 1: If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sticks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES		38. GEOLOGIC MARKERS	
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Honaker Trail	4972'	5838'	
Paradox	5838'	5992'	
Upper Ismay	5992'	6027'	
Hovenweep	6123'	6162'	
Lower Ismay	6162'	6210'	
Desert Creek	6242'	6314'	
			TOP
			MEAS. DEPTH
			TRUE VERT. DEPTH
			NAME
			161'
			1011'
			1172'
			1215'
			1667'
			1857'
			2108'
			2822'
			2844'
			3128'
			4972'
			5838'
			5992'
			6027'
			6123'
			6162'
			6210'
			6242'
			6314'
			6340'
			Morrison
			Entrada
			Carmel
			Navajo
			Kayenta
			Wingate
			Chinle
			Shinarump
			Moenkopi
			Cutler
			Honaker Trail
			Paradox
			Upper Ismay
			Algal Mound
			Hovenweep
			Lower Ismay
			Gothic
			Desert Creek
			Chimney Rock
			Akah

ATTACHMENT A

All Measurements KB

Cores

Core #1	From 6,035' to 6,080'	Recovered 45'
Core #2	From 6,080' to 6,140'	Recovered 60'
Core #3	From 6,271' to 6,331'	Recovered 33'

Drill Stem Tests

DST #1

Date: 12/14/83

Formation: Ismay

Packers set at 6,033' and 6,027'

IF 15 min, ISI 60 min, FF 120 min, FSI 240 min.

Recovered 534' of mud and gas cut oil. Had gas to surface 5 min. into ISI.

Surface pressure stabilized at 225# through a 19/64" choke approximately 600 MCFD.

Sample Chamber: 100 cc highly gas cut oil, 9.2 SCFG, BHT 126° F.

Pressures at 6,077' - IHP 2,938#, IFP 108#-188#, ISI 2,180'.

FFP 135#-457#, FSI 2,153#, FHP 2,924#.

Dst #2

Date: 12/17/83

Formation: Ismay

Packers set at 6,070' and 6,076'

IF 15 min, ISI 60 min, FF 120 min, FSI 240 min.

Recovered 2 barrels of mud and 3 barrels of oil in drill pipe.

Had gas to surface 1 hour into DST, surface pressure was 41-147# on a 19/64" choke producing 350 MCFD.

Sample Chamber: 1,100 cc gas cut oil, 1.73 SCFG at 550#.

Pressure at 6,053' - IHP 2,932", IF 641-791", ISI 2,127#.

FFP 620-1, 407#, FSI 2,021#, FHP 2,932#.

BHT 128° F.

TREATMENTS/WORK PERFORMED CO to 6,266'. Ran CBL. Spotted 30 bbls. 15% HCl acid. Perforated the Desert Creek 6,238-44' and 6,250-54' 4 JSPF. Displaced acid into perfs. Swabbed-no recovery. Set drillable cmt. ret. at 6,144'. Squeezed 7-1/2 bbls. cement under the retainer. Spotted 750 gals. 15% HCl acid. Perforated the Ismay 6,095-106' and 6,111-14' 4 JSPF. Displaced acid into perfs. Swabbed well in. Flowed 127 BOPD. 1.2 BWPD, 642 MDFD. Ran temp. log. Perforated 6,028-30' 4 JSPF. Set cmt. ret. at 6,046'. Squeezed 50 sx cement under retainer. Drilled out to 6,046'. Press. 40 3,000#-ok. Swabbed-no entry. Drilled out to 6,140'. Perforated the Ismay 6,095'-106' and 6,111-14' 4 JSPF. Acidized 6,095'-114' with 6 bbls. 15% HCl acid. Perforated the Ismay 6,073-90' and 6,054-65' 4 JSPF. Ran 2-7/8" tbq. with packer set @ 6,041'. Washed perfs 6,054'-90' with 30 bbls. 15% HCl acid. Displaced acid into perfs 6,054'-114'. Flowed well. Acidized 6,054'-114' with a total of 1,000 gals. 15% HCl and 1,000# benzoic flakes in three stages. Flowed well. 38 BOPD, 0 BWPD, 245 MCFD. Well shut-in approximately 5 months. Ran Schlumberger TDT Log. Tested approximately 1 month. Final rate 81 BOPD, 0 BWPD, 762 MCFD. Well shut-in approximately 1 month. Resumed completion. Pulled tbq. and packer. Dumped sand on top of perfs. Tagged sand at 6,060'. Set cmt. ret. at 6,042'. Pumped 25 sx cement under the retainer. Drilled and cleaned out to 6,140'. Ran tbq. and packer set @ 6,040'. Swabbed. Well would not flow. Pulled packer. Ran downhole rod pumping equipment with SN set at 6,122' KB.



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

September 10, 1985

RECEIVED

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

SEP 12 1985

DIVISION OF OIL
GAS & MINING

Re: Extension of permit to flare gas at McCracken Springs
#1-31 located in Section 31, T37S, R24E, San Juan County, Utah

Dear Mr. Baza:

Marathon Oil Company requests an extension of permission to flare gas at the above referenced well so that oil production may continue. Presently, the flaring permit which was granted by the State of Utah is due to expire on September 28, 1985.

Koch Hydrocarbon Company plans to install a gas pipeline within the area and it is our understanding that construction of the line will start in the near future. At this time, Koch's pipeline right-of-way has been flagged and staked. Marathon Oil Company is currently negotiating an agreement with Koch to tie-in McCracken Springs #1-31 to this line.

An extension of the permit to flare gas for six months is requested so that oil revenues from this well continue. We anticipate that Koch's pipeline will be installed and operable by the end of the extended time period.

Thank you for your cooperation in dealing with this problem.

Very truly yours,

MARATHON OIL COMPANY

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

Doyle L. Jones
District Production Manager

DLJ:FMK:mrt

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

DATE: 9/13/85
BY: John R. Baza



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

October 4, 1985

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

Gentlemen:

Re: Well No. McCracken Springs 1-31 - Sec. 31, T. 37S., R. 24E.,
San Juan County, Utah - API #43-037-30956

According to our records a "Well Completion Report" filed with this office May 7, 1985 on the above referenced well indicates the following electric logs were run: Temp. Log and CBL. This office has not yet received these logs.

Please take care of this matter as soon as possible, but not later than October 18, 1985.

Your cooperation in this matter is appreciated.

Sincerely,

Pam Kenna
Well Records Specialist

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

0170S/10

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING
OIL AND GAS INSPECTION RECORD

NOV 25 1985

102006

DIVISION OF OIL
GAS & MINING
POW

OPERATOR Marathon Oil Company LEASE U-51846
WELL NO. McCracken Springs 1-31 API 43-037-30956
SEC. SENE31 T. 37S R. 24E CONTRACTOR _____
COUNTY San Juan FIELD Wildcat

DRILLING/COMPLETION/WORKOVER:

APD WELL SIGN HOUSEKEEPING BOPE
 SAFETY POLL. CONTROL SURFACE USE PITS
 OPERATIONS OTHER

SHUT-IN / TA :

WELL SIGN HOUSEKEEPING EQUIPMENT* SAFETY
 OTHER

ABANDONED:

MARKER HOUSEKEEPING REHAB. OTHER

PRODUCTION:

WELL SIGN HOUSEKEEPING EQUIPMENT* FACILITIES*
 METERING* POLL. CONTROL PITS DISPOSAL
 SECURITY SAFETY OTHER NA

GAS DISPOSITION:

~~VENTED~~/FLARED SOLD LEASE USE
209Mcf/d

LEGEND: Y - YES OR SATISFACTORY
N - NO OR UNSATISFACTORY
NA - NOT APPLICABLE

*FACILITIES INSPECTED: wellhead and pumpjack, vertical heater/treater, (2) 400 bbl oil tanks, (1) 400 bbl water tank, reserve pit, trash cage, emergency pit, gas meter

REMARKS: pumpjack is running, gas being flared - location looks good - gas being measured by an in line turbine flow meter which is hooked up to a Halliburton Model MP-1 Flow Analyzer which gives a digital readout of flow rate (in Mcf/d) and total Mcf produced rate reads 209Mcf/d - total reads 11535 Mcf

ACTION: check on approved amount of gas allowed to be flared/vented

INSPECTOR: *Patrick G. ...* DATE 24 Sep 85

PROD.

RECEIVED

JAN 23 1986 3100
(U-065)

Moab District
P. O. Box 970
Moab, Utah 84532

DIVISION OF OIL
GAS & MINING

JAN 21 1986

Mr. Boyle Jones
Marathon Oil Company
P. O. Box 259
Casper, Wyoming 82502

RE: Flaring of gas
McCracken Springs #1-131
SENE Sec. 31, T.37S., R.24E.
San Juan County, Utah
Federal Lease U-51845

Dear Mr. Jones:

As you are aware, this office approved flaring of gas from the subject well through March 28, 1985. This most recent extension to flare was granted in order that Koch Hydrocarbon Company could finish their pipeline in the area and Marathon Oil Company would have time to pursue an agreement to market the gas from the subject well. The pipeline is now completed and is approximately two miles from the McCracken Springs #1-31. We are aware that Marathon and Koch have discussed marketing the gas, and we are hopeful that the two parties will come to an agreement. We are concerned about the volume of gas being flared from the subject well. While our existing regulations (NTE-4A) require that we consider the economic viability of marketing the gas, we must also concern ourselves with conservation of resources. We will, therefore, look unfavorably upon any further requests to flare.

Sincerely yours,

/S/ GENE NODINE

District Manager

cc: v SJRA
✓ Ut. State, Div. of Oil, Gas, Mining

cc: table

Stable:rs 1/15/86 0188g
rewritten:Stable:ab 1/15/86

RECEIVED

MAR 3 1 1986

3162
(U-065)

Moab District
P. O. Box 970
Moab, Utah 84532

**DIVISION OF
OIL, GAS & MINING**

MAR 28 1986

Mr. Frank Krugh
Marathon Oil Company
P. O. Box 2590
Cody, Wyoming 82414

RE: Flaring of Natural Gas
McCracken Springs #1-31
SENE Section 31 T37S-R24E
San Juan County, Utah
Federal Lease U-51846

Dear Mr. Krugh:

Temporary approval to flare gas from the subject well expires on March 29, 1986. As we have discussed numerous times in the past, the Moab District is concerned about the flaring of excessive volumes of natural gas produced from this well. The monthly report of operations for November, 1985 shows this well to be flaring 200 mcf/day. Our definition of excessive volumes of gas is 100 mcf/day or greater.

In order to continue oil production from the well, we will approve flaring for an additional 30 days if the volume of gas flared is restricted to less than 100 mcf/day on a monthly average. To accomplish this objective, you could either reduce the oil production rate in order to reduce the amount of associated gas produced or reduce the number of days the well is produced each month. After 30 days, it should be evident whether this mode of operation is practical and/or economical. If this plan is workable, we could probably issue permanent approval to flare (at the reduced gas rate). If this plan turns out to be unsuitable for permanent operations, then we may order you to shut the well in until a market for the gas is available. Please advise as to your intentions.

Sincerely,

/s/ Kenneth V. Rhea

ACTING District Manager

cc: SJRA
LUF State, Div. of Oil, Gas, Mining

SJones:km:3/27/86 Wang #0340f
Rewritten:SJones:mag:03/28/86



**Marathon
Oil Company**

March 27, 1986

P.O. Box 2690
Cody, Wyoming 82414
Telephone 307/587-4961

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

RECEIVED
APR 02 1986

**DIVISION OF
OIL, GAS & MINING**

ATTN: Mr. John Baza
Petroleum Engineer

RE: Open Ended Extension for a permit to flare gas at McCracken Springs #1-31 located in Section 31, T37S, R24E, San Juan County, Utah.

Dear Mr. Baza:

Per your telephone conversation with Mr. Frank Krugh of Marathon Oil Company, on March 26, 1986, Marathon requests an open ended flare extension for the above referenced well so that oil production may continue. Presently an interim extension has been granted by the State of Utah pending the outcome of this request.

Koch Hydrocarbons has recently completed their low pressure gas gathering system in San Juan County, Utah, which extends to within two and three tenths (2.3) miles of McCracken Springs #1-31. Marathon has attempted to negotiate with Koch in order to obtain a fair contract for the sale of gas from McCracken Springs. However, Koch has been unwilling to agree to any terms other than the following:

1. Marathon would reimburse Koch for cost of the pipeline construction, approximately \$224,000.
2. Koch would transport the gas and pay Marathon 67% of the net proceeds from the sale of residue gas and gas liquids, less any third-party transportation and processing costs.
3. Koch will not guarantee purchase of any amounts of gas.
4. If production from all wells connected to Koch's line exceeds the system's capacity, the gas would be subject to allocation.

The terms listed above are extremely unfavorable to Marathon in that no gas volumes are guaranteed to be accepted or purchased by Koch in the event a pipeline is installed, gas deliveries would be subject to their allocation, and the total cost of the necessary pipeline would be at Marathon's expense.

BEFORE THE BOARD OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

IN THE MATTER OF THE REQUEST)	FINDINGS OF FACT
OF MARATHON OIL COMPANY TO FLARE)	CONCLUSIONS OF LAW
GAS FROM THE McCRACKEN SPRINGS)	AND ORDER
#1-31 WELL LOCATED IN SECTION 31,)	
TOWNSHIP 37 SOUTH, RANGE 24 EAST,)	Docket No. 86-012
SAN JUAN COUNTY, UTAH.)	Cause No. 196-19

The above entitled matter was heard before the Board of Oil, Gas and Mining ("Board") at a regularly scheduled meeting held May 22, 1986, in the Board Room of the Division of Oil, Gas and Mining ("Division"), 355 West North Temple, 3 Triad Center, Suite 301, Salt Lake City, Utah. The following board members, constituting a quorum, were present and participated in the hearing and the decision and order embodied therein:

Gregory P. Williams, Chairman
James W. Carter
Charles R. Henderson
Richard B. Larsen
E. Steele McIntyre
John M. Garr

Mark C. Moench, Assistant Attorney General of the State of Utah, was present on behalf of the Board.

Members of the staff of the Division present at and participating in the hearing included:

Dr. Dianne R. Nielson, Director
Ronald J. Firth, Associate Director, Oil and Gas

Barbara W. Roberts, Assistant Attorney General of the State of Utah was present on behalf of the Division.

Steve Jones, Petroleum Engineer, Moab District Office of the Bureau of Land Management.

Marathon Oil Company ("Marathon"), was present and represented by John W. Anderson and Delvin C. Menge. The Board, having received evidence and sworn testimony of Richard C. Cottle, and having heard arguments of counsel and being otherwise fully advised in the premises, now makes and enters its:

FINDINGS OF FACT AND CONCLUSIONS OF LAW:

1. Due and regular notice of the time, place and purpose of the hearing in Cause No. 196-19 was given to all interested parties as required by law and the rules and regulations of the Board.
2. The Board has jurisdiction over the matters covered by Cause No. 196-19 and over Marathon. In addition, the Board has jurisdiction to make and promulgate the order hereinafter set forth.
3. McCracken Springs #1-31 was drilled (spudded November 25, 1983) in the Northeast Quarter of Section 31, Township 37 South, Range 24 East, San Juan County, Utah, by Marathon and completed November 26, 1984. Testing operations approved by the BLM and the State of Utah (Division) were conducted prior to the completion of the well.

4. Regular production of McCracken Springs #1-31 was commenced January 1985 and gas flaring was approved in accordance with Rule C-27.

5. On March 5, 1985, Marathon requested administrative approval to extend flaring operations until it became economical to transport produced gas to market.

6. On March 18, 1985, the Board granted temporary flaring approval for a period of six months, with a 200 MCFD daily maximum flare restriction averaged monthly.

7. The Board has extended its temporary flaring approval twice since March 18, 1985.

8. Marathon has voluntarily restricted its flaring and is currently flaring at a 100 MCFD daily maximum averaged monthly.

9. The Board, having reviewed (a) a production decline curve plot, (b) a projection of reservoir performance, (c) restricted flaring production, daily plot, (d) current production and flare rates with fuel usage, (e) topographic map depicting proposed pipeline, (f) proposed pipeline tie-in costs, (g) economics of well and gas disposition, has determined that flaring at the rates requested by Marathon is reasonable and economically justified.

From the foregoing Findings of Fact and Conclusions of Law the Board now makes and enters its:

ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED that Marathon's request to flare gas is granted in the following respects:

1. Marathon shall be entitled to flare gas at a 100 MCFD daily maximum averaged monthly.

2. ~~Marathon shall make semi-annual reports to the Board, through the Division, with regard to oil and gas economics, economics of pipeline connection, and status of the production of the well.~~

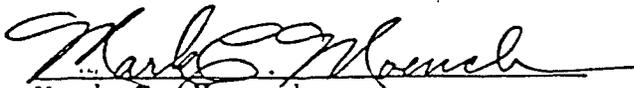
3. This Order shall remain in effect until further order by the Board. The Board retains continuing jurisdiction over the parties in all matters concerned in this case. This docket and cause is hereby continued and the record established herein shall remain open.

Dated this 20th day of June, 1986.

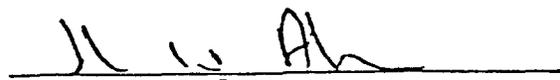
STATE OF UTAH
BOARD OF OIL, GAS AND MINING

By 
Gregory P. Williams, Chairman

Approved as to Form:


Mark C. Moench
Attorney for the Board

Approved as to Form:


John W. Anderson
Attorney for Marathon



P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

December 23, 1986

RECEIVED
DEC 29 1986

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

DIVISION OF
OIL, GAS & MINING

Attn: Mr. John Baza
Petroleum Engineer

RE: Semi-Annual Report; Gas Flaring at McCracken Spring #1-31
Docket No. 86-012
Cause No. 196-19

Dear Mr. Baza:

In accordance with the Board of Oil, Gas and Mining Order dated June 2, 1986, Marathon has reviewed the operation and oil and gas economics of gas flaring at McCracken Spring #1-31.

The Board Order states that Marathon is entitled to flare gas at a 100 MCFD daily maximum average rate per month. Current well operations have adhered to that 100 MCFD maximum stipulation (averaged monthly) with on-site fuel usage of approximately 44 MCFD to fire the heater treater, pumping unit and recycle pump.

The economics of gas flaring and alternatives have been reviewed in light of current oil and gas production and prices. The results are as follows:

- (1) Oil and gas production at McCracken Spring #1-31 has followed the projected decline curve with the exception that gas production is slightly lower. See Figure 3 [decline curve presented to Board at the May 22, 1986 Hearing].
- (2) No negotiations with Koch Hydrocarbons are ongoing with respect to the 3.2 mile gas-pipeline tie-in to the Cave Canyon field. Koch has been unwilling to agree to any terms other than those mentioned in the March 27, 1986 letter submitted to the Division and mentioned in testimony at the May 22, 1986 Hearing. The economics of the tie-in are still unfavorable as gas prices at the wellhead have fallen 19% while oil prices in the area have risen only 5% since May 1986. (See Tables 1, 2a & 2b). As mentioned in the May 22, 1986 Hearing, gas sales still will not payout the pipeline connection. In addition, on a total project basis, at current oil and gas prices, payout of the well, production facilities and the Koch gas tie-in is now projected to be even more than \$647,000 short when the well reaches its economic limit.

Mr. John Baza
State of Utah
December 23, 1986
Page 2

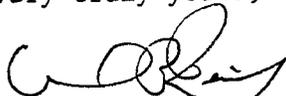
The alternatives to flaring discussed in the May 22, 1986 Hearing were uneconomic. Those alternatives are still uneconomic and the alternative based upon gas revenues (pressurized trucking) is less favorable due to current lower gas prices. (See Tables 1, 2a & 2b).

- (3) Marathon is actively soliciting information on other pipeline proposals in the area. To date Marathon is aware of no other gas pipeline proposals serving the McCracken area. Phillips Pipeline Company will be gathering pipeline information for this area in the 1st and 2nd quarters of 1987. Marathon contacted Phillips and is ready to supply whatever information is needed.
- (4) Marathon is aware of the recent drilling activity in the McCracken area scheduled to begin in early December, 1986 through the 1st quarter of 1987. These operations will be followed closely in hopes that new gas finds will result in economic alternatives to flaring at McCracken. It is anticipated that some of these wells' testing results will be available mid-1st quarter, 1987.

In summary, flaring at McCracken Spring #1-31 is the only economic alternative, at this time, to maintain oil production. While oil prices have risen slightly, gas prices have fallen, maintaining unfavorable economics for the Koch tie-in. Possible new gas finds in the area may develop other alternatives and Marathon will be monitoring any such developments.

Thank you for your continued cooperation in dealing with this matter. If we may be of any further assistance, please feel free to contact Mr. Richard O. Cottle of this office.

Very truly yours,



W. T. Reish
Operations Superintendent

WTR/ROC:jl
Attachments:

- Figure 1 - Production vs. Time Decline Curve (Producing Day)
- Figure 2 - Production vs. Time Decline Curve (Calendar Day)
- Figure 3 - Projected Reservoir Performance - Tin Cup Mesa Model
- * Table 1 - Revised Estimated Gas Prices and Koch Tie-in Costs
- * Table 2a - Alternative Costs and Economic Parameters
- Table 2b - Current Alternative Costs and Economic Parameters

* Initially presented at May 22, 1986 Hearing.

TABLE I

EXHIBIT F

KOCH PIPELINE TIE-IN COSTS

Note: All cost estimates provided by Koch, September 17, 1985

3.2 Mile	17424'
Pipe 6" diameter	\$ 74,923
Fittings & Misc.	8,696
Right of Way	15,840
Construction	<u>94,967</u>
	\$194,426
15% Variance	<u>29,164</u>
	\$223,590 - Total Marathon Cost

Estimated Wellhead Gas Price:

Koch's estimate September, 1985	\$2.84/MCF With BTU Adjustment at Wellhead	
	\$1.69/MCF Marathon's Total Gas Value After Fees and Koch's %	
MOC's Revised Estimate May, 1986	\$1.67/MCF With BTU Adjustment at Wellhead	(41% reduction from) Sept. '85
	\$1.37/MCF Marathon's Total Gas Value After Fees & Koch's %	(19% reduction from) Sept. '85
MOC's Revised Estimate December, 1986	\$1.35/MCF With BTU Adjustment at Wellhead	(19% reduction from) May '86
	\$.77/MCF Marathon's Total Gas Value After Fees & Koch's %	(44% reduction from) May '86

TABLE 2a

EXHIBIT G

MARCH 1985	MAY 1986
<u>Alternative to Flaring Costs</u>	
1) Dual Complete McCracken Springs #1-31 as Producer/Injector Not Technically Feasible	- - - -
2) Recomplete #1-32 (TA'd) as an Injector Not Technically Feasible	- - - -
3) Drill New Injector for Gas Injection \$724,000 Drill & Complete 196,800 Surface/Comp. Equipment <u>\$920,800</u>	Drill New Injector For Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment <u>\$804,440</u> (12.3% Cost Reduction)
4) Pressurized Trucking of Gas \$10.30/MCF @ 160 MCFD	Pressurized Trucking of Gas \$8.55/MCF @ 160 MCFD (17% Cost Reduction)
5) Construct 16.5 Miles Gas Transmission Line with Compression Equipment to Tin Cup Mesa \$3.0-3.5 Million	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 322,000 MCF

Cumulative Production to Date
9,058 Bbls - 34,184 MCF

Prices Used in Economics
\$27.03/Bbl
\$3.00/MCF

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
31,845 Bbls - 114,076 MCF

Prices Used in March 27th Letter
\$13 - \$35/Bbl Range
\$1.50/MCF

Current Prices May 1, 1986
\$11.84/Bbl
\$1.50/MCF Average

Estimated Remaining Reserves
46,155 Bbl - 256,920 MCF

TABLE 2b

<u>DECEMBER 1986</u>	
1)	-----
2)	-----
3)	Drill New Injector for Gas Injection \$650,000 Drill & Complete <u>157,000</u> Surface/Comp Equipment \$804,440 (12.3% Cost Reduction)
4)	Pressurized Trucking of Gas \$8.55/MCF@ 160 MCFD (17% Cost Reduction)
5)	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
37,890 Bbls - 139,612 MCF

Estimated Remaining Reserves
40,110 Bbl - 231,388 MCF

Current Prices December 1, 1986
\$12.49/Bbl
\$1.35/MCF at Wellhead
(estimated)

Figure 1

SOURCE-MRPW

FIELD - MCCRACKEN SPRING #1-31
 RESERVOIR - PARADOX
 LEASE - MCCRACKEN SPRING #1-31
 WELL - 1 31

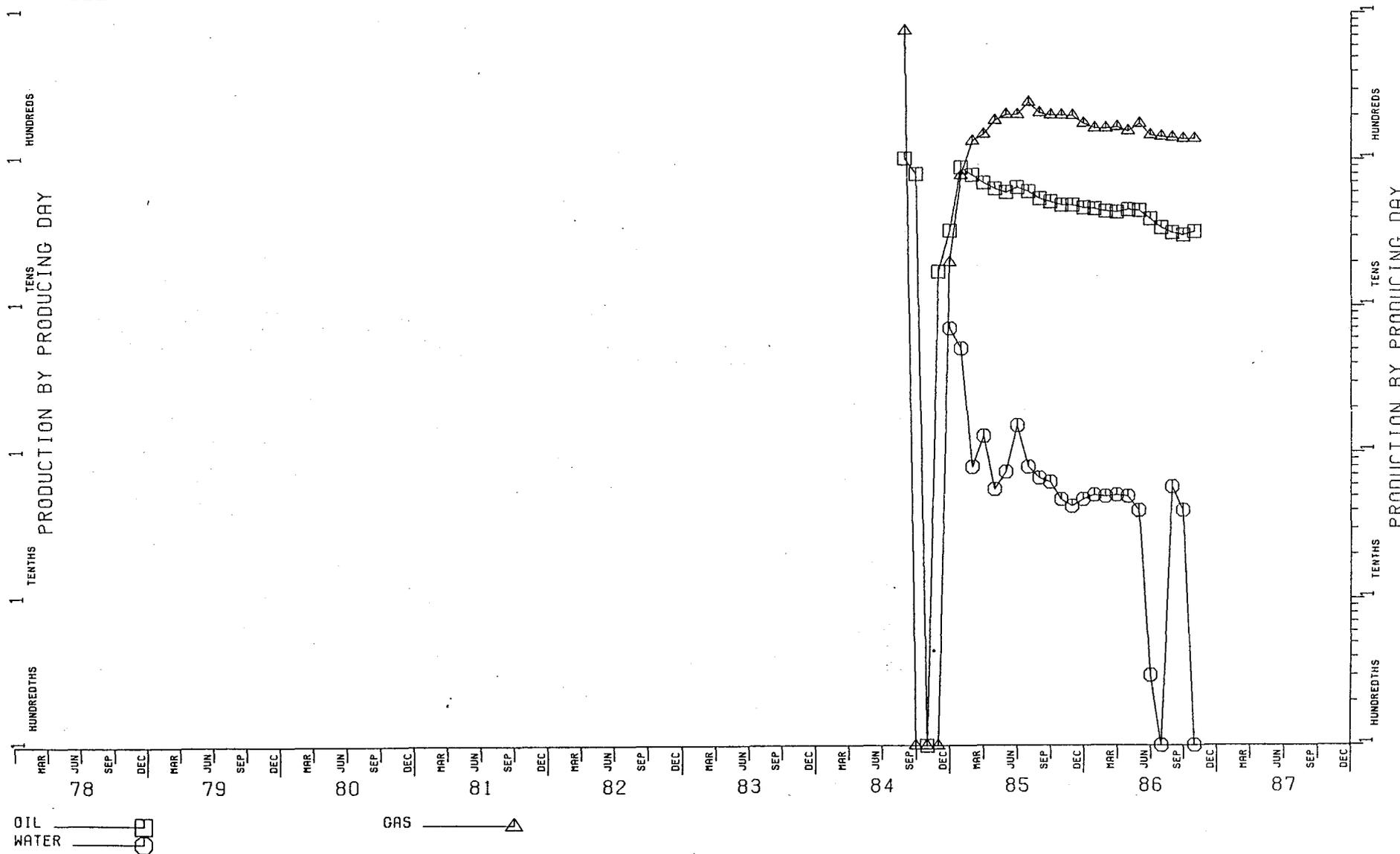


Figure 2

SOURCE-MRPW

FIELD - MCCRACKEN SPRING #1-31
 RESERVOIR - PARADOX
 LEASE - MCCRACKEN SPRING #1-31
 WELL - 1 31

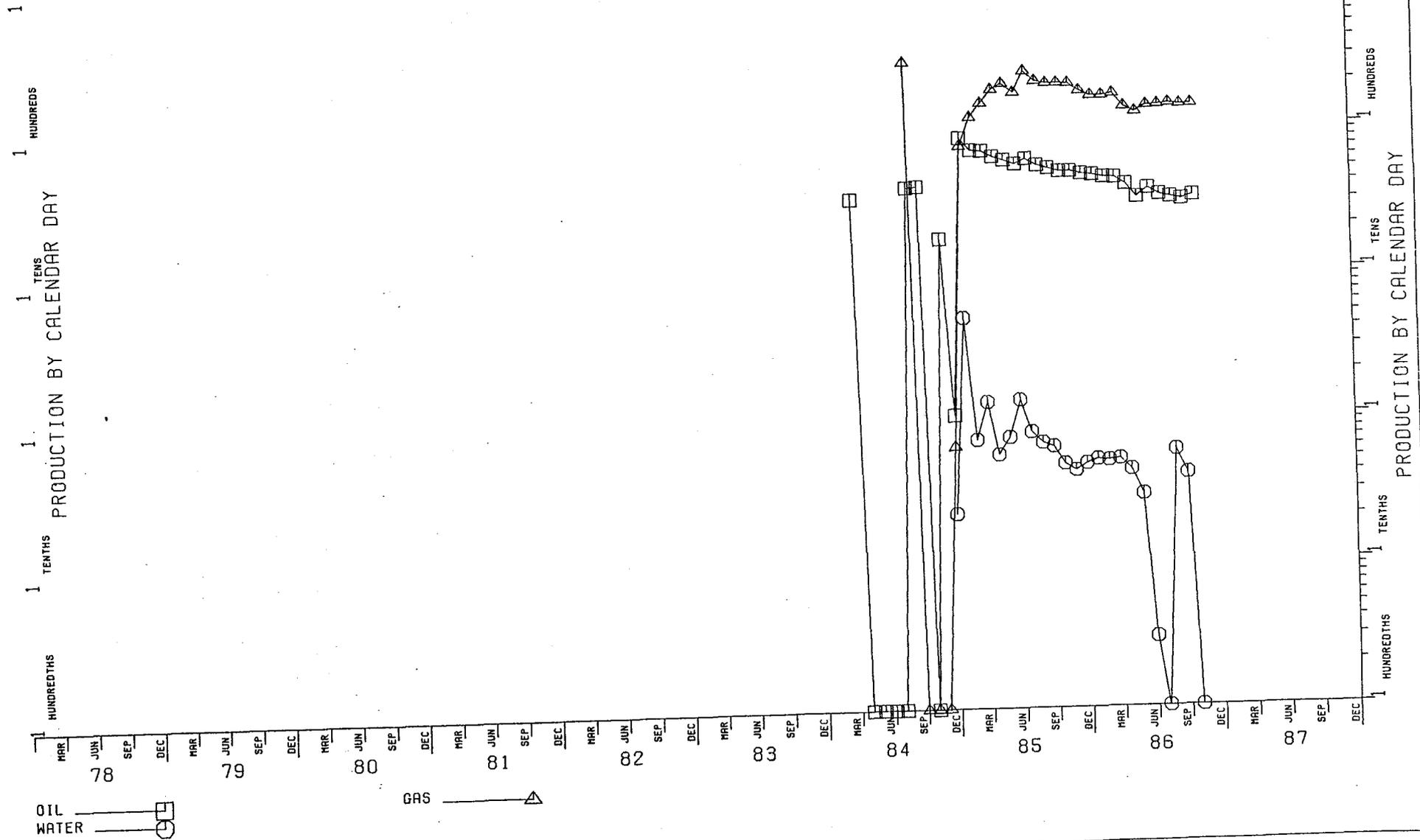
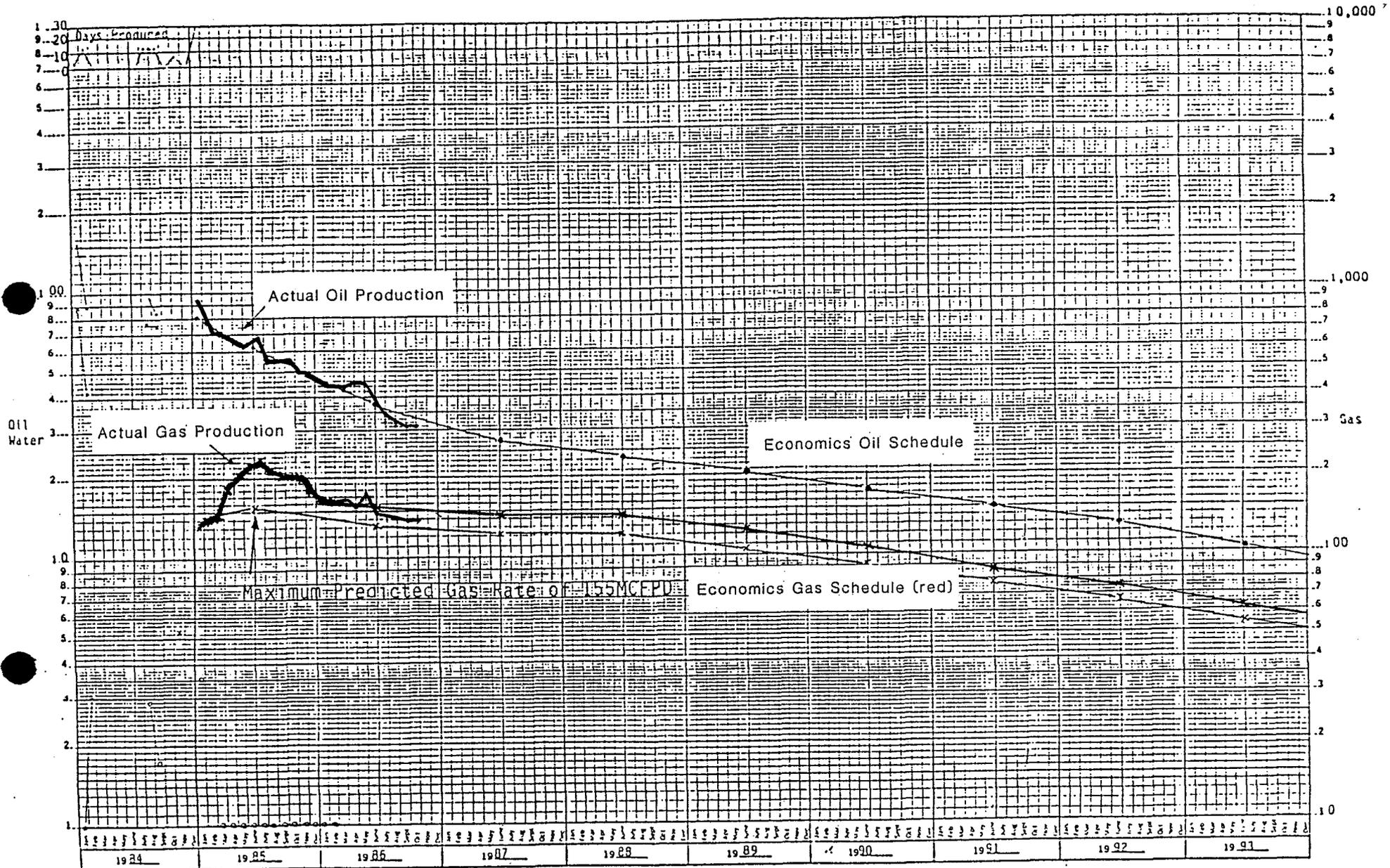


Figure 3



— Oil (BO/Producing Day) Actual
 — Gas (MCF/Producing Day) Actual
 ○ Water (BH/Producing Day)

MCCRACKEN SPRING #1-31

Projected Reservoir Performance --- Based on Tin Cup Mesa Model

ROC
4/96

UPDATED
12/19/86
ROC



P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

December 23, 1986

RECEIVED
DEC 29 1986

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

**DIVISION OF
OIL, GAS & MINING**

Attn: Mr. John Baza
Petroleum Engineer

RE: Semi-Annual Report; Gas Flaring at McCracken Spring #1-31
Docket No. 86-012
Cause No. 196-19

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The economics of gas flaring and alternatives have been reviewed in light of current oil and gas production and prices. The results are as follows:

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Mr. John Baza
State of Utah
December 23, 1986
Page 2

The alternatives to flaring discussed in the May 22, 1986 Hearing were uneconomic. Those alternatives are still uneconomic and the alternative based upon gas revenues (pressurized trucking) is less favorable due to current lower gas prices. (See Tables 1, 2a & 2b).

- (3) Marathon is actively soliciting information on other pipeline proposals in the area. To date Marathon is aware of no other gas pipeline proposals serving the McCracken area. Phillips Pipeline Company will be gathering pipeline information for this area in the 1st and 2nd quarters of 1987. Marathon contacted Phillips and is ready to supply whatever information is needed.
- (4) Marathon is aware of the recent drilling activity in the McCracken area scheduled to begin in early December, 1986 through the 1st quarter of 1987. These operations will be followed closely in hopes that new gas finds will result in economic alternatives to flaring at McCracken. It is anticipated that some of these wells' testing results will be available mid-1st quarter, 1987.

In summary, flaring at McCracken Spring #1-31 is the only economic alternative, at this time, to maintain oil production. While oil prices have risen slightly, gas prices have fallen, maintaining unfavorable economics for the Koch tie-in. Possible new gas finds in the area may develop other alternatives and Marathon will be monitoring any such developments.

Thank you for your continued cooperation in dealing with this matter. If we may be of any further assistance, please feel free to contact Mr. Richard O. Cottle of this office.

Very truly yours,



W. T. Reish
Operations Superintendent

WTR/ROC:j1
Attachments:

- Figure 1 - Production vs. Time Decline Curve (Producing Day)
- Figure 2 - Production vs. Time Decline Curve (Calendar Day)
- Figure 3 - Projected Reservoir Performance - Tin Cup Mesa Model
- * Table 1 - Revised Estimated Gas Prices and Koch Tie-in Costs
- * Table 2a - Alternative Costs and Economic Parameters
- Table 2b - Current Alternative Costs and Economic Parameters

* Initially presented at May 22, 1986 Hearing.

TABLE I

EXHIBIT F

KOCH PIPELINE TIE-IN COSTS

Note: All cost estimates provided by Koch, September 17, 1985

3.2 Mile	17424'
Pipe 6" diameter	\$ 74,923
Fittings & Misc.	8,696
Right of Way	15,840
Construction	<u>94,967</u>
	\$194,426
15% Variance	<u>29,164</u>
	\$223,590 - Total Marathon Cost

Estimated Wellhead Gas Price:

Koch's estimate September, 1985	\$2.84/MCF With BTU Adjustment at Wellhead	
	\$1.69/MCF Marathon's Total Gas Value After Fees and Koch's %	
MOC's Revised Estimate May, 1986	\$1.67/MCF With BTU Adjustment at Wellhead	(41% reduction from) Sept. '85
	\$1.37/MCF Marathon's Total Gas Value After Fees & Koch's %	(19% reduction from) Sept. '85
MOC's Revised Estimate December, 1986	\$1.35/MCF With BTU Adjustment at Wellhead	(19% reduction from) May '86
	\$.77/MCF Marathon's Total Gas Value After Fees & Koch's %	(44% reduction from) May '86

TABLE 2a

EXHIBIT G

MARCH 1985	MAY 1986
<u>Alternative to Flaring Costs</u>	
1) Dual Complete McCracken Springs #1-31 as Producer/Injector Not Technically Feasible	- - - -
2) Recomplete #1-32 (TA'd) as an Injector Not Technically Feasible	- - - -
3) Drill New Injector for Gas Injection \$724,000 Drill & Complete 196,800 Surface/Comp. Equipment <u>\$920,800</u>	Drill New Injector For Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment <u>\$804,440</u> (12.3% Cost Reduction)
4) Pressurized Trucking of Gas \$10.30/MCF @ 160 MCFD	Pressurized Trucking of Gas \$8.55/MCF@ 160 MCFD (17% Cost Reduction)
5) Construct 16.5 Miles Gas Transmission Line with Compression Equipment to Tin Cup Mesa \$3.0-3.5 Million	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 322,000 MCF

Cumulative Production to Date
9,058 Bbls - 34,184 MCF

Prices Used in Economics
\$27.03/Bbl
\$3.00/MCF

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
31,845 Bbls - 114,076 MCF

Prices Used in March 27th Letter
\$13 - \$35/Bbl Range
\$1.50/MCF

Current Prices May 1, 1986
\$11.84/Bbl
\$1.50/MCF Average

Estimated Remaining Reserves
46,155 Bbl - 256,920 MCF

TABLE 2b

<u>DECEMBER 1986</u>	
1)	-----
2)	-----
3)	Drill New Injector for Gas Injection \$650,000 Drill & Complete <u>157,000</u> Surface/Comp Equipment \$804,440 (12.3% Cost Reduction)
4)	Pressurized Trucking of Gas \$8.55/MCF@ 160 MCFD (17% Cost Reduction)
5)	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
37,890 Bbls - 139,612 MCF

Estimated Remaining Reserves
40,110 Bbl - 231,388 MCF

Current Prices December 1, 1986
\$12.49/Bbl
\$1.35/MCF at Wellhead
(estimated)

Figure 1

SOURCE-MRPW

FIELD - MCCRACKEN SPRING #1-31
 RESERVOIR - PARADOX
 LEASE - MCCRACKEN SPRING #1-31
 WELL - 1 31

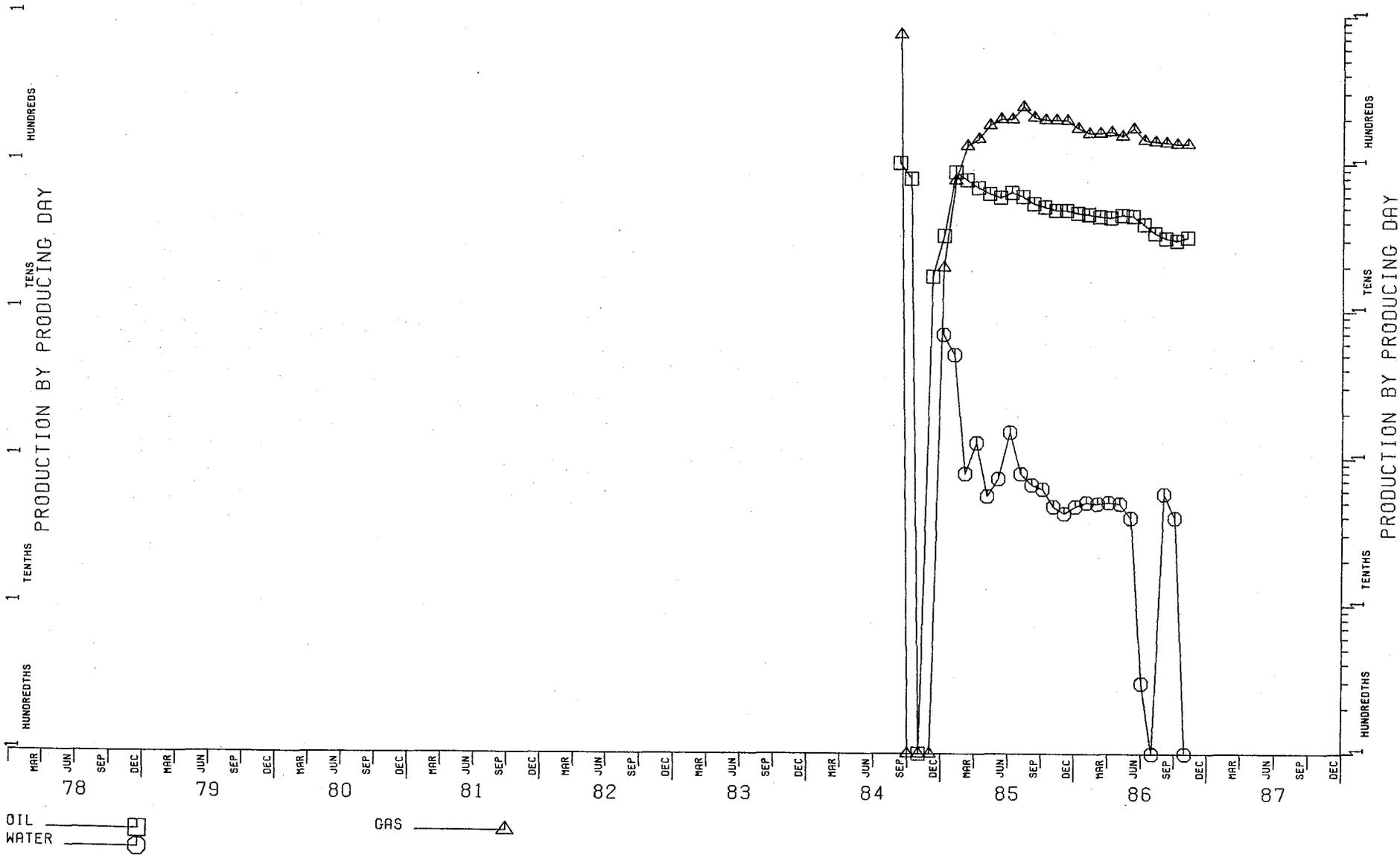


Figure 2

SOURCE-MRPW

FIELD - MCCRACKEN SPRING #1-31
 RESERVOIR - PARADOX
 LEASE - MCCRACKEN SPRING #1-31
 WELL - 1 31

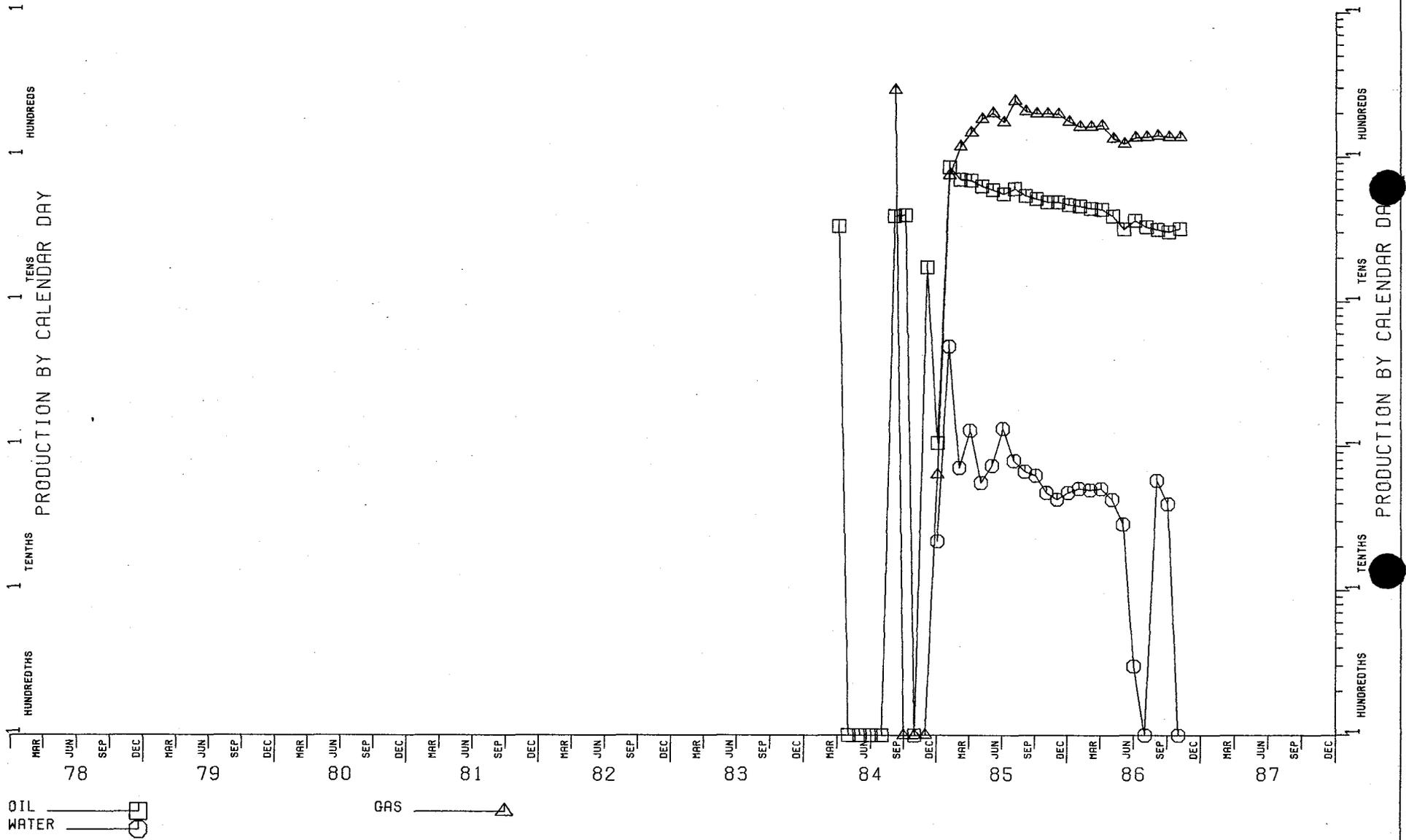
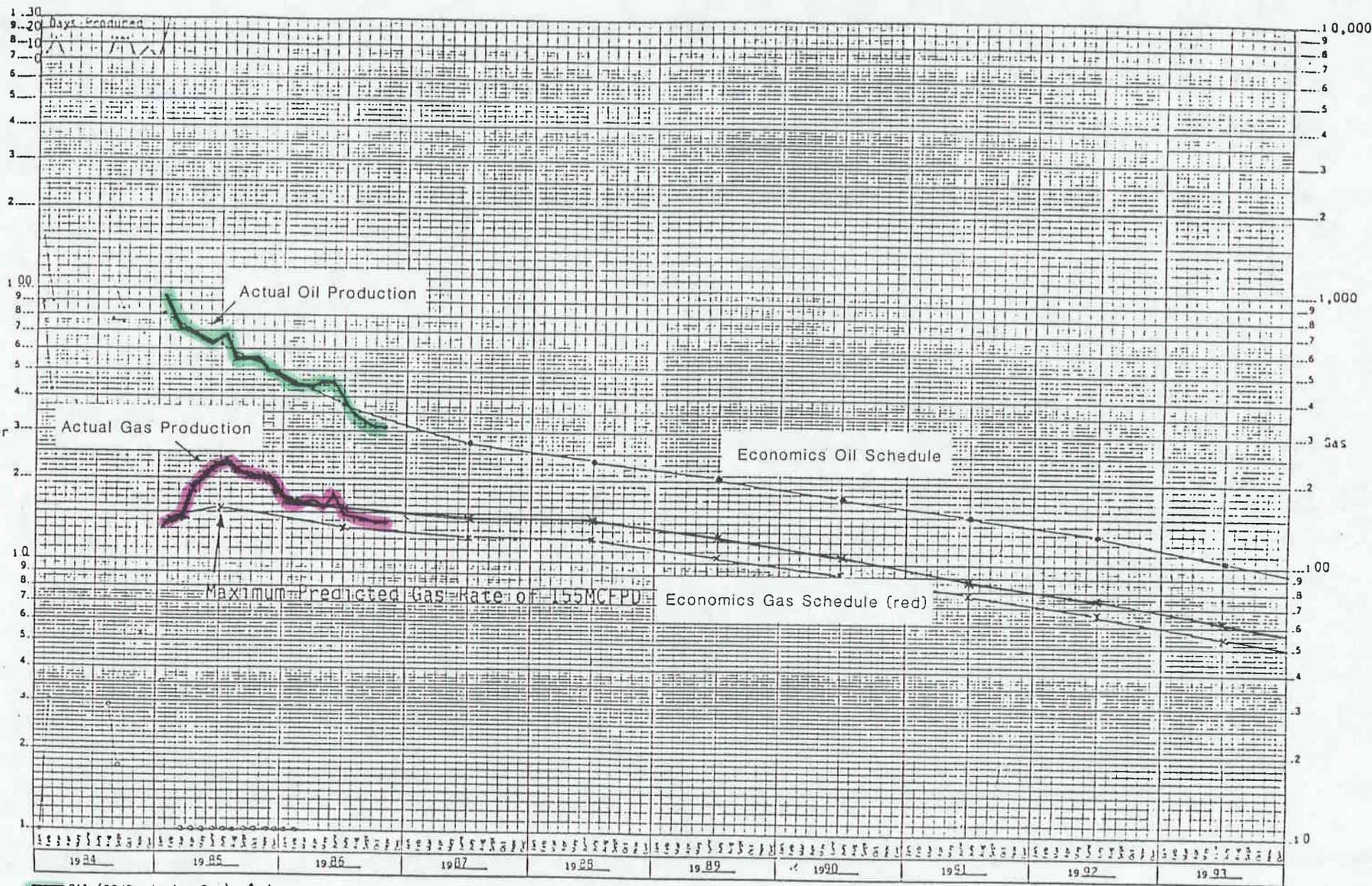


Figure 3

47 6740
IVZ REPORT & DATA CO. INC.



— Oil (BO/Producing Day) Actual
— Gas (MCF/Producing Day) Actual
 o—o Water (BW/Producing Day)

MCCRACKEN SPRING #1-31

Projected Reservoir Performance---Based on Tin Cup Mesa Model

ROC 4196

UPDATED
 12/17/86
 ROC



**Marathon
Oil Company**

P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

June 25, 1987

RECEIVED
JUL 01 1987

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

**DIVISION OF
OIL, GAS & MINING**

Attn: Mr. John Baza
Petroleum Engineer

RE: Semi-Annual Report; Gas Flaring at McCracken Spring #1-31
Docket No. 86-012
Cause No. 196-19

Dear Mr. Baza:

In accordance with the Board of Oil, Gas and Mining Order dated June 2, 1986, Marathon has reviewed the operation and oil and gas economics of gas flaring at McCracken Spring #1-31.

The Board Order states that Marathon is entitled to flare gas at a 100 MCFD daily maximum average rate per month. Current well operations have adhered to that 100 MCFD maximum stipulation (averaged monthly) with on-site fuel usage of approximately 44 MCFD to fire the heater treater, pumping unit and recycle pump.

The economics of gas flaring and alternatives have been reviewed in light of current oil and gas production and prices. The results are as follows:

1. Oil and gas production at McCracken Spring #1-31 has followed the projected decline curve presented to the Board at the May 22, 1986 Hearing (See Figure #2).
2. No negotiations with Koch Hydrocarbons are ongoing with respect to the 3.2 mile gas-pipeline tie-in to the Cave Canyon field. Koch has been unwilling to agree to any terms other than those mentioned in the March 27, 1986 letter submitted to the Division and mentioned in testimony at the May 22, 1986 Hearing. The economics of the tie-in are still unfavorable as gas prices at the wellhead have continued to drop. (See Tables 1, 2a & 2b). As mentioned in the May 22, 1986 Hearing, gas sales still will not payout the pipeline connection. In addition, on a total project basis, at current oil and gas prices, payout of the well, production facilities and the Koch gas tie-in is still projected to be even more than \$647,000 short when the well reaches its economic limit.

State of Utah
RE: Semi-Annual Report
June 25, 1987
Page 2

The alternatives to flaring discussed in the May 22, 1986 Hearing were uneconomic. Those alternatives are still uneconomic and the alternative based upon gas revenues (pressurized trucking) is less favorable due to current lower gas prices. (See Tables 1, 2a & 2b).

3. Marathon is actively soliciting information on other pipeline proposals in the area. Recent discoveries in the McCracken area have been and continue to be monitored by Marathon. Pipeline construction on McCracken Mesa in March, 1987 was suspended by the BLM due to several conflicting pipeline right of ways. As of June 24, 1987, Marathon is aware of final negotiations for a gas tie-in and contract involving Meridian and Yates wells in the area and specifically Yates' McCracken Spring #2-31, which offsets this well. These negotiations between Yates and Western Gas Processors (WGP) may result in a tie-in for the McCracken Springs area in the next 6-9 months. Marathon has been in contact with Yates and Meridian, the major producers in the area and WGP concerning the upcoming pipeline proposal. Such a proposal will be justified upon Yates and Meridian properties since they will provide most of the gas pipeline volume. If such a proposal is finalized and the Yates #2-31 well is tied-in, it is hoped that Marathon could also tie in at or near the Yates well. Marathon has not yet been approached with a proposal from Western Gas Processors, but Marathon and other minor producers are on WGP's producer list and WGP has assured Marathon that we will be contacted as negotiations and plans progress.

In summary, flaring at McCracken Spring #1-31 is the only economic alternative, at this time, to maintain oil production. While oil prices have risen, gas prices have fallen, maintaining unfavorable economics for the Koch tie-in. Possible new gas pipeline plans involving WGP and other producers in the area may provide a viable economic alternative to flaring in the next 6-9 months. Marathon will be monitoring these developments.

Thank you for your continued cooperation in dealing with this matter. If we may be of any further assistance, please feel free to contact Mr. Richard O. Cottle of this office.

Very truly yours,



W. T. Reish
Operations Superintendent

WTR/ROC:jl
Attachments:

Figure 1 - Production vs. Time Decline Curve (Producing Day)
Figure 2 - Projected Reservoir Performance - Tin Cup Mesa Model

State of Utah
RE: Semi-Annual Report
June 25, 1987
Page 3

- * Table 1 - Revised Estimated Gas Prices and Koch Tie-in Costs
- * Table 2a - Alternative Costs and Economic Parameters
- Table 2b - Current Alternative Costs and Economic Parameters

* Initially presented at May 22, 1986 Hearing.

TABLE I

EXHIBIT F

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Note: All cost estimates provided by Koch, September 17, 1985

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	\$.77/MCF Marathon's Total Gas Value After Fees & Koch's %	(44% reduction from) May '86

TABLE 2a

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5) Construct 16.5 Miles Gas Transmission Line with Compression Equipment to Tin Cup Mesa \$3.0-3.5 Million	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 322,000 MCF

Cumulative Production to Date
9,058 Bbls - 34,184 MCF

Prices Used in Economics
\$27.03/Bbl
\$3.00/MCF

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
31,845 Bbls - 114,076 MCF

Prices Used in March 27th Letter
\$13 - \$35/Bbl Range
\$1.50/MCF

Current Prices May 1, 1986
\$11.84/Bbl
\$1.50/MCF Average

Estimated Remaining Reserves
46,155 Bbl - 256,920 MCF

TABLE 2b

DECEMBER 1986		JUNE 1987	
1)	-----	1)	-----
2)	-----	2)	-----
3)	Drill New Injector for Gas Injection \$650,000 Drill & Complete <u>157,000</u> Surface/Comp Equipment \$804,440 (12.3% Cost Reduction)	3)	Drill New Injector for Gas injection \$500,000 Drill & Complete <u>(150,000)</u> Surface/Comp Equipment \$750,000 (6.8% Cost Reduction)
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Economic Parameters

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Cumulative Production to Date
37,890 Bbls - 139,612 MCF

Estimated Remaining Reserves
40,110 Bbls - 231,388 MCF

Current Prices December 1, 1986
\$12.49/Bbl
\$1.35/MCF at Wellhead
(estimated)

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
43,264 Bbls - 164,520 MCF

Estimated Remaining Reserves
34,736 Bbls - 206,480 MCF

Current Prices June 1, 1987
\$16.75/Bbl
\$1.34/MCF at Wellhead
(estimated)

\$.71/MCF Marathon's Total Gas Value
after Fees to Koch's %

Figure #1
 McCracken Springs Field
 McCracken Springs # 1-31

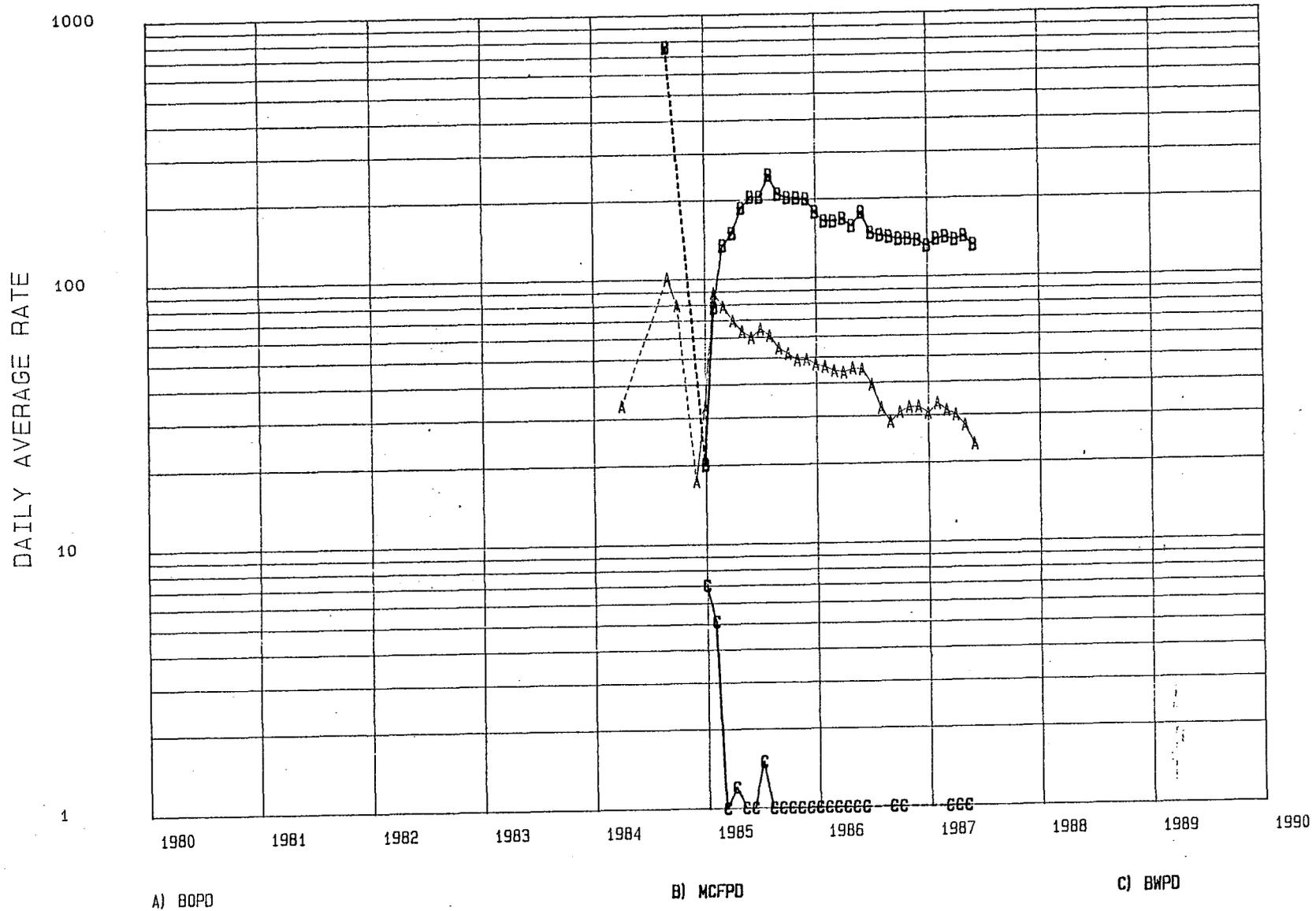
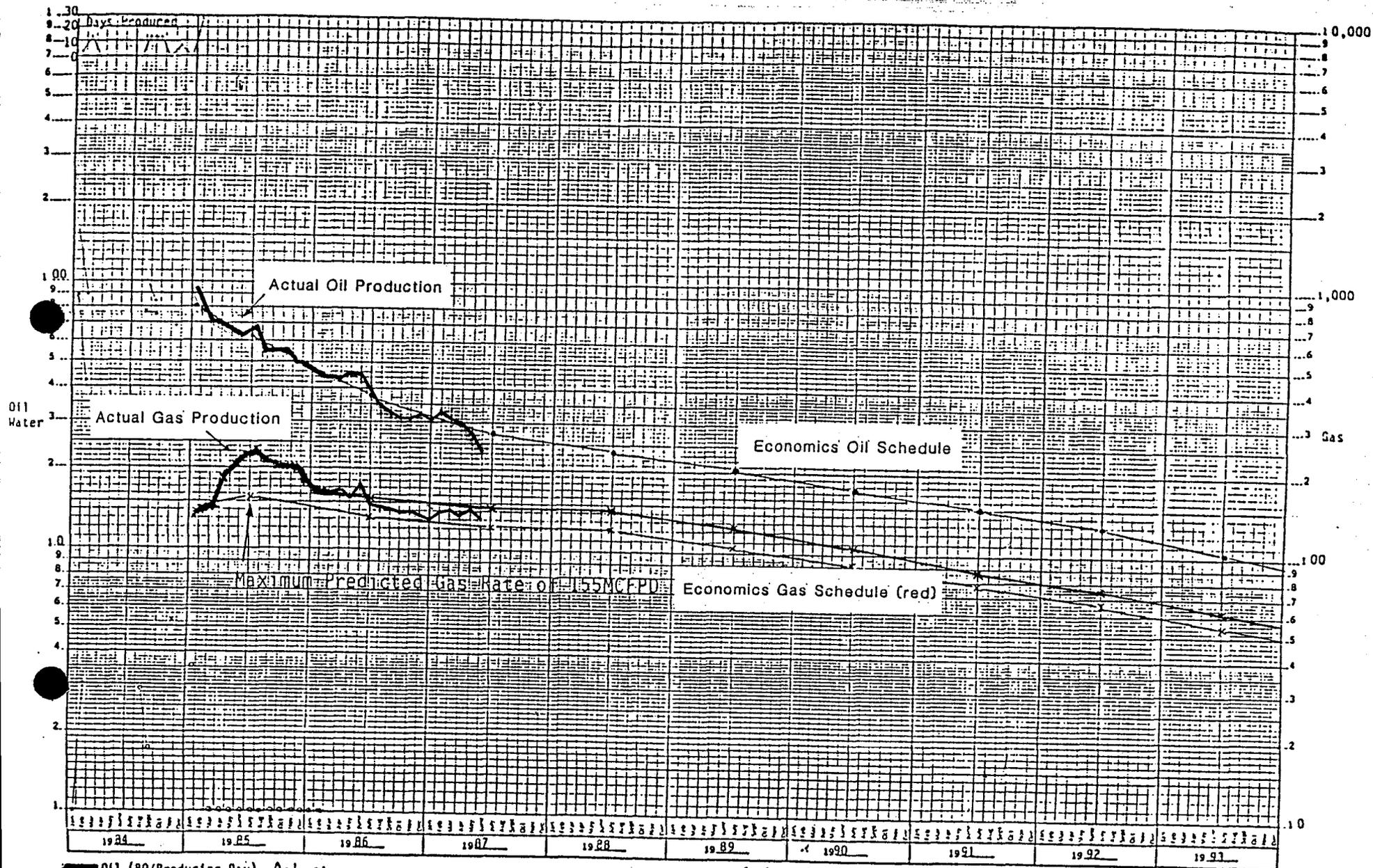


Figure #2



— Oil (BO/Producing Day) Actual
 — Gas (MCF/Producing Day) Actual
 ○ Water (BH/Producing Day)

MCCRACKEN SPRING # 1-31

Projected Reservoir Performance---Based on Tin Cup Mesa Model



**Marathon
Oil Company**

P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

December 8, 1987

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

Attn: Mr. John Baza
Petroleum Engineer

RE: Semi-Annual Report; Gas Flaring at McCracken Spring #1-31
Docket No. 86-012
Cause No. 196-19

Dear Mr. Baza:

In accordance with the Board of Oil, Gas and Mining Order dated June 2, 1986, Marathon has reviewed the operation and economics of gas flaring at McCracken Spring #1-31.

The Board Order states that Marathon is entitled to flare gas at a 100 MCFD daily maximum average rate per month. Current well operations have adhered to that 100 MCFD maximum stipulation with on-site fuel usage of approximately 44 MCFD to fire the heater treater, pumping unit and recycle pump.

The alternatives to, and the economics of gas flaring have been reviewed in light of current oil and gas production and prices, as well as recent developments for a pipeline hookup. The results are as follows:

1. Oil and gas production at McCracken Spring #1-31 has followed the projected decline curve presented to the Board at the May 22, 1986 Hearing (See Figure #2).
2. It is likely that McCracken Spring #1-31 will be tied into Western Gas Processor's pipeline by late spring. Marathon is currently reviewing a contract with Western Gas Processors and it is anticipated that the contract will be executed by December 31, 1987. Latest reports indicate that WGP's pipeline and gas plant will be on line approximately February 15, 1988. Marathon is not among the first 3-4 major producers who were offered a contract, and, therefore, our opportunity to tie-in to the pipeline will come only after the producers who were involved in the original contract negotiations have completed their hook-ups. Timing for gas delivery to the pipeline will be dependent on actual completion of the pipeline facilities as well as prioritization of producers with contracts.

3. Flaring will still be necessary until a tie-in to Western Gas Processors pipeline is complete. The alternatives to flaring discussed in the May 22, 1986 Hearing were uneconomic. Those alternatives are still uneconomic and the alternative, based upon gas revenues (pressurized trucking), is unfavorable due to current low gas prices. (See Tables 1a, 1b, and 1c).

In summary, the outlook for a pipeline hook-up within the next 6 months is extremely favorable. In the meantime, flaring at McCracken Spring #1-31 is the only economic alternative to maintain oil production. Marathon will advise the State of Utah of any change in the possibility of obtaining a gas tie-in.

Thank you for your continued cooperation in dealing with this matter. If we may be of any further assistance, please feel free to contact Ms. Teresa Beasley of this office.

Very truly yours,

W. T. Reish
Operations Superintendent

WTR/TMB:jl
Attachments:

cc: R. P. Meabon
D. G. Carlson
E. E. Wadleigh
"WRF"

- Figure 1 - Production vs. Time Decline Curve
- * Figure 2 - Projected Reservoir Performance - Tin Cup Mesa Model
- * Table 1a - Alternative Costs and Economic Parameters
- Table 1b - Alternative Costs and Economic Parameters (Dec. 1986, June 1987)
- Table 1c - Alternative Costs and Economic Parameters (Dec. 1987)

* Initially presented at May 22, 1986 Hearing.

Marathon Oil Company - Casper Operations

Figure 1

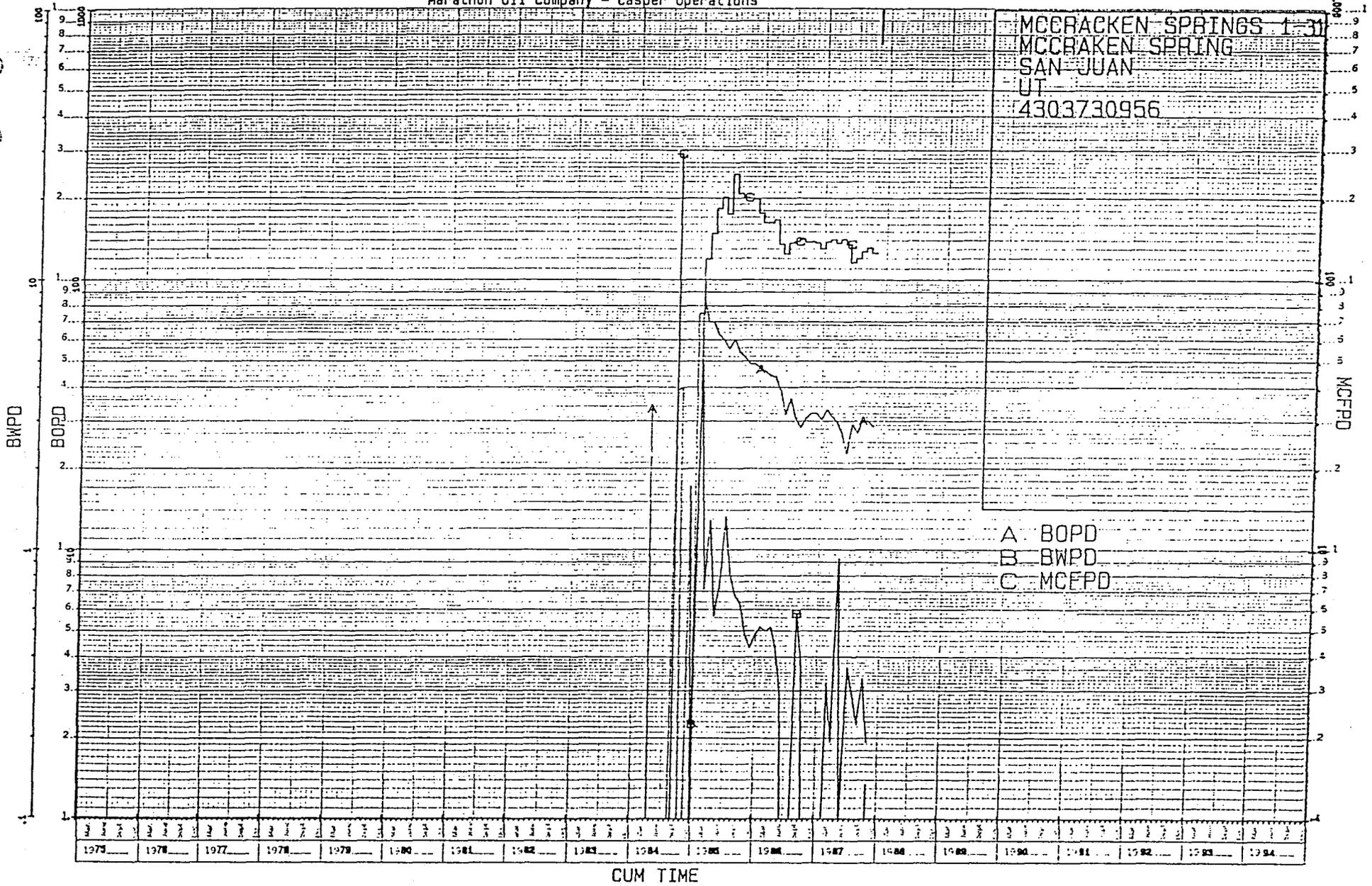
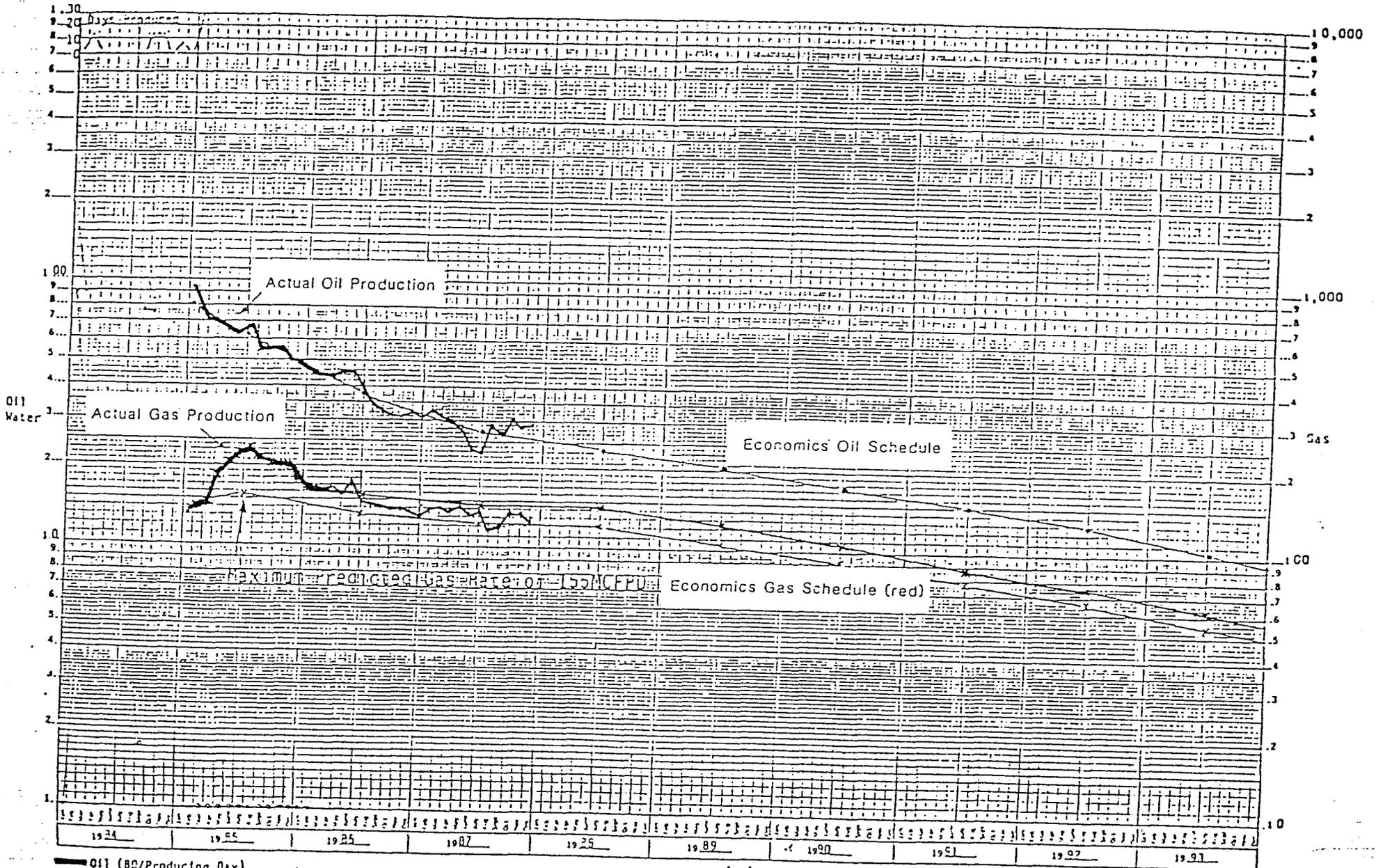


Figure #2



MCCRACKEN SPRING # 1-31

Projected Reservoir Performance---Based on Tin Cup Mesa Model

Table 1a

EXHIBIT G

MARCH 1985	MAY 1986
<u>Alternative to Flaring Costs</u>	
1) Dual Complete McCracken Springs #1-31 as Producer/Injector Not Technically Feasible	-----
2) Recomplete #1-32 (TA'd) as an Injector Not Technically Feasible	-----
3) Drill New Injector for Gas Injection. \$724,000 Drill & Complete 196,800 Surface/Comp. Equipment <u>\$920,800</u>	Drill New Injector For Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment <u>\$807,440</u> (12.3% Cost Reduction)
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Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 322,000 MCF

Cumulative Production to Date
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Prices Used in Economics
\$27.03/Bbl
\$3.00/MCF

Economic Parameters

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\$11.84/Bbl
\$1.50/MCF Average

Estimated Remaining Reserves
46,155 Bbl - 256,920 MCF

12/19/86 ROC
6/4/87 ROC

Table 1b

DECEMBER 1986		JUNE 1987	
1)	-----	1)	-----
2)	-----	2)	-----
3)	Drill New Injector for Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment \$804,440 (12.3% Cost Reduction)	3)	Drill New Injector for Gas Injection \$500,000 Drill & Complete (150,000) Surface/Comp Equipment \$750,000 (6.8% Cost Reduction)
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Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
37,890 Bbls - 139,612 MCF

Estimated Remaining Reserves
40,110 Bbls - 231,388 MCF

Current Prices December 1, 1986

\$12.49/Bbl

\$1.35/MCF at Wellhead
(estimated)

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
43,264 Bbls - 164,520 MCF

Estimated Remaining Reserves
34,736 Bbls - 206,480 MCF

Current Prices June 1, 1987

\$16.75/Bbl

\$1.34/MCF at Wellhead
(estimated)

\$.71/MCF Marathon's Total Gas Value
after Fees to Koch's %

TABLE 1c

DECEMBER, 1987

-
- 1) -----
 - 2) -----
 - 3) Drill New Injector for Gas Injection
\$600,000 Drill & Complete
150,000 Surface/Comp Equipment
750,000
 - 4) Pressurized Trucking of Gas
\$8.55/MCF @ 160 MCFD
 - 5) Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon
Line
\$224,000

Economic Parameter

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
48,750 Bbls - 183,120 MCF

Estimated Remaining Reserves
39,705 Bbls - 187,880 MCF

Current Prices
\$17.75/Bbl
\$ 1.20/MCF at Wellhead (Est.)



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Moab District
P. O. Box 970
Moab, Utah 84532

3100
(U-51846)
(U-065)

DEC 10 1987

Mr. W. T. Reish
Marathon Oil Company
P. O. Box 2690
Cody, Wyoming 82414

Re: Flaring of Natural Gas
McCracken Springs #1-31
SENE, Section 31, T. 37 S., R. 24 E.
San Juan County, Utah
Federal lease U-51846

Dear Mr. Reish:

On May 22, 1986 Marathon Oil Company (Marathon) was granted approval by the Board of Oil, Gas and Mining Department of Natural Resources, State of Utah to flare natural gas at 100 MCFD daily maximum averaged monthly from the McCracken Springs #1-31 well on the subject lease. The BLM concurred with this ruling. At this time of approval the #1-31 well was producing approximately 32 BOPD and 126 MCFD.

It has come to our attention that Western Gas Processors, LTD. has recently started construction of a natural gas pipeline gathering system in close proximity to the subject well. We are unaware of any discussion between Marathon and Western Gas Processors, LTD. about marketing of the gas, but we feel it would be Marathon's and the BLM's best interests if the gas from this well could be marketed to Western Gas Processors, LTD.

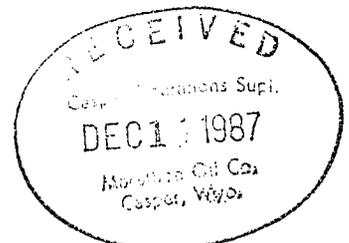
We are concerned about the cumulative volume of gas being flared from the subject well. While our existing regulations (NTL-4A) require that we consider the economic viability of marketing the gas, we must also concern ourselves with conservation of resources. Therefore, we will continue to monitor flaring of natural gas from the well and if the given situation has not been solved by the last day of June, we may require Marathon to restrict the volumes being flared to 25 MCFD. Please advise us as to your intentions.

Sincerely yours,

District Manager

cc:
U-069
Utah State Division of Oil, Gas and Mining
#3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

ACTING



012804



P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

POW-15my

43-037-30956

37 5 24E sec. 31

December 8, 1987

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

RECEIVED

DEC 10

DIVISION
OIL, GAS & I

*File as per John
Baza. John is
keeping record as
to when next reports
are due in. (Add, front)
pg.*

Attn: Mr. John Baza
Petroleum Engineer

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Docket No. 86-012
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The alternatives to, and the economics of gas flaring have been reviewed in light of current oil and gas production and prices, as well as recent developments for a pipeline hookup. The results are as follows:

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012804



P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

POW-15my

43-037-30956

37 5 24E sec. 31

December 8, 1987

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

RECEIVED
DEC 10 1987

DIVISION OF
OIL, GAS & MINING

Attn: Mr. John Baza
Petroleum Engineer

RE: Semi-Annual Report; Gas Flaring at McCracken Spring #1-31
Docket No. 86-012
Cause No. 196-19

Dear Mr. Baza:

In accordance with the Board of Oil, Gas and Mining Order dated June 2, 1986, Marathon has reviewed the operation and economics of gas flaring at McCracken Spring #1-31.

The Board Order states that Marathon is entitled to flare gas at a 100 MCFD daily maximum average rate per month. Current well operations have adhered to that 100 MCFD maximum stipulation with on-site fuel usage of approximately 44 MCFD to fire the heater treater, pumping unit and recycle pump.

The alternatives to, and the economics of gas flaring have been reviewed in light of current oil and gas production and prices, as well as recent developments for a pipeline hookup. The results are as follows:

1. Oil and gas production at McCracken Spring #1-31 has followed the projected decline curve presented to the Board at the May 22, 1986 Hearing (See Figure #2).
2. It is likely that McCracken Spring #1-31 will be tied into Western Gas Processor's pipeline by late spring. Marathon is currently reviewing a contract with Western Gas Processors and it is anticipated that the contract will be executed by December 31, 1987. Latest reports indicate that WGP's pipeline and gas plant will be on line approximately February 15, 1988. Marathon is not among the first 3-4 major producers who were offered a contract, and, therefore, our opportunity to tie-in to the pipeline will come only after the producers who were involved in the original contract negotiations have completed their hook-ups. Timing for gas delivery to the pipeline will be dependent on actual completion of the pipeline facilities as well as prioritization of producers with contracts.

3. Flaring will still be necessary until a tie-in to Western Gas Processors pipeline is complete. The alternatives to flaring discussed in the May 22, 1986 Hearing were uneconomic. Those alternatives are still uneconomic and the alternative, based upon gas revenues (pressurized trucking), is unfavorable due to current low gas prices. (See Tables 1a, 1b, and 1c).

In summary, the outlook for a pipeline hook-up within the next 6 months is extremely favorable. In the meantime, flaring at McCracken Spring #1-31 is the only economic alternative to maintain oil production. Marathon will advise the State of Utah of any change in the possibility of obtaining a gas tie-in.

Thank you for your continued cooperation in dealing with this matter. If we may be of any further assistance, please feel free to contact Ms. Teresa Beasley of this office.

Very truly yours,



W. T. Reish
Operations Superintendent

WTR/TMB:jl
Attachments:

cc: R. P. Meabon
D. G. Carlson
E. E. Wadleigh
"WRF"

Figure 1 - Production vs. Time Decline Curve

* Figure 2 - Projected Reservoir Performance - Tin Cup Mesa Model

* Table 1a - Alternative Costs and Economic Parameters

Table 1b - Alternative Costs and Economic Parameters (Dec. 1986, June 1987)

Table 1c - Alternative Costs and Economic Parameters (Dec. 1987)

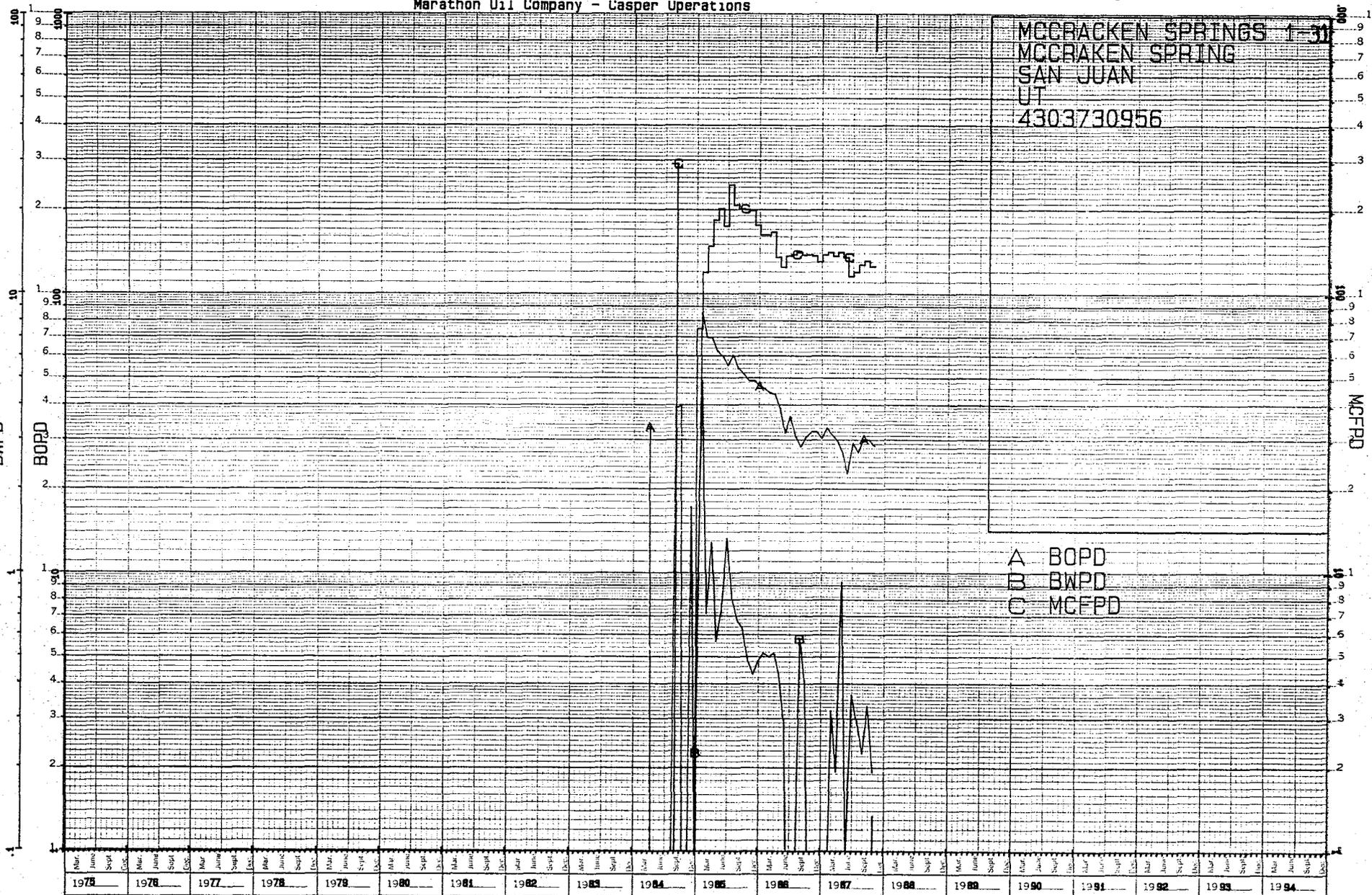
* Initially presented at May 22, 1986 Hearing.

Figure 1

Marathon Oil Company - Casper Operations

MCCRACKEN SPRINGS 1-31
MCCRACKEN SPRING
SAN JUAN
UT
4303730956

A BOPD
B BWPD
C MCFPD



CUM TIME

47 6840

K&E 20 YEARS BY MONTHS X 3 LOG CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.

BMPD

BOPD

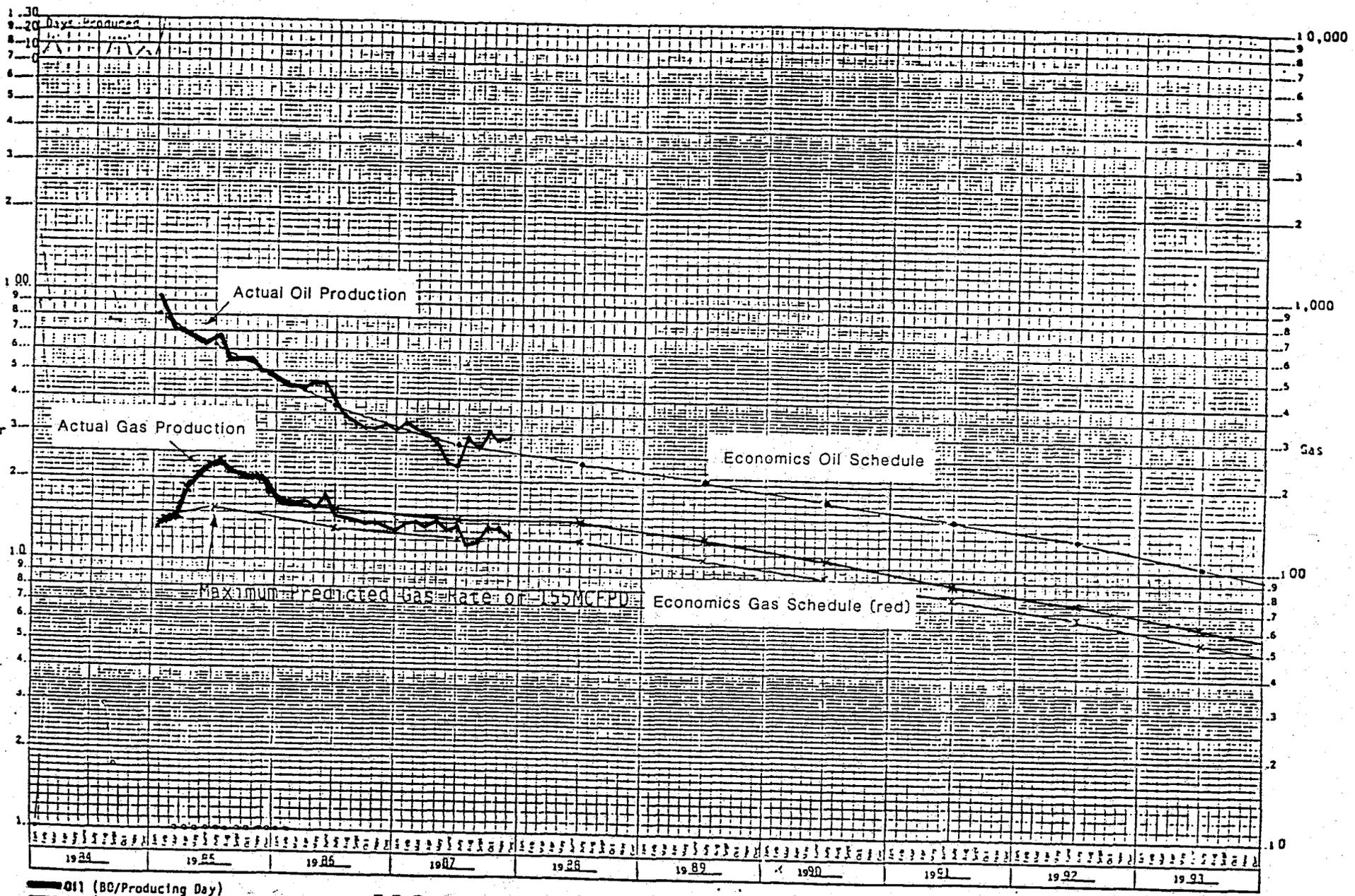
MCFPD

1975	1976	1977	1978	1978	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

Figure #2

47 6740

VE
 REPORT & CHART TO BE MADE



Oil (BC/Producing Day)
 Gas (MCF/Producing Day)
 Water (BW/Producing Day)

MCCRACKEN SPRING #1-31

Projected Reservoir Performance---Based on Tin Cup Mesa Model

ROC
 4/96

Table 1a

EXHIBIT G

MARCH 1985	MAY 1986
<u>Alternative to Flaring Costs</u>	
1) Dual Complete McCracken Springs #1-31 as Producer/Injector Not Technically Feasible	- - - -
2) Recomplete #1-32 (TA'd) as an Injector Not Technically Feasible	- - - -
3) Drill New Injector for Gas Injection. \$724,000 Drill & Complete 196,800 Surface/Comp. Equipment <u>\$920,800</u>	Drill New Injector For Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment <u>\$804,440</u> (12.3% Cost Reduction)
4) Pressurized Trucking of Gas \$10.30/MCF @ 160 MCFD	Pressurized Trucking of Gas \$8.55/MCF @ 160 MCFD (17% Cost Reduction)
5) Construct 16.5 Miles Gas Transmission Line with Compression Equipment to Tin Cup Mesa \$3.0-3.5 Million	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 322,000 MCF

Cumulative Production to Date
9,058 Bbls - 34,184 MCF

Prices Used in Economics
\$27.03/Bbl
\$3.00/MCF

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
31,845 Bbls - 114,076 MCF

Prices Used in March 27th Letter
\$13 - \$35/Bbl Range
\$1.50/MCF

Current Prices May 1, 1986
\$11.84/Bbl
\$1.50/MCF Average

Estimated Remaining Reserves
46,155 Bbl - 256,920 MCF

12/19/86 ROC
6/4/87 ROC

Table 1b

<u>DECEMBER 1986</u>		<u>JUNE 1987</u>	
1)	-----	1)	-----
2)	-----	2)	-----
3)	Drill New Injector for Gas Injection \$650,000 Drill & Complete 157,000 Surface/Comp Equipment \$804,440 (12.3% Cost Reduction)	3)	Drill New Injector for Gas injection \$500,000 Drill & Complete (150,000) Surface/Comp Equipment \$750,000 (6.8% Cost Reduction)
4)	Pressurized Trucking of Gas \$8.55/MCF @ 160 MCFD (17% Cost Reduction)	4)	Pressurized Trucking of Gas \$8.55/MCF @ 160 MCFD
5)	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000	5)	Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon Line \$224,000

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
37,890 Bbls - 139,612 MCF

Estimated Remaining Reserves
40,110 Bbls - 231,388 MCF

Current Prices December 1, 1986
\$12.49/Bbl
\$1.35/MCF at Wellhead
(estimated)

Economic Parameters

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
43,264 Bbls - 164,520 MCF

Estimated Remaining Reserves
34,736 Bbls - 206,480 MCF

Current Prices June 1, 1987
\$16.75/Bbl
\$1.34/MCF at Wellhead
(estimated)

\$.71/MCF Marathon's Total Gas Value
after Fees to Koch's %

TABLE 1c

DECEMBER, 1987

-
- 1) -----
 - 2) -----
 - 3) Drill New Injector for Gas Injection
\$600,000 Drill & Complete
150,000 Surface/Comp Equipment
750,000
 - 4) Pressurized Trucking of Gas
\$8.55/MCF @ 160 MCFD
 - 5) Pay for 3.2 Mile Pipeline Tie-in to Koch Hydrocarbon
Line
\$224,000

Economic Parameter

Estimated Recoverable Reserves
78,000 Bbls - 371,000 MCF

Cumulative Production to Date
48,750 Bbls - 183,120 MCF

Estimated Remaining Reserves
39,705 Bbls - 187,880 MCF

Current Prices
\$17.75/Bbl
\$ 1.20/MCF at Wellhead (Est.)

RECEIVED
DEC 14 1987

DIVISION OF
OIL, GAS & MINING

Moab District
P. O. Box 970
Moab, Utah 84902

3100
(U-51846)
(U-065)

DEC 10 1987

Mr. W. T. Reish
Marathon Oil Company
P. O. Box 2690
Cody, Wyoming 82414

Re: Flaring of Natural Gas
McCracken Springs #1-31
SENE, Section 31, T. 37 S., R. 24 E.
San Juan County, Utah
Federal lease U-51846

Dear Mr. Reish:

On May 22, 1986 Marathon Oil Company (Marathon) was granted approval by the Board of Oil, Gas and Mining Department of Natural Resources, State of Utah to flare natural gas at 100 MCFD daily maximum averaged monthly from the McCracken Springs #1-31 well on the subject lease. The BLN concurred with this ruling. At this time of approval the #1-31 well was producing approximately 32 BOPD and 126 MCFD.

It has come to our attention that Western Gas Processors, LTD. has recently started construction of a natural gas pipeline gathering system in close proximity to the subject well. We are unaware of any discussion between Marathon and Western Gas Processors, LTD. about marketing of the gas, but we feel it would be Marathon's and the BLN's best interests if the gas from this well could be marketed to Western Gas Processors, LTD.

We are concerned about the cumulative volume of gas being flared from the subject well. While our existing regulations (NTL-4A) require that we consider the economic viability of marketing the gas, we must also concern ourselves with conservation of resources. Therefore, we will continue to monitor flaring of natural gas from the well and if the given situation has not been solved by the last day of June, we may require Marathon to restrict the volumes being flared to 25 MCFD. Please advise us as to your intentions.

Sincerely yours,

/s/ Kenneth V. Rhea

District Manager

cc:
U-069
Utah State Division of Oil, Gas and Mining
#3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

ACTING

Manchester:py 12/10/87 Wang #12317
Kotyped:py 12/16/87 Wang #12317



P.O. Box 120
Casper, Wyoming 82602
Telephone 307/235-2511

December 21, 1987

United States Department of the Interior
Bureau of Land Management
Moab District
P. O. Box 970
Moab, Utah 84532

RECEIVED
DEC 28 1987

RE: Flaring of Natural Gas
McCracken Springs #1-31
SENE Section 31, T37S, R24E
San Juan County, Utah
Federal Lease U-51846

**DIVISION OF
OIL, GAS & MINING**

Dear Sirs:

In response to your letter of December 10, 1987 concerning the construction of a natural gas pipeline gathering system by Western Gas Processors, Ltd., we have enclosed a copy of our most recent Semi-Annual Flare Report to the State of Utah. As described in the report, we are currently reviewing a contract to sell gas to Western Gas Processors and expect to have it executed by December 31, 1987.

We cannot, at this time, specify a date at which gas will actually be delivered to the pipeline. The latest report indicates that Western Gas Processors pipeline and gas plant will be on line by February 15, 1988. Although Marathon is not among the first 3-4 producers who were offered a contract and will, therefore, be the first group to tie-in, we do hope to be delivering gas to the pipeline by the end of June, 1988.

We appreciate your continued cooperation in dealing with this matter. We will notify your office if there are any significant changes in the outlook for a contract and tie-in to WGP's pipeline.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'W. T. Reish'.

W. T. Reish
Casper Operations Superintendent

WTR/TMB:jl
Attachments

cc: R. P. Meabon
D. G. Carlson
E. E. Wadleigh
State of Utah
Division of Oil, Gas and Mining

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

McCracken Spring

9. WELL NO.

1-31

10. FIELD AND POOL, OR WILDCAT

McCracken Spring

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

Sec. 31, T37S, R24E

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.)

RECEIVED
APR 12 1988

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P. O. Box 2690, Cody, Wyoming 82414

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
At surface
2140' FNL & 940' FEL

DIVISION OF
OIL, GAS & MINING

14. PERMIT NO.
43-037-30956

15. ELEVATIONS (Show whether dr., rt., ca., etc.)
5696' KB

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF
FRACTURE TREAT
SHOOT OR ACIDIZE
REPAIR WELL
(Other)
PULL OR ALTER CASING
MULTIPLE COMPLETE
ABANDON*
CHANGE PLANS

WATER SHUT-OFF
FRACTURE TREATMENT
SHOOTING OR ACIDIZING
(Other) See Below
REPAIRING WELL
ALTERING CASING
ABANDONMENT*

(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.)

On March 29, 1988, verbal approval to flare gas at the above referenced well during a maintenance shut-down of Western Gas' gathering line was granted by Mr. Dale Manchester, BLM, Moab to Frank Krugh, Marathon. The shut-down is scheduled to last approximately 24 hours. Flared amounts will be reported on the Monthly Report.

BLM-Orig & 3--cc: UDOGM-2, WRF, FMK, WTR, JLS, Title & Contract (Houston)

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

SIGNED

R.P. Meador

TITLE Regulatory Coordinator

DATE March 29, 1988

(This space for Federal or State office use)

APPROVED BY

ACCEPTED

TITLE

BRANCH OF FLUID MINERALS
MOAB DISTRICT

DATE

APR 05 1988

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

PER

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P. O. Box 2690, Cody, Wyoming 82414

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface
2140' FNL & 940' FEL

14. PERMIT NO.
43-037-30956

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5683' GL

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
McCracken Springs

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
McCracken Springs

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T37S, R24E

12. COUNTY OR PARISH
San Juan

13. STATE
Utah

RECEIVED
FEB 19 1989

DIVISION OF
OIL, GAS & MINING

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>See Below</u> <input checked="" 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.)

*Suspense
SLS
5-14-89*

On Wednesday February 1, 1989, a 57 barrel oil spill was found on location at the above referenced well. All oil was contained on the original well location and all of the oil was recovered on Thursday, February 2, 1989. The BLM was notified and were on location during cleanup operations.

BLM-Orig & 3--cc: SUDOGM-2, WRF, FMK, GBP, TKS, Title & Contract (Houston)

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

SIGNED RPM TITLE Regulatory Coordinator DATE February 3, 1989

(This space for Federal or State office use)

APPROVED BY NOTED TITLE Branch of Fluid Minerals DATE FEB 8 1989

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-51846
2. NAME OF OPERATOR Marathon Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O., Box 2690, Cody, Wyoming 82414		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with all State requirements. See also space 17 below.) At surface 2140' FNL & 940' FEL		8. FARM OR LEASE NAME McCracken Springs
14. PERMIT NO. 43-037-30956		9. WELL NO. 1-31
		10. FIELD AND POOL, OR WILDCAT McCracken Springs
15. ELEVATIONS (Show whether WELLS & MINING) 5683' GL		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 31, T37S, R24E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

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AUG 09 1989

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input checked="" type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>

(Other) See Below

(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.)*

Marathon Oil Company requests approval to fracture stimulate the above referenced well by following the attached procedure.

BLM-Orig & 3--cc: SUDOGM-2, WRE, FMK, TKS, Title & Contract (Houston)

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

SIGNED RPM TITLE Regulatory Coordinator DATE July 19, 1989

(This space for Federal or State office use)

APPROVED BY [Signature] TITLE District Mgr DATE 8/1/89

CONDITIONS OF APPROVAL, IF ANY:

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

*See Instructions on Reverse Side

DATE: 8-15-89

McCracken Spring #1-31
2140' FNL, 940' FEL
Section 31, T37S, R24E
San Juan County, Utah

WELL DATA

Elevations: 5,683' GL; 5,696' KB
Depths: 6,370' TD; 6,140' PBTB
Casing Record: 9-5/8", 40#, K-55 and N-80 set at 1,893'
7", 26#, K-55 set at 6,370'
Tubing Record: 195 jts. 2-7/8", 6.5#, N-80
Perforations: Upper Ismay: 6,054-60' (squeezed)
6,060-65'
6,073-90'
6,095-106'
6,111-14'
Cement Top: 1,714' KB per CBL

PROCEDURE SUMMARY

This procedure proposes fracing the Upper Ismay perforations using 20,000 gallons Versagel frac fluid and a total of 47,700# of 20/40 Intermediate Strength proppant. A nonionic surfactant (EnWaR-288) and 5% Methanol will be included to reduce surface tension in an effort to alleviate potential problems with emulsions, waterblocks, and wettability.

PROCEDURE

1. MIRU pulling unit. Set two 400 bbl. tanks and fill with fresh water.
2. Unseat pump and hot oil rods and tubing. POOH with rods and pump.
3. NU 10,000# BOPE.
4. POOH with 2-7/8" tubing. If tubing appears stressed, pressure test to 6,500 psi prior to frac by dropping SV into SN when packer is set on Step 6.
5. PU bit and scraper dressed for 7", 26# casing. RT bit and scraper to PBTB (at approximately 6,140') while rabbiting the tubing. *If no evidence of perforations when pulling rods, don't set the head to rabbit 7/8".*
6. PU RTTS packer (or equivalent). RIH and set packer at 5,870' KB. *TJS 7/3*
7. Rig up fracturing service company. Fill backside with 2% KCl water and pressure to 1,000 psi. Annulus is to be monitored during the frac job.
8. Test lines to 6,500 psi. (Maximum anticipated injection pressure is 5,500 psi WHP; IY of 2-7/8", 6.5#, N-80 = 10,570 psi with no safety/derating factor.)

9. Frac Upper Ismay with 20,000 gallons Versagel 1400 and 47,700# 20/40 Intermediate Strength proppant at 20 BPM and an anticipated wellhead pressure of 5,500 psi utilizing the following schedule (gel break time should be 4 hours):

- a) 10,000 gallons pad;
- b) 6,000 gallons gel with 23,700# 20/40 ISP ramped from 2-6 #/gal;
- c) 4,000 gallons gel with 24,000# proppant at 6 #/gal; and
- d) 1,500 gallons flush.

Rig down fracturing service company. Check for fill across perfs with sand-line and sinker bars.

10. Rig up to swab. Swab well to rental tanks until BS is 0.3%, gel has broken and a stabilized rate has been achieved. Check and record pH, R_w , rates, cuts, and fluid levels hourly. Emphasis should be placed on getting frac fluid back unless sand-fill is severely reducing inflow. First day swabbing drawdown should be minimized ($\pm 4,800'$).
11. If it was determined that the perfs were covered by sand-fill in Step 9, POOH with packer, PU hydrostatic bailer, and clean out sand to PBTD. POOH and LD bailer.
12. RIH with production equipment. Place well back on pump.
13. RD pulling unit.



P.O. Box 2690
Cody, Wyoming 82401
Telephone 307/582-1661

RECEIVED

Division of
OIL, GAS & MINING

September 11, 1989

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

Gentlemen:

Enclosed please find an updated site security diagram for the well listed on the drawing.

Updated diagrams will be resubmitted if additional modifications are made. If you have any questions feel free to contact this office at the above address and/or telephone number.

Sincerely,

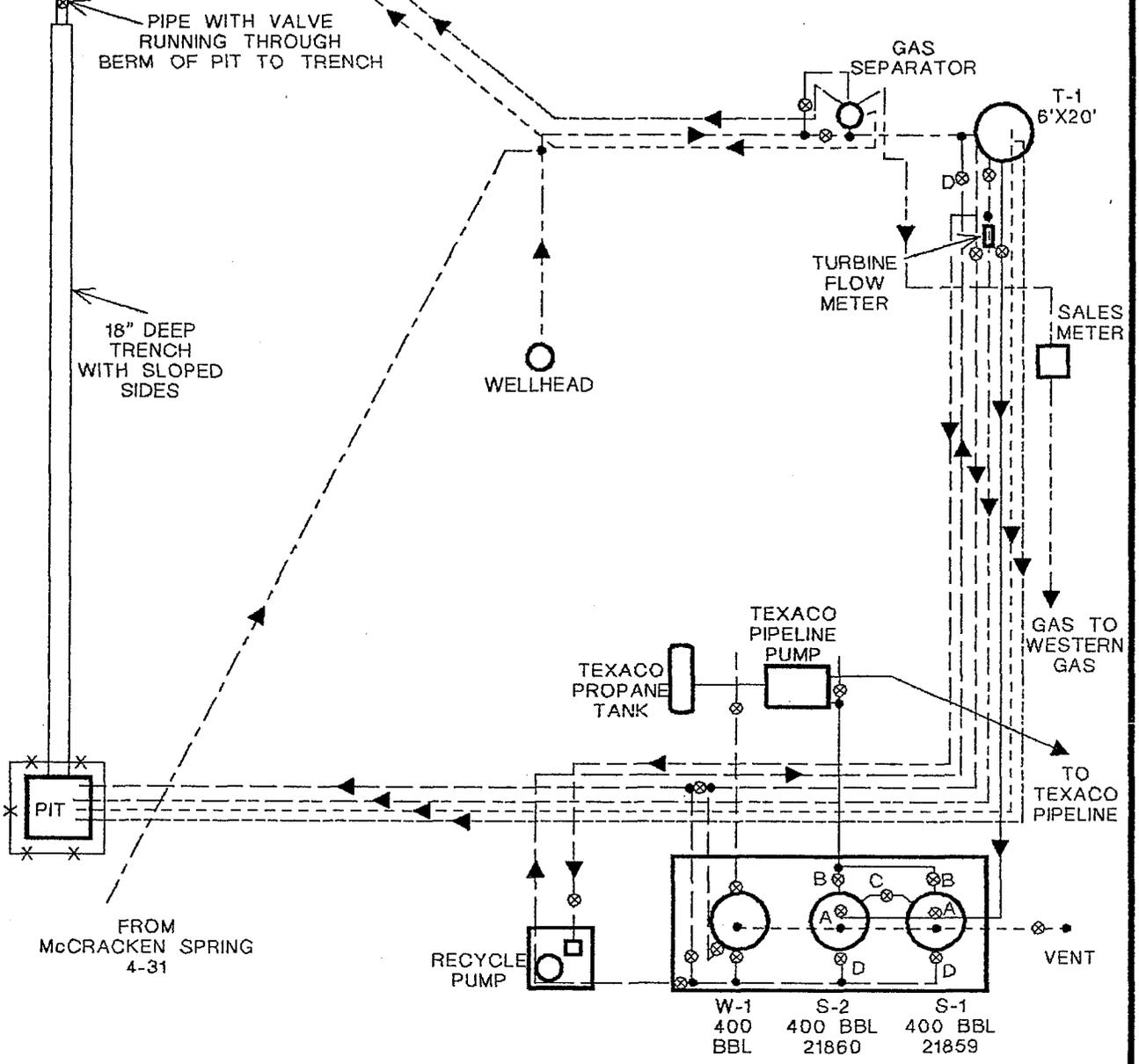
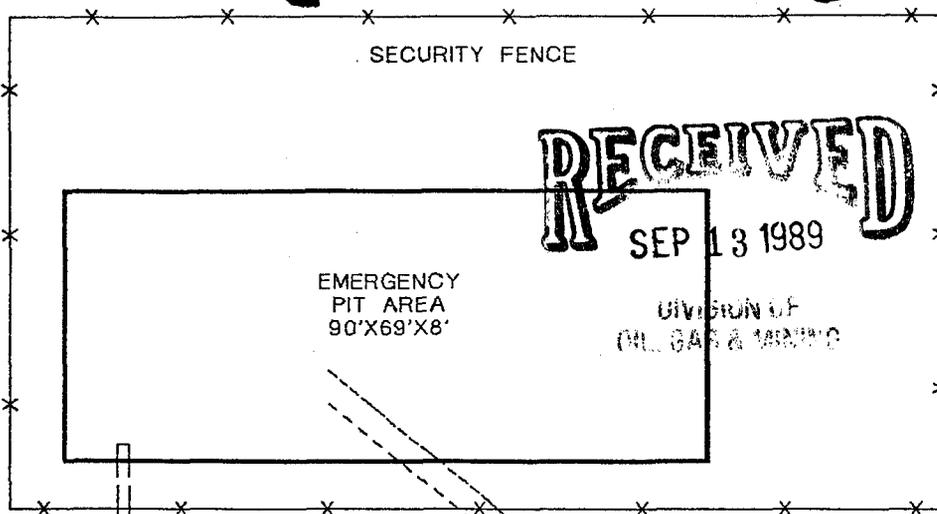
MARATHON OIL COMPANY

R. P. Meabon
Regulatory Coordinator
Rocky Mountain Region

RPM/FMK/rrm

Enclosure

OIL A	
DRN	
JRB	SLH
DTS	SLS
1-	MICROFILM ✓
2-	FILE



MOC-OPERATOR
 SUBJECT TO MOC'S SITE SECURITY
 PLAN LOCATED AT THE SUPT.OFFICE.

Approvals:
[Signature] -Production Foreman
[Signature] -Production Supt.

- LEGEND**
- OIL/CONDENSATE
 - RUPTURE
 - EMULSION
 - RECYCLE/REJECT
 - GAS OFF
 - GAS FUEL
 - POP OFF
 - WATER OFF & DRAIN
 - ⊗ VALVE
 - ⊠ PUMP
 - A,B,C, etc. SEALED VALVES

MARATHON OIL COMPANY
 ROCKY MOUNTAIN REGION

McCRACKEN SPRING FIELD
 SAN JUAN COUNTY, UTAH

FED. LEASE #U-51846
SE NE SEC. 31, T37S, R24E
43-037-30956
McCRACKEN SPRING 1-31 &
4-31 BATTERY

NOT TO SCALE 7/89

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

5. LEASE DESIGNATION AND SERIAL NO. U-51846
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME McCracken Spring
9. WELL NO. 1-31
10. FIELD AND POOL, OR WILDCAT McCracken Spring
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 31, T37S, R24E
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.)

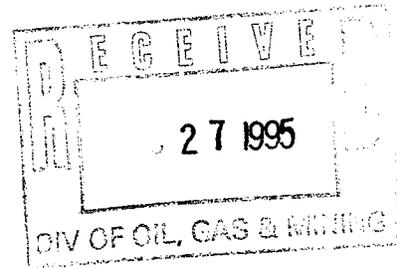
1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>
2. NAME OF OPERATOR Robert L. Bayless, Producer LLC
3. ADDRESS OF OPERATOR P.O. Box 168 Farmington, New Mexico 87499
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 2140' FNL & 940' FEL
14. API NUMBER 43037-30956
15. ELEVATIONS (Show whether DF, RT, GR, etc.)

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

NOTICE OF INTENTION TO :		SUBSEQUENT REPORT OF :	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) Operations		(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.)*

Robert L. Bayless, Producer LLC has taken over operations of this well effective December 1, 1995.



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

SIGNED Tom R. McCarty TITLE Petroleum Engineer DATE 12/20/95

(This space for Federal or State office use)

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

FORM 8

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells. Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER: _____		5. Lease Designation and Serial Number: U-51846
2. Name of Operator: Marathon Oil Company		6. Indian, Alutian or Tribe Name: _____
3. Address and Telephone Number: P. O. Box 552, Midland, TX 79702 (915) 682-1626		7. Unit Agreement Name: _____
4. Location of Well Footages: 2,140' FNL & 940' FEL Co. Sec., T., R., M.: _____		8. Well Name and Number: 1-31
		9. API Well Number: 43-037-30956
		10. Field and Pool, or Wildcat: McCracken Spring
		County: San Juan State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT (Submit in Duplicate)	SUBSEQUENT REPORT (Submit Original Form Only)
<input type="checkbox"/> Abandon <input type="checkbox"/> Repair Casing <input type="checkbox"/> Change of Plans <input type="checkbox"/> Convert to Injection <input type="checkbox"/> Fracture Treat or Acidize <input type="checkbox"/> Multiple Completion <input type="checkbox"/> Other _____	<input type="checkbox"/> Abandon* <input type="checkbox"/> Repair Casing <input type="checkbox"/> Change of Plans <input type="checkbox"/> Convert to Injection <input type="checkbox"/> Fracture Treat or Acidize <input type="checkbox"/> Other _____
<input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Recomplete <input type="checkbox"/> Perforate <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off	<input type="checkbox"/> New Construction <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Perforate <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Water Shut-Off
Approximate date work will start _____	Date of work completion _____
	Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form. * Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Marathon Oil Company sold this well to new operator Robert Bayless, effective date 12-1-95.

Post-it* Fax Note	7671	Date	# of pages 2
To	Lisha Cordova	From	R. Meritt
Co./Dept.		Co.	
Phone #		Phone #	915-687-8292
Fax #	801/359-3940	Fax #	

13. Name & Signature: Robert Meritt Title: Engineering Technician Date: 7/30/96

(This space for State use only)

Form 3160-5
(June 1990)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUBMIT IN TRIPLICATE

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.
U-51846

6. If Indian, Allottee or Tribe Name
NA

7. If Unit or CA, Agreement Designation
NA

8. Well Name and No.
I-31, 4-31

9. API Well No. 4303730956
4303731393

10. Field and Pool, or Exploratory Area
McCracken Spring

11. County or Parish, State
San Juan, Utah

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
Robert L. Bayless, Producer LLC

3. Address and Telephone No.
PO Box 168, Farmington NM 87488 505-326-2659

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
#1-31: 2140' FNL and 940' FEL, SENE Sec. 31, T. 37 S., R. 24 E.
#4-31: 2365' FNL and 1320' FEL(Surf.)
2162' FNL and 1509' FEL(BHL), Sec. 31, T. 37 S., R. 24 E.

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Change of Operator</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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.)

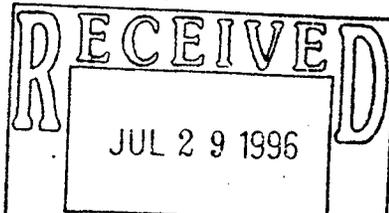
CHANGE OF OPERATOR

Robert L. Bayless, Producer LLC is taking over operations of the above captioned wells.

Robert L. Bayless, Producer LLC is responsible under the terms and conditions of the lease for operations conducted on the leased lands or portions thereof.

Bond coverage for the wells is provided by BLM Bond No. 71S40023024BCA NUM883

Effective Date: December 1, 1995



DIV. OF OIL, GAS & MINING
Date 07/23/96

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

Signed [Signature]
(This space for Federal or State office use)
Approved by Isi Brad D. Palmer
Conditions of approval, if any:

Title Petroleum Engineer
Assistant Field Manager,
Title Resource Management Date _____

CONDITIONS OF APPROVAL ATTACHED

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.

*See instruction on Reverse Side

Robert L. Bayless, Producer LLC
Well Nos. 1-31, 4-31
Sec. 31, T. 37 S., R. 24 E.
San Juan County, Utah
Lease U-51846

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that Robert L. Bayless, Producer LLC is considered to be the operator of the above wells and is responsible under the terms and conditions of the lease for the the operations conducted on the leased lands.

Bond coverage for this well is provided by NM0883 (Principal - Robert L. Bayless, Producer LLC) via surety consent as provided for in 43 CFR 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing:

1-LEC 7-FILM	✓
2-DTS 8-FILE	✓
3-VLD	✓
4-RJT	✓
5-LEC	✓
6-SJ	✓

Attach all documentation received by the division regarding this change.
 Initial each listed item when completed. Write N/A if item is not applicable.

- Change of Operator (well sold) Designation of Agent
 Designation of Operator Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 12-1-95)

TO (new operator)	<u>BAYLESS, ROBERT L PROD LLC</u>	FROM (former operator)	<u>MARATHON OIL COMPANY</u>
(address)	<u>PO BOX 168</u>	(address)	<u>PO BOX 552</u>
	<u>FARMINGTON NM 87499</u>		<u>MIDLAND TX 79702</u>
	<u>TOM MCCARTHY, PE</u>		
	phone <u>(505) 326-2659</u>		phone <u>(915) 687-8155</u>
	account no. <u>N7950 (2-14-96)</u>		account no. <u>N 3490</u>

Well(s) (attach additional page if needed):

*Name:	<u>MCCRACKEN SPRING 1-31</u>	API:	<u>43-037-30956</u>	Entity:	<u>8431</u>	Sec:	<u>31</u>	Twp:	<u>37S</u>	Rng:	<u>24E</u>	Lease Type:	<u>U51846</u>
Name:	<u>MCCRACKEN SPRING 4-31</u>	API:	<u>43-037-31393</u>	Entity:	<u>8431</u>	Sec:	<u>31</u>	Twp:	<u>37S</u>	Rng:	<u>24E</u>	Lease Type:	<u>U51846</u>
Name:	_____	API:	_____	Entity:	_____	Sec:	_____	Twp:	_____	Rng:	_____	Lease Type:	_____
Name:	_____	API:	_____	Entity:	_____	Sec:	_____	Twp:	_____	Rng:	_____	Lease Type:	_____
Name:	_____	API:	_____	Entity:	_____	Sec:	_____	Twp:	_____	Rng:	_____	Lease Type:	_____
Name:	_____	API:	_____	Entity:	_____	Sec:	_____	Twp:	_____	Rng:	_____	Lease Type:	_____

OPERATOR CHANGE DOCUMENTATION

- 1 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). *(Reg. 12-28-95) (Reg. 2-12-96) (Reg. 7-23-96) (Rec'd 7-31-96)*
- 2 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). *(Rec'd 12-22-95)*
- N/A 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____.
- 2 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.
- 2 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. *(7-29-96)*
- 2 6. Cardex file has been updated for each well listed above. *(7-29-96)*
- 2 7. Well file labels have been updated for each well listed above. *(7-29-96)*
- 2 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. *(7-29-96)*
- 2 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- lec 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) ____ (If entity assignments were changed, attach copies of Form 6, Entity Action Form).
- N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only)

- N/A / lec 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
- ____ 2. A copy of this form has been placed in the new and former operators' bond files.
- ____ 3. The former operator has requested a release of liability from their bond (yes/no) ____ . Today's date _____ 19____. If yes, division response was made by letter dated _____ 19____.

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

- N/A / BT S / 8/1/96 1. (Rule R615-2-10) The former operator/lessee of any **fee lease** well listed above has been notified by letter dated _____ 19____, of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
- N/A 2. Copies of documents have been sent to State Lands for changes involving **State Leases**.

FILMING

VDR 1. All attachments to this form have been microfilmed. Date: August 8 1996.

FILING

- ____ 1. Copies of all attachments to this form have been filed in each well file.
- ____ 2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

960729 Btm/mcab Apr. 7-24-96 & 12-1-95.

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

5. LEASE DESIGNATION AND SERIAL NO.
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
MCCRACKEN SPRING

9. WELL NO.
1-31

10. FIELD AND POOL, OR WILDCAT
MCCRACKEN SPRING

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
SEC. 31, T37S, R24E

12. COUNTY OR PARISH
SAN JUAN

13. STATE
NM

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
ROBERT L. BAYLESS, PRODUCER LLC

3. ADDRESS OF OPERATOR
P.O. BOX 168 FARMINGTON, NM 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
2140' FNL & 940' FEL

14. API NUMBER
43-037-30956

15. ELEVATIONS (Show whether DF, RT, OR, etc.)
5683' GL

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	FULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input checked="" type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input 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.)

We plan to perforate and stimulate additional Upper Ismay Zones according to the attached procedure.

COPY SENT TO OPERATOR
Date: 1-26-2000
Initials: CHD

RECEIVED
JAN 24 2000
DIVISION OF
OIL, GAS AND MINING

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

SIGNED: [Signature] TITLE: Petroleum Engineer DATE: 1/20/00

(This space for Federal or State office use)

APPROVED BY: _____ TITLE: **Utah Division of Oil, Gas and Mining** DATE: _____

CONDITIONS OF APPROVAL, IF ANY:

FOR RECORD ONLY
*See Instructions on Reverse Side
Federal Approval of this Action is Necessary

Robert L. Bayless
McCracken Springs No. 1-31
SENE Sec. 31, T37S, R24E
San Juan County, Utah
Workover Procedure

Well details: See attached wellbore diagram.

Purpose: Open additional pay and clean out to PBD if necessary.

Procedure:

1. Check for rig anchors. Save up produced water.
2. Catch plunger and disconnect plunger lift equipment. Truck 4 joints 2 7/8" tubing to location.
3. Move in Key Well Service with BOP, pump, and pit. Rig up. Haul clean produced water to pit from Dalmore or Knockdhu locations.
4. Kill well. Nipple up BOP. Release tubing anchor and trip out one stand to be sure tubing is free. Trip in with tubing and tag up. Trip out with tubing and tally on the way out. If perfs appear to be covered with fill, order out a bailer.
5. If necessary based on the previous step, trip in with a bailer and clean out to the cement retainer at 6144'. Trip out with bailer.
6. Rig up Blue Jet. Perforate density log intervals 6027-6036' at 4 spf and 6040-6048' at 4 spf.
7. Trip in with tubing and Arrow straddle packer assembly. The packer assembly should have 14' between packers. Rig up Dowell. Circulate acid to bottom of tubing. Set lower packer at 6038' and the upper packer at 6024'. Acidize perfs 6027-6036' with 2500 gallons 20% HCl, containing 2 gal/mgal A261, 1 gal/mgal W54, 5 gal/mgal U42 and 10 lb/mgal L58. Displace with 1594 gallons water, (overdisplaced with 3 bbls.) Do not exceed 3 BPM or 520 PSI.
8. Release packer assembly. Trip in. Circulate acid to bottom of tubing. Set lower packer at 6052' and upper packer at 6038'. Acidize perfs 6027-6036' with 2000 gallons 20% HCl, containing 2 gal/mgal A261, 1 gal/mgal W54, 5 gal/mgal U42 and 10 lb/mgal L58. Displace with 1597 gallons water, (overdisplaced with 3 bbls.) Do not exceed 3 BPM or 520 PSI.
9. Trip out with packer and plug. Trip in with tubing to produce. Swab well in.

Notes: 2 7/8" 4.6# N80 tubing 10,570 psi yield, 11,169 psi collapse. .2431 gal/ft., .00579 bbl/ft.
7" 26# K55 casing. 4,980 psi yield, 4,320 psi collapse. 1.607 gal/ft., .0382 bbl/ft.

Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.



1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other	3. Well Name and No. McCracken Springs 1-31
2. Name of Operator Robert L. Bayless, Producer LLC	9. API Well No. 43-037-30956
3a. Address PO Box 168, Farmington, NM 87499	10. Field and Pool, or Exploratory Area McCracken Springs
3b. Phone No. (include area code) (505) 326-2659	11. County or Parish, State San Juan, Utah
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2140' FNL & 940' FEL, Sec. 31, T37S, R24E	

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, A Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Bayless plans to dispose of some of its produced water at the City of Blanding, Utah for dust control. Some of the water will still be disposed of at Tincup Mesa or Lisbon Valley Hazmat.

COPY SENT TO OPERATOR
Date: 7-3-02
Initials: CHD

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 7-2-02
BY: [Signature]
Attached Conditions

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

Name (Printed/Typed) THOMAS MCCARTHY	Title ENGINEER
Signature <u>[Signature]</u>	Date 6/10/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operation thereon.	Office	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED

Federal Approval of this
is Required

JUN 10 2002

DIVISION OF
OIL, GAS AND MINING

**Sundry Notice
Approval Conditions**

Well Names: Deadman Canyon Federal 1-28, 1-20, 2-20
McCracken Springs 1-31, 4-31

Sundry Date: 6-10-02

Proposed Action: Use of Produced Water for Dust Control

Conditions of Approval:

This is a temporary approval, for one year, issued due to drought conditions being experienced in Utah. Refer to the attached letter from the Utah Division of Water Quality concerning restricted use by the City of Blanding.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.
U-51846

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. McCracken Springs 1-31
2. Name of Operator Robert L. Bayless, Producer LLC		9. API Well No. 43-037-30956
3a. Address PO Box 168, Farmington, NM 87499	3b. Phone No. (include area code) (505) 326-2659	10. Field and Pool, or Exploratory Area McCracken Springs
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2140' FNL & 940' FEL, Sec. 31, T37S, R24E		11. County or Parish, State San Juan, Utah

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input checked="" type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, A Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

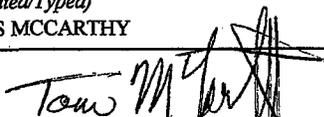
Bayless plans to dispose of some of its produced water at the City of Blanding, Utah for dust control. Some of the water will still be disposed of at Tincup Mesa or Lisbon Valley Hazmat.

RECEIVED

JUN 14 2002

**DIVISION OF
OIL, GAS AND MINING**

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

Name (Printed/Typed) THOMAS MCCARTHY	Title ENGINEER
Signature 	Date 6/10/02

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operation thereon.	Office	

Title 18 U.C.S. Section 1001 and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

288 North 1460 West
P.O. Box 144870
Salt Lake City, Utah 84114-4870
(801) 538-6146
(801) 538-6016 Fax
(801) 536-4414 T.D.D.
www.deq.state.ut.us Web

Michael O. Leavitt
Governor
Dianne R. Nielson, Ph.D.
Executive Director
Don A. Ostler, P.E.
Director

Water Quality Board
K.C. Shaw, P.E.
Chairman
William R. Williams
Vice-Chairman
Robert G. Adams
Nan Bunker
Ray M. Child, C.P.A.
John R. Cushing, Mayor
Neil K. Kochenour, M.D.
Dianne R. Nielson, Ph.D.
Ronald C. Sims, Ph.D.
Douglas E. Thompson, Mayor
J. Ann Wechsler
Don A. Ostler, P.E.
Executive Secretary

June 26, 2002

Mr. Lowell Braxton, Director
Division of Oil, Gas and Mining
Department of Natural Resources
1594 W North Temple, Suite 1210
Salt Lake City, UT 84114-5801

Lowell
Dear Mr. Braxton:

Subject: Use of brine for dust suppression

This is in regards to a request made by the City of Blanding to use produced water on an unpaved road for dust suppression and to allow the road to be graded and recompacted to remove washboard. This request, as explained by Mr. Danny Fleming, City Water Superintendent, is related to the severe draught currently being experienced in southern Utah resulting in the unavailability of other sources of water.

The Division of Water Quality is certainly sensitive to the problems and special needs of rural communities of the State being brought on by the draught. We understand the brine will be used very conservatively based on the cost of transport. Therefore, we would not expect any runoff or pooling of brine to create any significant surface or ground water quality risk. Furthermore, the brine would be applied to less than one mile of roadway, and only for this year, assuming the draught will hopefully end.

Based on the above, we have no objection to the City applying the brine according to the restrictions contained herein. This is not to be construed as a precedent for the indiscriminant or otherwise unauthorized disposal of produced water from oil and gas wells.

Sincerely,

Don A. Ostler, P.E.
Director
Utah Division of Water Quality

DAO:FCP:bjr

Fpehrson\wp\producedwater a.doc

RECEIVED

JUN 27 2002

**DIVISION OF
OIL, GAS AND MINING**

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

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____			5. LEASE DESIGNATION AND SERIAL NUMBER: U-51846
2. NAME OF OPERATOR: ROBERT L. BAYLESS			6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: P.O. BOX 168 CITY FARMINGTON STATE NM ZIP 87499			7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2140' FNL & 940' FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENE 31 37S 24E			8. WELL NAME and NUMBER: MCCRACKEN SPRINGS 1-31
PHONE NUMBER: (505) 326-2659			9. API NUMBER: 4303730956
COUNTY: SAN JUAN			10. FIELD AND POOL, OR WILDCAT: MCCRACKEN SPRING
STATE: UTAH			

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: <u>PERFORATE & STIMULATE</u>
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Bayless plans to perforate and stimulate additional upper Ismay zones according to the attached procedure. Bayless originally proposed and received approval for this work in January, 2000, but it was deferred.

RECEIVED
FEB 04 2003
DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) <u>Tom McCarthy</u>	TITLE <u>Engineer</u>
SIGNATURE	DATE <u>1/29/2003</u>

(This space for State use only)

Robert L. Bayless
McCracken Springs No. 1-31
SENE Sec. 31, T37S, R24E
San Juan County, Utah
Workover Procedure

Well details: See attached wellbore diagram.

Purpose: Open additional pay and clean out to PBD if necessary.

Procedure:

1. Check for rig anchors. Save up produced water.
2. Catch plunger and disconnect plunger lift equipment. Truck 4 joints 2 7/8" tubing to location.
3. Move in workover rig with BOP, pump, and pit. Rig up. Haul clean produced water to pit from location or from the Dalmore battery. Or from other Bayless locations.
4. Kill well. Nipple up BOP. Release tubing anchor and trip out one stand to be sure tubing is free. Trip in with tubing and tag up. Trip out with tubing and tally on the way out. If perfs appear to be covered with fill, order out a bailer.
5. If necessary based on the previous step, trip in with a bailer and clean out to the cement retainer at 6130'. Trip out with bailer.
6. Rig up Blue Jet. Perforate density log intervals 6027-6036' at 4 spf and 6040-6048' at 4 spf.
7. Trip in with tubing and Weatherford straddle packer assembly. The packer assembly should have 14' between packers. Rig up Schlumberger. Circulate acid to bottom of tubing. Set lower packer at 6052' and upper packer at 6038'. Acidize perfs 6040-6048' with 2000 gallons 20% HCl, containing 2 gal/mgal A261, 1 gal/mgal W54, 5 gal/mgal U42 and 10 lb/mgal L58. Do not exceed 3 BPM or 520 PSI.
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Notes: 2 7/8" 4.6# N80 tubing 10,570 psi yield, 11,169 psi collapse. .2431 gal/ft., .00579 bbl/ft.
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STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

5. LEASE DESIGNATION AND SERIAL NUMBER:
U-51846

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

SUNDRY NOTICES AND REPORTS ON WELLS

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MCCRACKEN SPRINGS 1-31

9. API NUMBER:
4303730956

1. TYPE OF WELL OIL WELL GAS WELL OTHER _____

2. NAME OF OPERATOR:
ROBERT L. BAYLESS

3. ADDRESS OF OPERATOR: PHONE NUMBER:
P.O. BOX 168 CITY **FARMINGTON** STATE **NM** ZIP **87499** **(505) 326-2659**

10. FIELD AND POOL, OR WILDCAT:
MCCRACKEN SPRING

4. LOCATION OF WELL COUNTY: **SAN JUAN**
FOOTAGES AT SURFACE: **2140' FNL & 940' FEL**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SENE 31 37S 24E** STATE: **UTAH**

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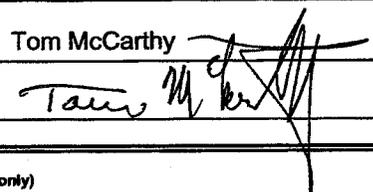
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FEB 04 2003

DIV. OF OIL, GAS & MINING

NAME (PLEASE PRINT) Tom McCarthy TITLE Engineer
SIGNATURE  DATE 1/29/2003

(This space for State use only)

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

FORM 9

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U-51846

SUNDRY NOTICES AND REPORTS ON WELLS

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3. ADDRESS OF OPERATOR:
P.O. BOX 168 CITY **FARMINGTON** STATE **NM** ZIP **87499**

PHONE NUMBER:
(505) 326-2659

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COUNTY: **SAN JUAN**

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: **SENE 31 37S 24E**

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NAME (PLEASE PRINT) **Tom McCarthy**

TITLE **Engineer**

SIGNATURE *Tom McCarthy*

DATE **1/29/2003**

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SIGNATURE	DATE <u>1/29/2003</u>

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