

APPLICATION NO. 85-05-17
DISTRIBUTION SYSTEM

Application For Temporary Change of Point of Diversion, Place or Purpose of Use

RECEIVED

STATE OF UTAH

NOV 21 1985

(To Be Filed in Duplicate)

WATER RIGHTS
PRICE

Price, Utah November 15 19 85
Place Date

For the purpose of obtaining permission to temporarily change the point of diversion, place or purpose of use
(Strike out written matter not needed)

of water, the right to the use of which was acquired by 05-96 (A-24672) Cert. No. 5799
(Give No. of application, title and date of Decree and Award No.)
to that hereinafter described, application is hereby made to the State Engineer, based upon the following showing of
facts, submitted in accordance with the requirements of the Laws of Utah.

- The owner of right or application is Cecil J. Fowler Sr.
- The name of the person making this application is Cecil J. Fowler Sr.
- The post office address of the applicant is P.O. Box 1078 Moab, Utah 84532

PAST USE OF WATER

- The flow of water which has been used in second feet is 0.292
- The quantity of water which has been used in acre feet is
- The water has been used each year from March 1 to November 1, incl.
(Month) (Day) (Month) (Day)
- The water has been stored each year from to , incl.
(Month) (Day) (Month) (Day)
- The direct source of supply is Well in San Juan County.
- The water has been diverted into ditch at a point located
N. 2738 ft. & E. 1213.5 ft. from SW Cor. Sec. 11, T30S, R23E, SLB&M.
- The water involved has been used for the following purpose: Pt. of SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 11, T30S,
R23E, SLB&M; 10 Cattle, 5 Horses

Total 10.3 acres.

NOTE: If for irrigation, give legal subdivisions of land and total acreage which has been irrigated. If for other purposes, give place and purpose of use.

THE FOLLOWING TEMPORARY CHANGES ARE PROPOSED

- The flow of water to be changed in cubic feet per second is
- The quantity of water to be changed in acre-feet is 20.0
- The water will be diverted into the Reg. Reservoir at a point located
N. 2738 ft. & E. 1150 ft. from SW Cor. Sec. 11, T30S, R23E, SLB&M.
- The change will be made from November 15 19 85 to November 14 19 86
(Period must not exceed one year)
- The reasons for the change are
- The water involved herein has heretofore been temporarily changed 2 years prior to this application.
(List years change has been made)
- The water involved is to be used for the following purpose: Drilling water for exploration
purposes in the area of the well and mining and milling purposes.

Total _____ acres.

NOTE: If for irrigation, give legal subdivisions of land to be irrigated. If for other purposes, give place and purpose of proposed use.

EXPLANATORY

The water will be pumped from the well into a regulating reservoir.
Contract water haulers will then divert the water from the reservoir into
water trucks after which the water will be hauled to various places of use.

\$7.50

A filing fee in the sum of ~~\$5.00~~ is submitted herewith. I agree to pay an additional fee for either investigating or advertising this change, or both, upon the request of the State Engineer.

Cecil J. Fowler Sr.
Signature of Applicant

RULES AND REGULATIONS

(Read Carefully)

This application blank is to be used only for temporary change of point of diversion, place or nature of use for a definitely fixed period not to exceed one year. If a permanent change is desired, request proper application blanks from the State Engineer.

Application for temporary change must be filed in duplicate, accompanied by a filing fee of \$7.50. Where the water affected is under supervision of a Water Commissioner, appointed by the State Engineer, time will be saved if the Application is filed with the Commissioner, who will promptly investigate the proposed change and forward both copies with filing fee and his report to the State Engineer. Applications filed directly with the State Engineer will be mailed to the Water Commissioner for investigation and report. If there be no Water Commissioner on the source, the Application must be filed with the State Engineer.

When the State Engineer finds that the change will not impair the rights of others he will authorize the change to be made. If he shall find, either by his own investigation or otherwise, that the change sought might impair existing rights he shall give notice to persons whose rights might be affected and shall give them opportunity to be heard before acting upon the Application. Such notice shall be given five days before the hearing either by regular mail or by one publication in a newspaper. Before making an investigation or giving notice the State Engineer will require the applicant to deposit a sum of money sufficient to pay the expenses thereof.

Address all communications to:

State Engineer
State Capitol Building
Salt Lake City, Utah

STATE ENGINEER'S ENDORSEMENTS

(Not to be filled in by applicant)

Change Application No. (River System)

- 1. N.A. Application received by Water Commissioner (Name of Commissioner)
Recommendation of Commissioner
2. Nov. 21, 1985 Application received over counter by mail in State Engineer's Office by
3. Fee for filing application, \$7.50 received by ; Rec. No.
4. Application returned, with letter, to , for correction.
5. Corrected application resubmitted over counter by mail to State Engineer's Office.
6. Fee for investigation requested \$
7. Fee for investigation \$, received by ; Rec. No.
8. Investigation made by ; Recommendations:
9. Fee for giving notice requested \$
10. Fee for giving notice \$, received by ; Rec. No.
11. Application approved for advertising by publication mail by
12. Notice published in
13. Notice of pending change application mailed to interested parties by as follows:
14. Change application protested by (Date Received and Name)
15. Hearing set for , at
16. Nov. 22, 1985 Application recommended for rejection approval by
17. Nov. 22, 1985 Change Application rejected approved and returned to APPLICANT

THIS APPLICATION IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- 1.
2.
3.

Mark P. [Signature]
FOR State Engineer

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
 DRILL DEEPEN PLUG BACK
 b. TYPE OF WELL
 OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
 PanCanadian Petroleum Company

3. ADDRESS OF OPERATOR
 600 17th St, Suite 1800
 Box 929, Denver, Colorado 80201 (303) 825-8371

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface
 1912' FNL & 735' FWL (SW NW)
 At proposed prod. zone
 same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 21.4 miles Northwest of Monticello, Utah (highway distance)

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 735'
 16. NO. OF ACRES IN LEASE 1310

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. ---
 19. PROPOSED DEPTH 5000'

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6368' GR

5. LEASE DESIGNATION AND SERIAL NO.
 U-499985 A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
 N/A

7. UNIT AGREEMENT NAME
 N/A

8. FARM OR LEASE NAME
 Big Knife Federal 12-8

9. WELL NO.
 #1

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T. R., M., OR BLK. AND SURVEY OR AREA
 Sec 8 T32S R23E

12. COUNTY OR PARISH 13. STATE
 San Juan Utah

17. NO. OF ACRES ASSIGNED TO THIS WELL
 40

20. ROTARY OR CABLE TOOLS
 Rotary

22. APPROX. DATE WORK WILL START*
 October 1, 1986

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13-3/8"	J-55, 54.5#	120'	200 sx Class "B" w/additives
12-1/4"	9-5/8"	J-55, 36#	1100'	235 sx lite + 100 sx Class "B"
8-3/4"	5-1/2"	J-55, 17#	5000'	185 sx Class "H" + 320 sx Class "H"

1. Drill 17-1/2" hole and set 13-3/8" surface casing to 120' with good returns.
2. Log B.O.P. checks in daily drill reports and drill 12-1/4" hole to 1100'.
3. Run 9-5/8" casing.
4. Drill 8-3/4" hole to 5000 feet. Run tests and set 5-1/2" casing if productive.
5. Run logs, as needed, and perforate and stimulate as needed.

EXHIBITS ATTACHED:

"A"	Location and Elevation Plat	"G" & "G1" Drill Pad Layout, cut-fill
"B"	Drilling Program	Cross sections
"C"	Blowout Preventer Diagram	"H" Drill Rig Layout
"D"	Surface Use Program	
"E" & "E1"	Access Road Maps	
"F"	Radius Map of Field	

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 James D. Keisling TITLE Coord., Eng. Operations DATE 7/28/86
 (This space for Federal or State office use)

PERMIT NO. 43-037-31277 APPROVAL DATE _____

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

APPROVED BY THE STATE
 OF UTAH DIVISION OF
 OIL, GAS, AND MINING
 DATE 9-13-86
 BY: John R. Boy
 WELL SPACING: 302

*See Instructions On Reverse Side

Cecil Fowler Jr.
P.O. BX, 68
Monticello, Utah
Sept 6, 1986

Utah State Water Engineer
Mr. Mark Page

To whom it may concern or be of
interest, know by these words herein
written that Kappen - Rukter, more
specific "Mr. D.W. Rukter" has my
permission to haul water from my
well at Patch wash in Dry Valley
for drilling purposes to the pan
Canadian petroleum site.

Cecil Fowler Jr.



Powers Elevation, Inc.

OIL WELL ELEVATIONS-LOCATIONS
ENVIRONMENTAL-ARCHAEOLOGICAL SERVICES
P.O. Box 2612
Denver, Colorado 80201-2612
Phone 303/321-2217
Toll Free 1-800-824-2550

September 8, 1986

Utah Department of Natural Resources
Division of Oil, Gas and Mining
4241 State Office Building
Salt Lake City, UT 84114

RECEIVED
SEP 10 1986

**DIVISION OF
OIL, GAS & MINING**

RE: Application to Drill
PanCanadian Petroleum Company
Big Knife Federal 12-8 #1
SW1/4NW1/4 Section 8, T.32S., R.23E.
1,912 feet FNL and 735 feet FWL
San Juan County, Utah

Gentlemen:

Enclosed are three copies of Federal APD Form 3160-3, the Location and Elevation Plat, the Drilling Program (Exhibit B) and the Blowout Preventer Diagram for the above-referenced well.

A copy of an approved water permit will be sent under separate cover. A statement regarding waste and trash disposal plan has been sent to Utah Department of Health. This program does not utilize any county roads or lands; therefore no county agencies are involved.

If you have any questions, please contact me at the above toll-free number.

Please return the approval to:

Mr. Jim Keisling
PanCanadian Petroleum Company
Box 929
Denver, CO 80201

Sincerely,

POWERS ELEVATION, INC.

Connie L. Frailey /Mx
Connie L. Frailey
Vice President, Environmental Services

cc: Mr. Jim Keisling

enclosures

A Subsidiary of Petroleum Information Corporation

COMPANY PAN-CANADIAN PETROLEUM

EXHIBIT "A" -LOCATION PLAT

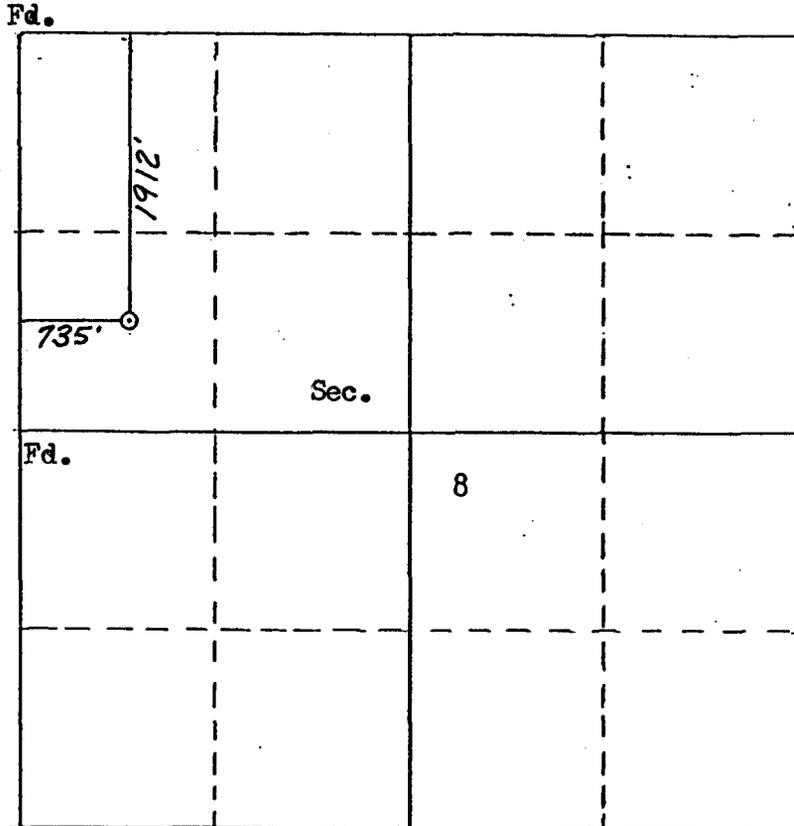
LEASE BIG KNIFE FEDERAL 12-8 WELL NO. 1

SEC. 8, T. 32S, R. 23E

County: San Juan State: Utah

LOCATION 1912'FNL & 735'FWL

ELEVATION 6368



SCALE—4 INCHES EQUALS 1 MILE

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



SEAL:

William E. McKinley II
Registered Land Surveyor
N.M. P.L.S. No. 8466

SURVEYED July 1, 1986

Powers Elevation
P.O. Box 2612
Denver, Colorado 80201-2612

RECEIVED
SEP 10 1986

**DIVISION OF
OIL, GAS & MINING**

RE: PanCanadian Petroleum Company
Big Knife Federal 12-8 #1
SW NW Sec 8 T32S R23E
1912' FNL & 735' FWL
San Juan County, Utah

Gentlemen:

This is to confirm our understanding with you that Powers Elevation is authorized to act as our agent in the following capacities:

- A. In surveying, staking, and preparing and filing applications for necessary drilling and associated permits, including Form 3160-3 and Drilling Plan, for the above-referenced well.
- B. In accepting on our behalf any changes to location, proposed facilities and/or surface use program and compliance program requested at on-site inspections, when we are unable to have a Company representative present. Such changes will then be binding upon us or designated Operator.

POWER'S responsibilities do not include construction of location or supervision of drilling, completion, rehabilitation, or production operations.

PANCANADIAN PETROLEUM COMPANY
Company

by: James D. Keisling
James D. Keisling
Title: Coord., Eng. Operations U.S.
Date: 7/28/86

EXHIBIT "B"

DRILLING PROGRAM TO

ACCOMPANY A.P.D. FORM 3160-3

Attached to Form 3160-3
PanCanadian Petroleum Company
Big Knife Federal 12-8 #1
SW NW Sec 8 T32S R23E
1912' FNL & 735' FWL
San Juan County, Utah

1. The Geologic Surface Formation

The surface formation is the Navajo Sandstone.

2. Estimated Tops of Important Geologic Markers.

Cutler	1716'
Honaker Trail	3436'
Upper Ismay	4586'
Lower Ismay	4726'
Desert Creek	4836'
Total Depth	5000'

3. Estimated Depths (Tops & Bottoms) of Anticipated Water, Oil, Gas or Minerals and Lessee's or Operator's Plans for Protection

	<u>Tops</u>	<u>Bottoms</u>	
Upper Ismay	4586'	4721'	(Oil)
Lower Ismay	4726'	4838	(Oil)
Desert Creek	4836'	4916'	(Oil)

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

4. The Proposed Casing Program

<u>HOLE SIZE</u>	<u>SETTING DEPTH (INTERVAL)</u>	<u>SECTION LENGTH</u>	<u>SIZE (OD)</u>	<u>WEIGHT, GRADE</u>	<u>NEW OR USED</u>
17-1/2 "	120'	120'	13-3/4 "	J-55, 54.5#	New
12-1/4"	0-1100'	1100'	9-5/8"	J-55, 36#	New
8-3/4"	0-5000'	5000'	5-1/2"	J-55, 17#	New

Cement Program

Surface Casing: 200 sx Class "B" with 2% CaCl₂, 1/4#/sk lost circulation material. Annular volume: 120 cu ft. Hole volume: 240 cu ft. w/100% excess. Yield: 1.18 cu ft/sk; slurry weight 15.6 ppg. Circulate to surface.

Intermediate: Lead 235 sx lite, 2% CaCl₂ + 1/4#/sk lost circulation material. Annular volume: 250 cu ft. Hole volume: 425 cu ft. Yield: 1.85 cu ft/sk. Slurry weight: 12.7 ppg.

Tail 100 sx Class "B" + 2% CaCl₂ + 1/4#/sk lost circulation material. Annular volume: 120 cu ft; hole volume: 205 cu ft; yield: 1.18 cu ft/sk; slurry weight: 15.6 ppg. Circulate to surface.

Production: Lead 185 sx Class H + 4% gel and 1/4#/sk LCM. Annular volume: 200 cu ft. Hole volume: 285 cu ft w/excess; yield: 1.55 cu ft/sk; slurry weight: 14.1 ppg.

Tail 320 sx Class H + 1/4#/sk lost circulation material. Hole volume: 260 cu ft; hole volume: 375 cu ft w/excess; yield: 1.18 cu ft/sk; slurry weight: 15.6 ppg. Top: 3200'.

The San Juan Resource Area BLM will be notified one day before running casing strings. Contact at Area office is Mike Wade, 801-587-2141, (home - 801-587-2026. If unable to reach Mr. Wade, contact will be Greg Noble at District Office 801-259-6111 (Home 801-259-8811).

5. The Operator's Minimum Specifications for Pressure Control

EXHIBIT "C" is a diagram of the Blowout Preventer Equipment.

BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Preventers will be inspected and operated at least daily to ensure good mechanical working order, and this inspection will include pressure testing before drilling casing cement plugs. The San Juan Resource Area will be notified one day before pressure testing.

6. The Type and Characteristics of the Proposed Circulating Muds

Mud system will be gel-chemical with adequate stocks of sorptive agents on site to handle possible spills of fuel and oil on the surface. Heavier muds will be on location to be added if pressure requires.

<u>Depth</u>	<u>Type</u>	<u>Weight #/gal.</u>	<u>Viscosity sec/qt.</u>	<u>Fluid loss cc</u>
0 - 1100'	water, gel, LCM	---	---	---
1100-4200'	2-5% solids	8.8-9.2	32-35	N/C
4200-4850'	3-5% solids	9.0-9.2	38-45	N/C
4850-TD			50-55	

7. The Auxiliary Equipment to be Used

- (a) A kelly cock will be kept in the string.
- (b) No other auxiliary equipment will be used.

8. The Testing, Logging and Coring Programs to be Followed

- (a) Drill Stem Tests may be run in the Upper Ismay and Desert Creek formations.
- (b) The logging program will consist of:
 - Dual Induction, Sonic, GR, and caliper from TD to surface casing
 - Density, neutron, GR and caliper from TD to approx. 3000 feet.
 - Computer Saturation Log from 4500 feet to TD.
- (c) No coring is anticipated.
- (d) Stimulation procedures will be determined after evaluation of logs. If treatment is indicated, appropriate Sundry Notice will be submitted for approval.

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

9. Any Anticipated Abnormal Pressures or Temperatures.

No abnormal pressures or temperatures have been noted or reported in wells drilled in the area nor at the depths anticipated in this well. Bottom hole pressure expected is 2000 psi.

No hydrogen sulfide or other hazardous fluids or gases have been found, reported or known to exist at these depths in the area.

10. Anticipated Starting Date and Duration of the Operations

The anticipated starting date is set for October 5, 1986, or as soon as possible after examination and approval of drilling requirements. Operations will cover 16 days for drilling and 12 days for completion; up to 6 months for clean-up and rehab depending on weather and surface occupancy stipulations.

10. - Cont.

The Operator will contact the San Juan Resource Area at 801-587-2141 48 hours before beginning any dirt work.

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

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

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

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

If a replacement rig is planned for completion operations, a Sundry Notice (Form 3160-5) to that effect will be filed, for prior approval by the District Manager. All conditions of this approved plan are applicable during all operations conducted with the replacement rig. In emergencies, verbal approval can be given the the District Petroleum Engineer. If the well is successfully completed for production, then the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than 5 business days following the date on which the well is placed on production.

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

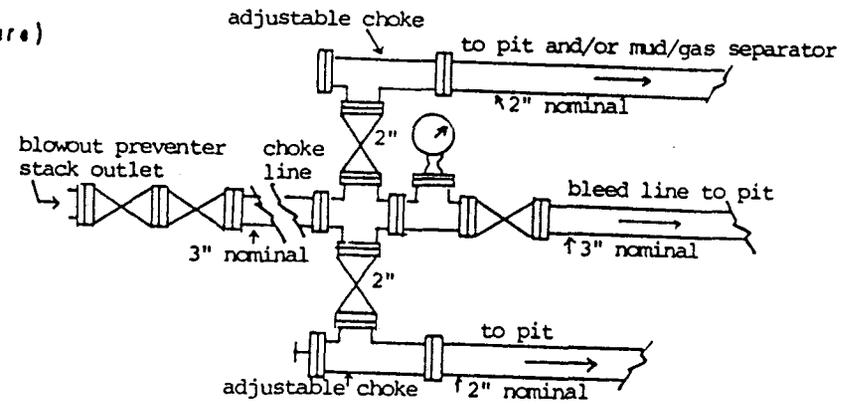
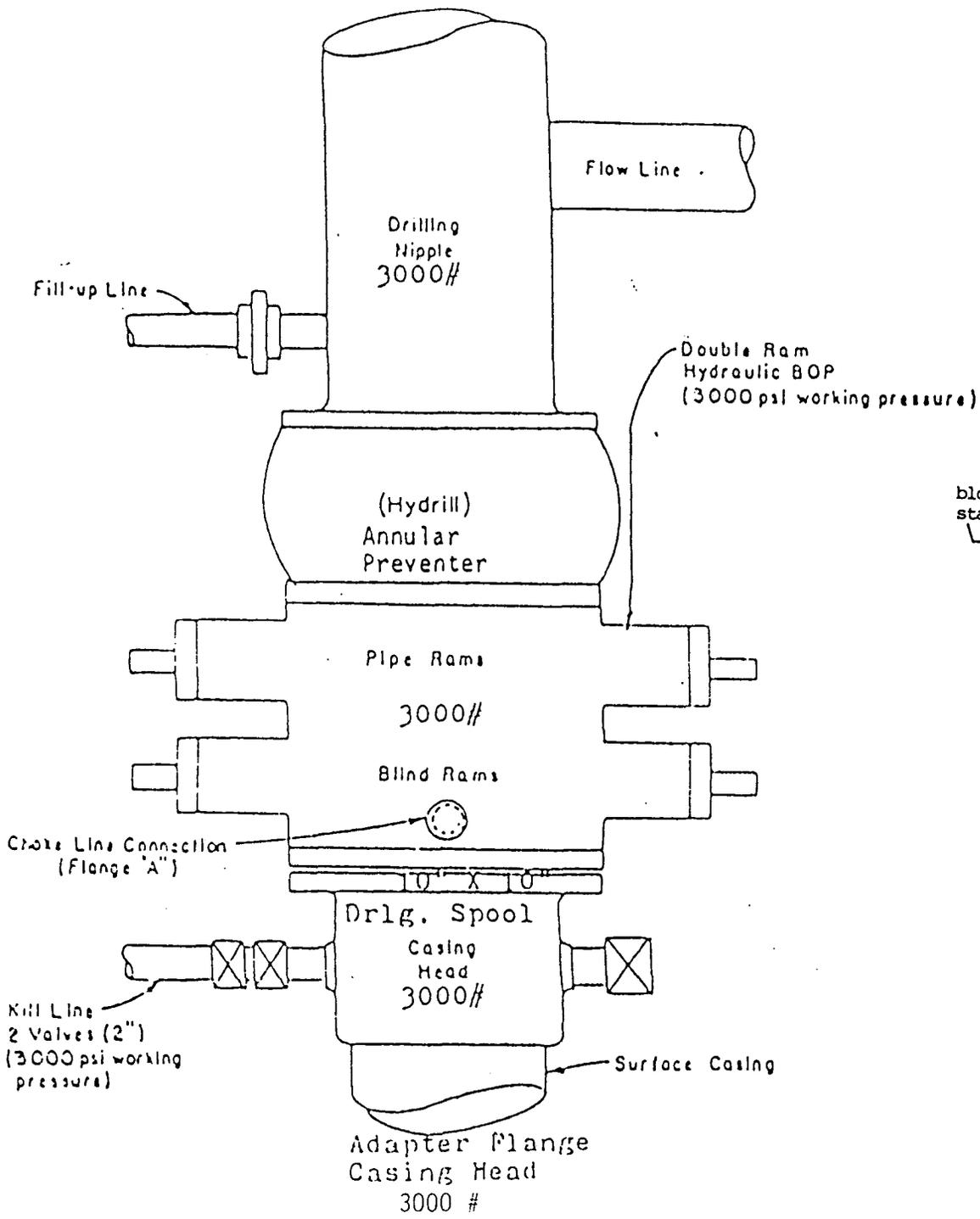
Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been

completed to the satisfaction of the San Juan Area Manager, or the appropriate surface manager.

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

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

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



typical choke manifold assembly for 3M rated working pressure service-surface installation

Blowout Preventer
Diagram

EXHIBIT "C"

EXHIBIT "D"

SURFACE USE PROGRAM TO ACCOMPANY A.P.D.

Attached to Form 3160-3
PanCanadian Petroleum Company
Big Knife Federal 12-8 #1
SW NW Sec 8 T32S R23E
San Juan County, Utah

1. Existing Roads

- A. The proposed well site and elevation plat is shown as EXHIBIT "A". Staking included two directional reference stakes and elevations, also shown on EXHIBIT "A".
- B. The distance from Monticello, Utah, is 21.4 miles. From the intersection of Hwy 160 and 191 in Monticello, proceed northerly on 191 a distance of 14.4 miles to the intersection of US Hwy 191 and Utah 211. Proceed westerly along Hwy 211 (two-lane, paved) 6.5 miles; thence left southeasterly off Hwy along 2000 feet of flagged new access to location, as shown on EXHIBIT "E" & "E-1".
- C. All roads to location are shown on EXHIBITS "E" & "E-1". A new access road 2000 feet from the existing highway (211) will be required, as shown on EXHIBITS "E" & "E-1".
- D. This is an exploratory well. All existing roads within a two-mile radius are shown on EXHIBIT "E".
- E. N/A
- F. The existing roads need no improvement. Existing roads will be maintained in same or better condition. The grade is 2% or less.

2. Planned Access Roads

Map showing all necessary access roads to be constructed or reconstructed is shown as EXHIBIT "E-1" for the following:

- A. Drilling Operations
 - (1) The maximum width of the 2,000 feet of new access required for drilling will be 15 feet.
 - (2) The maximum grade will be 1%.
 - (3) No turnouts are planned.

- (4) No drainage design is planned during drilling operations. Brush will be cleared and a temporary road will be prepared by grader.
- (5) No culverts are needed.
- (6) No surfacing material will be required, unless access is utilized during wet winter weather, in which case road surfacing may be required to prevent road maintenance problems.
- (7) No gates, fence cuts, or cattleguards will be installed.
- (8) Major cuts and fills: None
- (9) The new access road to be constructed was centerline flagged during staking. This road does cross B.L.M. lands, as shown on EXHIBIT "E", Section C-1.

B. Production

- (1) If production is obtained, new road will be graded and surfaced, and drainage will be constructed. If accumulated material is not sufficient, additional material will be provided by dirt contractor. Access road crossing BLM land will be water barred or brought to Class III Road Standards within 60 days of dismantling of the drill rig. If this time frame cannot be met, the San Juan Area Manager will be notified so that temporary drainage control can be installed along the access road.

The Class III Road Standards which ensure drainage control over the entire road through the use of natural, rolling topography; ditch turnouts; drainage dips; outsloping, crowning; low water crossings; and culverts will be determined at the appropriate field inspection.

3. Location of Existing Wells

For all existing wells within a one-mile radius, see EXHIBIT "F".

- (1) There is one water wells within a one-mile radius of this location.
- (2) There are no disposal wells.
- (3) There are no wells presently being drilled.
- (4) There are no producing wells within this one-mile radius.
- (5) There are no injection wells.

4. Location of Existing and/or Proposed Facilities to be Used if Well is Productive.

- A. This information is not known and cannot be accurately presented. If well is subsequently completed for production, Operator shall supply this information prior to installation.
- B. Rehabilitation of all pad areas not used for production facilities will be made in accordance with B.L.M. stipulations.

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

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

Gas meter runs for each well will be located within 500 feet of the wellhead. The oil and gas meters will be calibrated in place before any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The San Juan Area Manager will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports will be submitted to the San Juan Area Manager. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

5. Location and Type of Water Supply

- A. The water source will be SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. T30S R23E, 9.5 miles north of Highway 211 turnoff. The supplier will be Kapper and Ruhter Trucking, 802 Locus Lane, Moab, Utah; permit will be obtained.
- B. Water will be transported by truck over approved access roads.
- C. No water well is to be drilled for this location.

6. Construction Materials

- A. No construction materials are needed for drilling well or constructing access roads into the location during drilling. The surface soil materials will be sufficient.
- B. No construction materials will be taken off Federal land.
- C. All surface soil materials for construction of access roads for drilling are sufficient. If well is productive and additional material is required, additional materials will be bought from

a private source. The use of any materials under BLM jurisdiction will conform to 43 CFR 3610.2-3.

7. Handling of Waste Materials and Disposal

- (1) Drill cuttings will be buried in the reserve pit.
- (2) Drilling fluids will be handled in the reserve pit.
- (3) Any fluids produced during drilling tests or while making production tests will be collected in a test tank. If a test tank is not available during drilling, fluids will be handled in reserve pit. Any spills of oil, gas, salt waters or other noxious fluids will be cleaned up and removed. Produced water will be confined to an unlined pit for a period not exceed ninety (90) days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B).
- (4) There will be a sewage holding tank on site for trailers. Waste will be removed to an approved disposal site.
- (5) Garbage and trash will be handled in trash cage. Drill fluids, water, drilling mud and tailings will be kept in reserve pit, as shown on EXHIBIT "H". Reserve pit will be fenced on three sides during drilling and fourth side fenced upon removal of the rig.
- (6) After the rig moves out, all materials will be cleaned up and no adverse materials will be left on location. All dangerous open pits will be fenced during drilling and kept closed until the pit is leveled.

8. Ancillary Facilities

No air strip, camp or other facilities will be built during drilling of this well.

9. Well Site Layout

- (1) EXHIBIT "G" is the Drill Pad Layout as staked, with elevations, by Powers Elevation of Farmington, New Mexico. Cuts and fills have been drafted to represent the planned cut across the location and to the deepest part of the pad. Topsoil is 4 inches deep and will be stockpiled, as shown on EXHIBIT "G". Topsoil along access road will be reserved adjacent to the road.
- (2) EXHIBIT "H" is a plan diagram of the proposed rig and equipment, reserve pit, trash cage, pipe racks and mud tanks, access road,

parking and turnaround. No permanent living facilities are planned. There will be a trailer on site.

- (3) The reserve pits will not be lined, unless determined necessary during construction.

10. Plans for Reclamation of the Surface

- (1) If well is abandoned, site will be restored to original condition as nearly as possible. Backfilling, leveling and contouring will begin as soon as all pits have dried. Waste disposal and spoils materials will be buried or hauled away to an approved sanitary landfill immediately after drilling is completed. If production is obtained, the unused area will be restored as soon as possible. The operator/holder or his contractor will contact the San Juan Resource Area office in Monticello, Utah, (801) 587-2141, 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.
- (2) The soil-banked material will be spread over the area. Revegetation will be accomplished by planting mixed grasses as per formula provided by the B.L.M. and the surface owner. Revegetation is recommended for road area, as well as around drill pad.
- (3) Three sides of the reserve pit will be fenced during drilling operations. Prior to rig release, the fourth side will be fenced to prevent livestock or wildlife from entering; and the fencing will be maintained until leveling and cleanup are accomplished.
- (4) If any oil is on the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substances will be flagged overhead or covered with wire mesh.
- (5) The reclamation operations will begin immediately after the drill rig is removed. Removal of oil or other adverse substances will begin immediately or area will be flagged and fenced. Other cleanup will be done as needed.

11. Surface Ownership

Surface at the well site is owned by Redd Ventures, Mr. C. Hardy Redd, La Salle, Utah, 84530, (801) 686-2221.

Surface ownership of access roads, as shown on EXHIBITS "E" & "E-1" is as follows:

Section A - B Highway 191 from Monticello, 14.4 miles
Section B - C Utah Highway 211 6.5 miles
Section C - 1 New access, BLM and private

12. Other information

There is some use of the surface for grazing. The proposed well is in a critical winter range for mule deer, and no surface occupancy is permitted after December 1, until March.

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

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

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

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

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

13. Lessee's or Operator's Field Representative

Through A.P.D. Approval:
Connie L. Frailey
Agent/Consultant for
PanCanadian Petroleum Co.
P.O. Box 2612
Denver, Colorado 80201-2612
Phone (303) 321-2217

Mail Approved A.P.D. to:
James D. Keisling
Coordinator, Engin. Operations
PanCanadian Petroleum Company
P. O. Box 929
Denver, Colorado 80201
(303) 825-8371

Operator's Field Representative (on site, with authority to make decisions in emergency)

14. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which 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 PanCanadian Petroleum Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

September 4, 1986
Date

Connie L. Frailey
Powers Elevation
Connie L. Frailey
Vice President, Environmental Services
Agent/Consultant for PanCanadian Petroleum
Company

EXHIBIT "E"

Access Roads to Location

EXHIBIT "E" - Access Roads to Location

- ① Location:
PanCanadian Petroleum Company
Big Knife Federal 12-8 #1
1912' FN & 735' FW (SW NW) Sec 8 T32S R23E
San Juan County, Utah
- A - B US HWY 191 from Monticello 14.4 mi.
B - C Utah 211 6.5 mi.
C - 1 New Access, NENE Sec 7 is BLM, rest pri

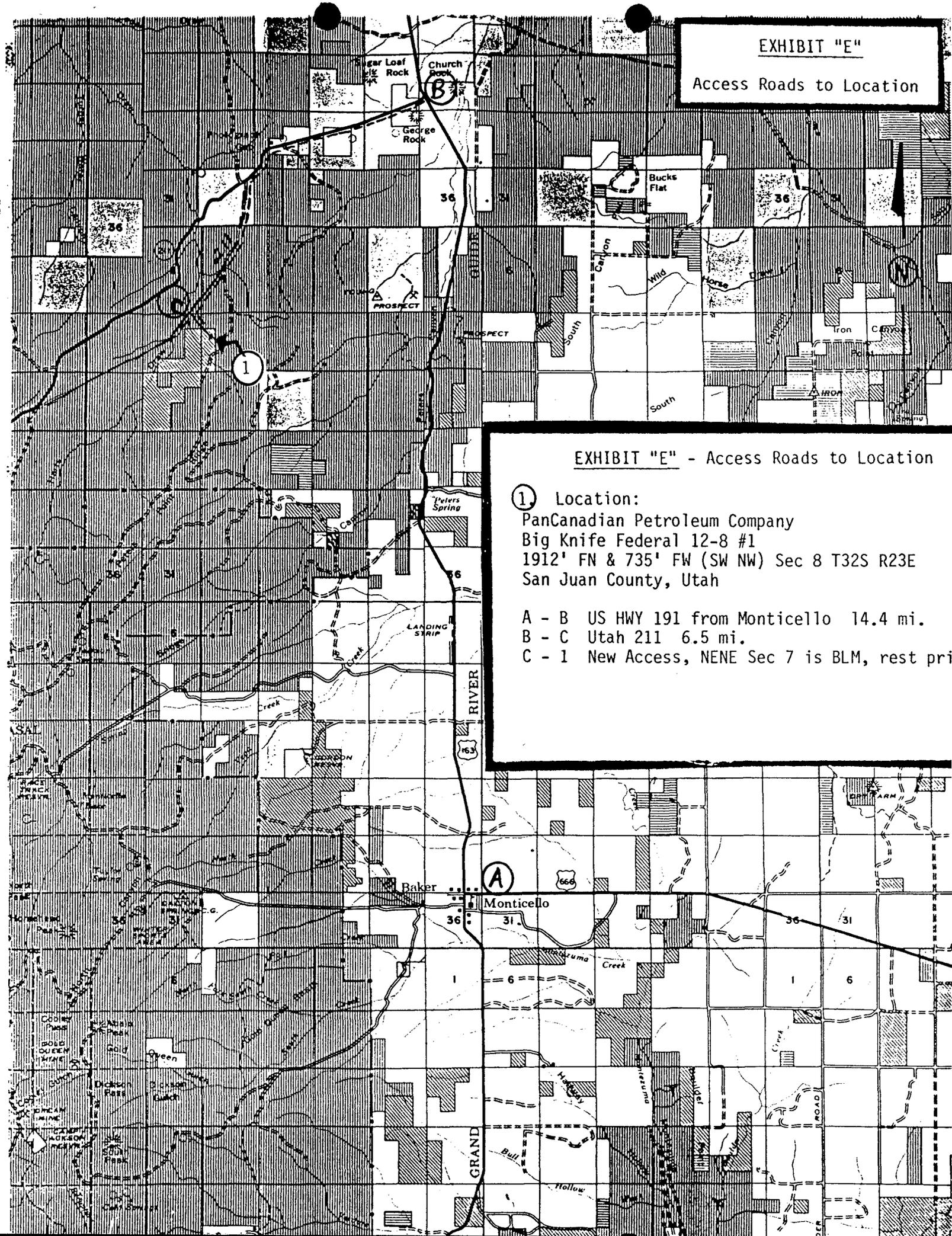


EXHIBIT "E"
Access Roads to Location

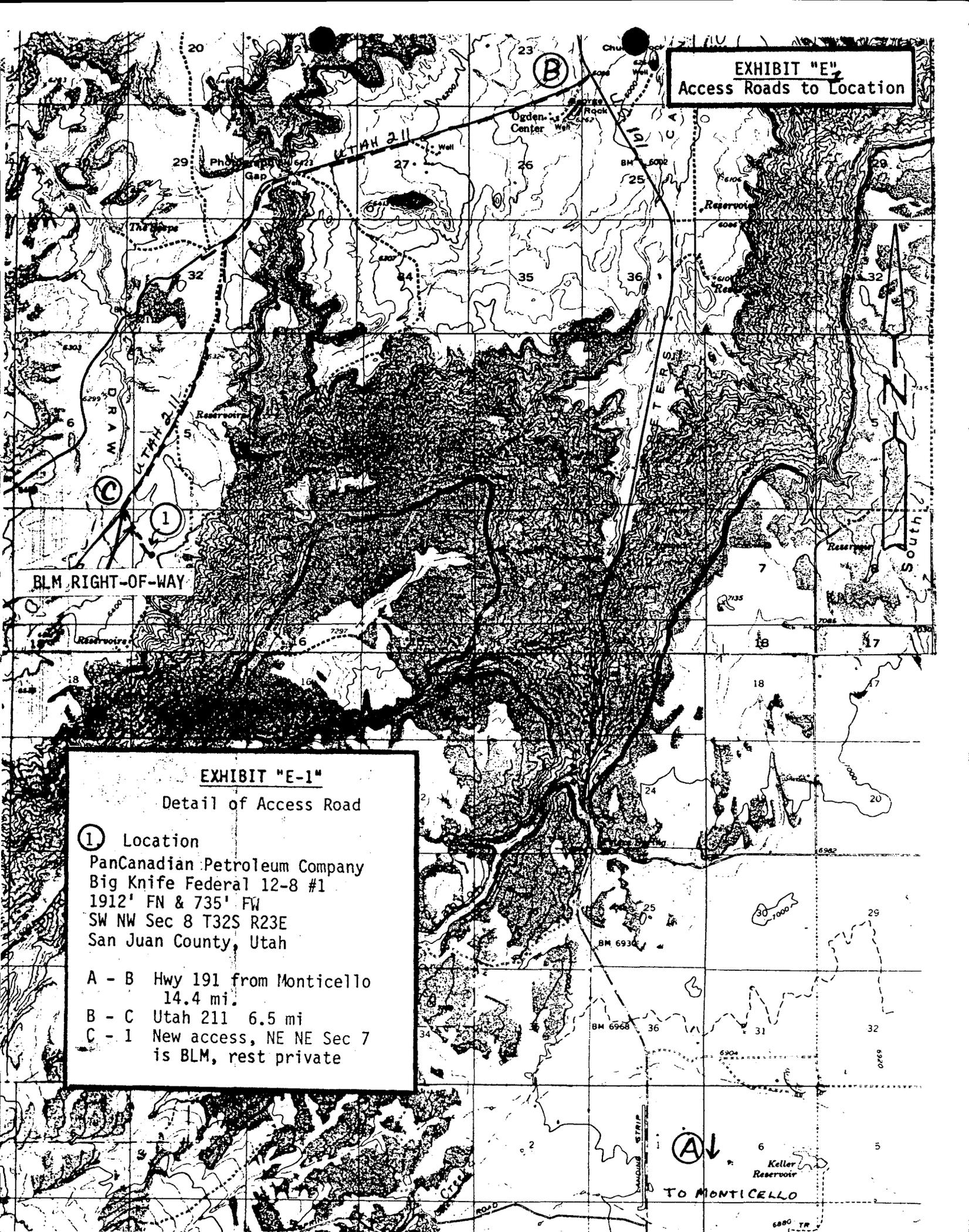


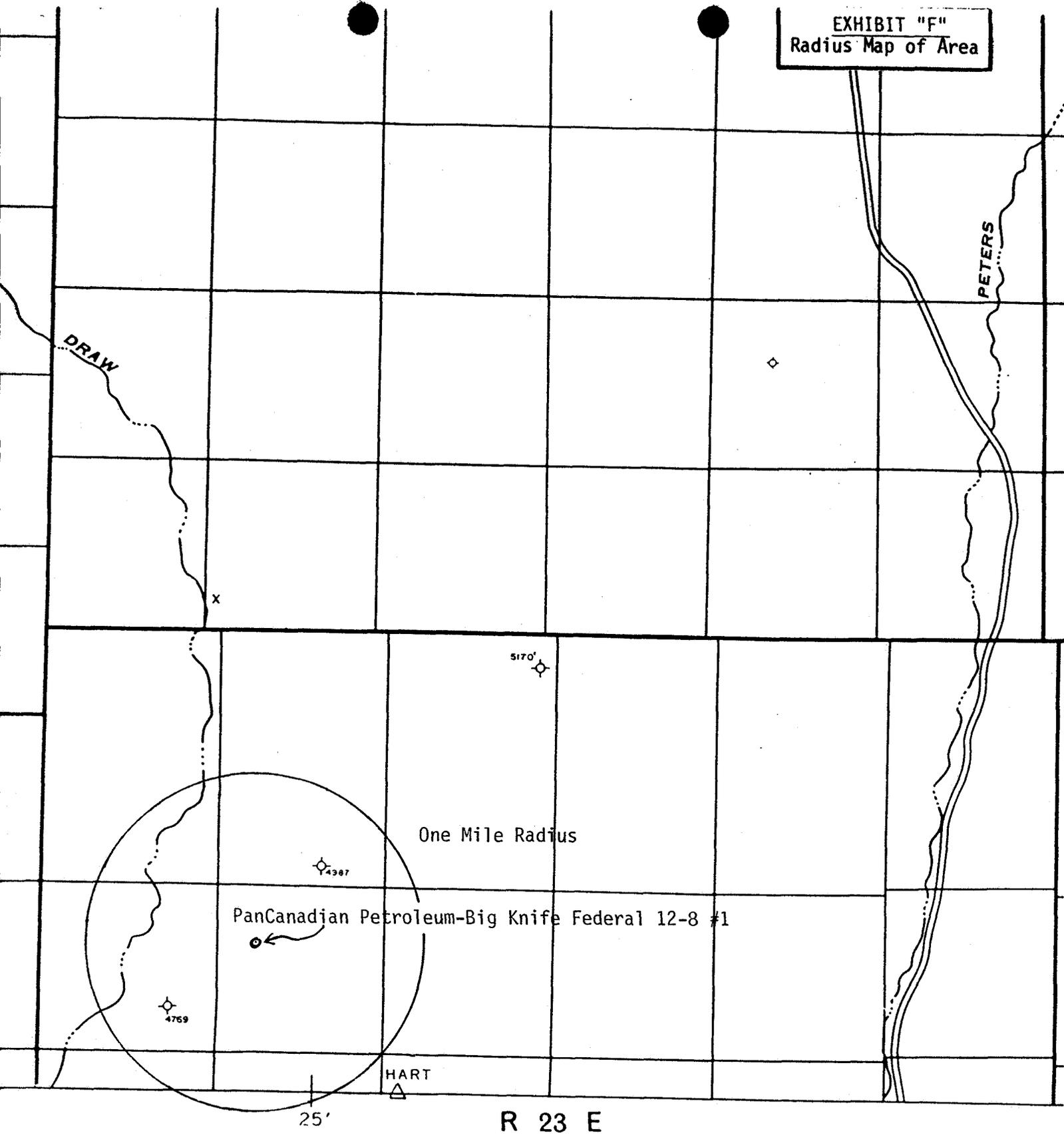
EXHIBIT "E-1"

Detail of Access Road

- ① Location
 PanCanadian Petroleum Company
 Big Knife Federal 12-8 #1
 1912' FN & 735' FW
 SW NW Sec 8 T32S R23E
 San Juan County, Utah
- A - B Hwy 191 from Monticello
 14.4 mi.
- B - C Utah 211 6.5 mi
- C - 1 New access, NE NE Sec 7
 is BLM, rest private

①
 Keller Reservoir
 TO MONTICELLO

EXHIBIT "F"
Radius Map of Area



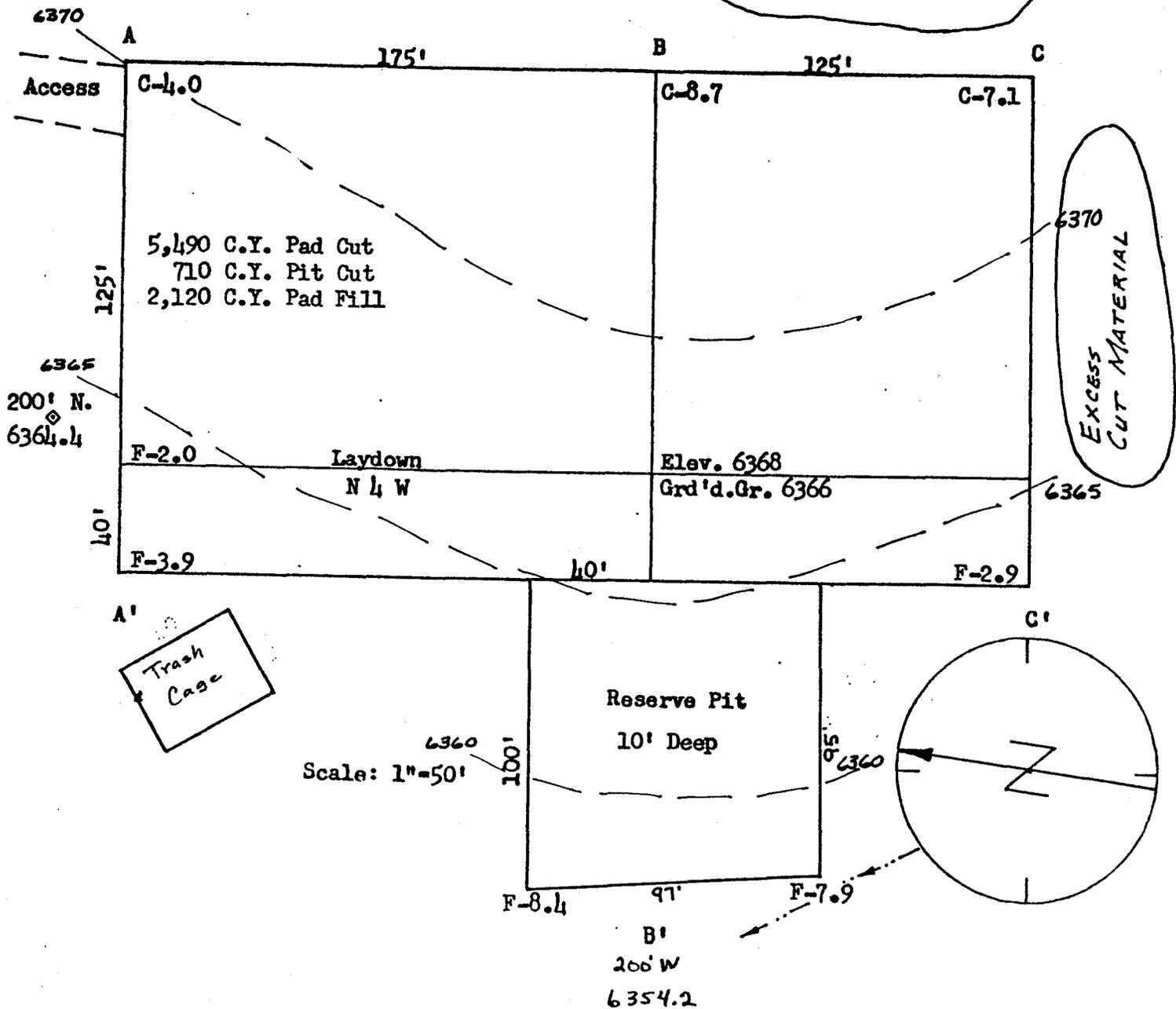
LEGEND	
○ LOCATION	⊙ DRILLING
⊕ DRY HOLE	⊛ OIL & GAS WELL
● OIL WELL	⊛ ABANDONED OIL & GAS WELL
⊖ ABANDONED OIL WELL	⊙ GAS WELL
△ TRIANGULATION POINT	⊛ ABANDONED GAS WELL
	⊕ WATER WELL

LEGEND

PAN-CANADIAN PETROLEUM
 #1 BIG KNIFE FEDERAL 12-8
 1912' FNL & 735' FWL
 Sec. 8 T32S R23E
 San Juan Co., Utah

EXHIBIT "G"
 Drill Pad Layout

TOPSOIL



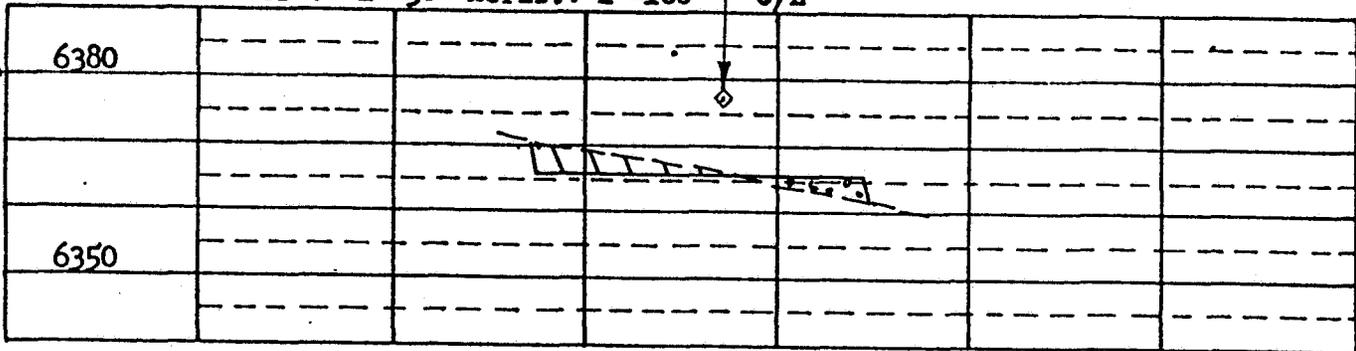
Cut-Fill Cross Sections

Note: All Slopes 1:1

200' W.
6354.2
C/L

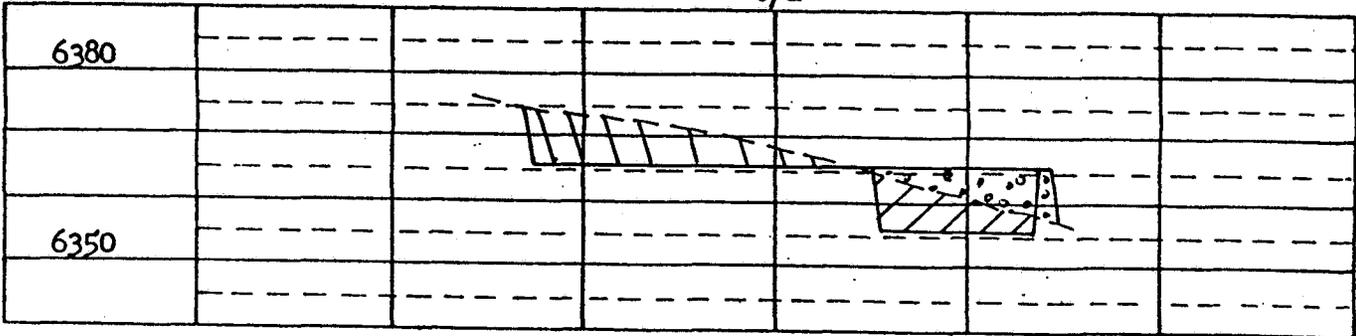
A-A'

Vert.: 1"=30' Horis.: 1"=100'



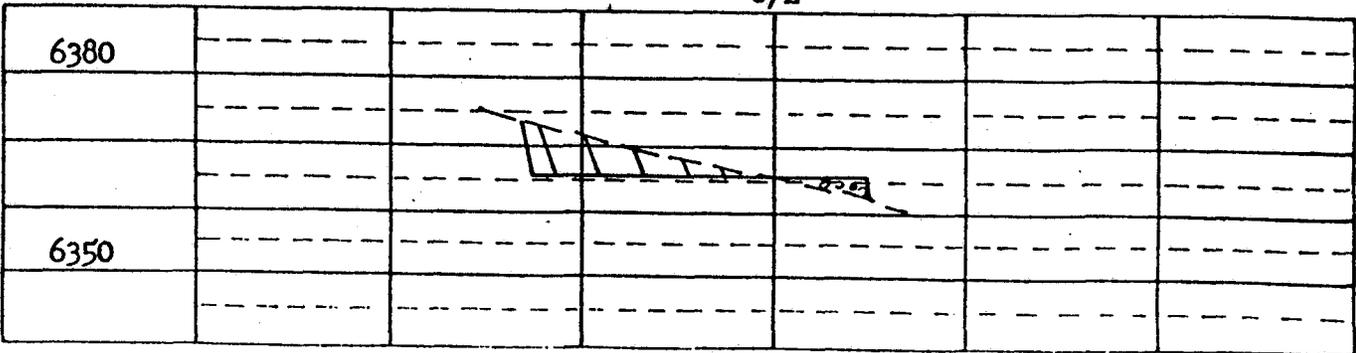
B-B'

C/L



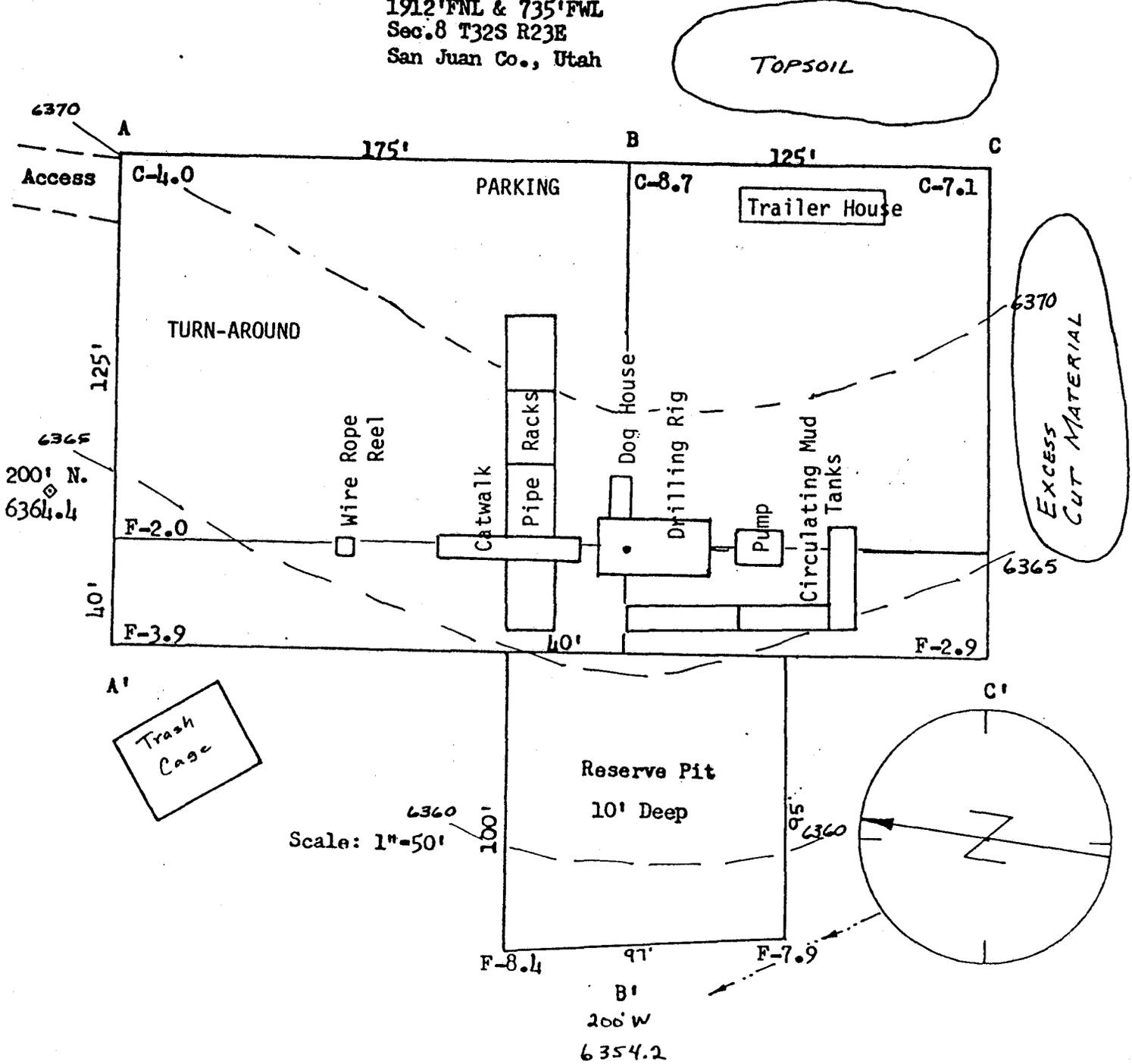
C-C'

C/L



PAN-CANADIAN PETROLEUM
#1 BIG KNIFE FEDERAL 12-8
1912'FNL & 735'FWL
Sec.8 T32S R23E
San Juan Co., Utah

EXHIBIT "H"
Drill Rig Layout



OPERATOR Pan Canadian Petroleum Co. DATE 9-11-86

WELL NAME Big Knife Federal 12-8 #1

SEC SW NW 8 T 32 S R 23 E COUNTY San Juan

43-037-31277
API NUMBER

Fed.
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well in Sec. 8

Need water permit

APPROVAL LETTER:

SPACING:

203

UNIT

302

CAUSE NO. & DATE

302.1

STIPULATIONS:

1- water



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

September 12, 1986

PanCanadian Petroleum Company
P. O. Box 929
Denver, Colorado 80201

Gentlemen:

Re: Well Name: Big Knife Federal 12-8 #1 - SW NW Sec. 8, T. 32S, R. 23E
1912' FNL, 735' FWL - San Juan County, Utah

Approval to drill the referenced well is hereby granted in accordance with Rule 302, Oil and Gas Conservation General Rules, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

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

1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule 311.3, Associated Gas Flaring, Oil and Gas Conservation General Rules.

Page 2

PanCanadian Petroleum Company

Well Name: Big Knife Federal 12-8 #1

September 12, 1986

5. Prior to commencement of the proposed drilling operations, plans for toilet facilities and the disposal of sanitary waste at the drill site shall be submitted to the local health department having jurisdiction. Any such drilling operations and any subsequent well operations must be conducted in accordance with applicable State and local health department regulations. A list of all local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 533-6163.
6. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-037-31277.

Sincerely,



R. J. Firth

Associate Director, Oil & Gas

as

Enclosures

cc: Branch of Fluid Minerals

D. R. Nielson

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

092303

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
 PanCanadian Petroleum Company

3. ADDRESS OF OPERATOR
 Box 929, Denver, Colorado 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface: 1912' FNL & 735' FWL (SW NW)
 At proposed prod. zone: same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 21.4 miles Northwest of Monticello, Utah (highway distance)

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 735'

16. NO. OF ACRES IN LEASE 1310

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

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

19. PROPOSED DEPTH 5000'

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.) 6368' GR

22. APPROX. DATE WORK WILL START* October 1, 1986

5. LEASE DESIGNATION AND SERIAL NO.
 U 499985-A 49985-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
 N/A

7. UNIT AGREEMENT NAME
 N/A

8. FARM OR LEASE NAME
 Big Knife Federal 12-8

9. WELL NO.
 #1

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec 8 T32S R23E

12. COUNTY OR PARISH 13. STATE
 San Juan Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13-3/8"	J-55, 54.5#	120'	200 sx Class "B" w/additives
12-1/4"	9-5/8"	J-55, 36#	1100'	235 sx lite + 100 sx Class "B"
8-3/4"	5-1/2"	J-55, 17#	5000'	185 sx Class "H" + 320 sx Class "H"

RECEIVED
SEP 18 1986

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 James D. Keisling TITLE Coord., Eng. Operations DATE 7/28/86
 (This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY Kenneth V. Rhea TITLE Acting DISTRICT MANAGER DATE SEP 17 1986

CONDITIONS OF APPROVAL, IF ANY:
 FLARING OR VENTING OF GAS IS SUBJECT OF NTL 4-A DATED 1/1/80
 NOTICE OF APPROVAL SUBJECT TO RIGHT OF WAY APPROVAL
 *See Instructions On Reverse Side

COMPANY PAN CANADIAN PETROLEUM

EXHIBIT "A" -LOCATION PLAT

LEASE BIG KNIFE FEDERAL 12-8 WELL NO. 1

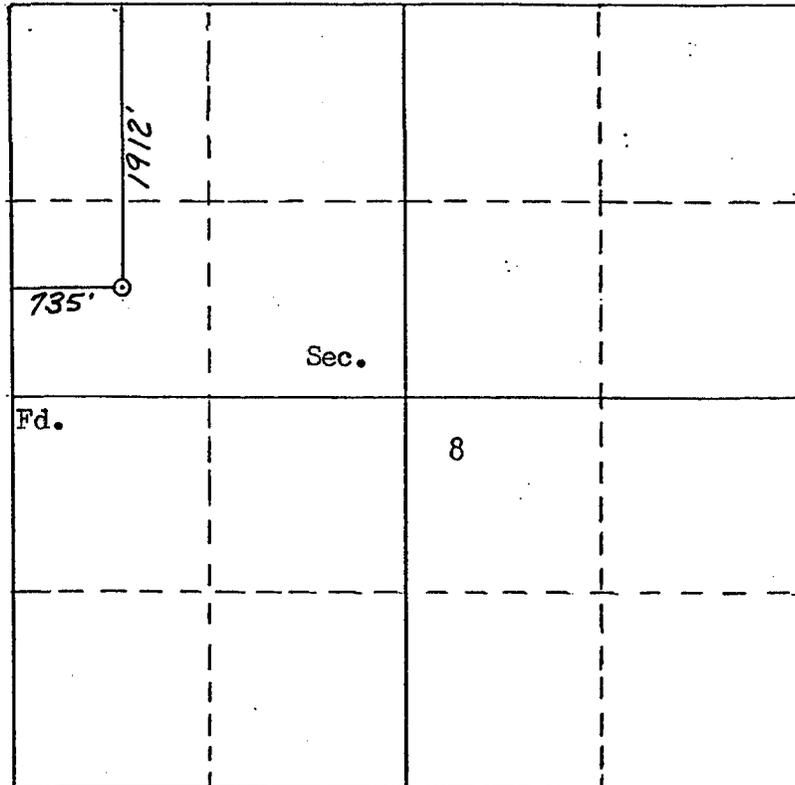
SEC. 8, T. 32S, R. 23E

County: San Juan State: Utah

LOCATION 1912'FNL & 735'FWL

ELEVATION 6368

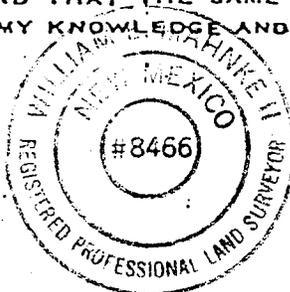
Fd.



SCALE—4 INCHES EQUALS 1 MILE

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

SEAL:



William H. Henke II
Registered Land Surveyor
N.M. P.L.S. No. 8466

SURVEYED July 1, 1986



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Robert L. Morgan, State Engineer

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1303

September 23, 1986

RECEIVED
SEP 24 1986

DIVISION OF
OIL, GAS & MINING

Division of Oil, Gas & Mining
Attn: Arlene Sollis
355 West North Temple
3 Triad Center Suite 350
Salt Lake City, Utah 84180-1203

Re: Big Knife Federal 12-8 No. 1

Dear Arlene:

Attached is a copy of a letter from Mr. Cecil Fowler, who holds water right Application No. 05-96 (24672). This water right is for the purpose of exploration drilling. By the attached letter, he will allow Kuppan-Ruhter Trucking Company to haul water from his well to the above referenced well. According to the information I received, the well is in the SW4NW4 Sec. 8, T32S, R23E, SLB&M. They anticipate using 1.29 acre feet of water between September 25, 1986 and November 14, 1986. The well is being drilled by Pan Canadian Petroleum Company.

If you need any further information concerning the water right for this well, please feel free to contact our office.

Sincerely,

Mark P. Page
mjk

Mark P. Page
Area Engineer

Enclosure
MPP/mjk

RECEIVED

OCT 01 1986

DIVISION OF
OIL, GAS & MINING

031102

Cecil Fowler Sr.
P.O. BX, 68
Monticello, Utah
Sept 6, 1986

Utah State Water Engineer
Mr. Mark Page

To whom it may concern or be of interest, know by these words herein written that Kappen - Rukter, more specific "Mr. D.W. Rukter" has my permission to haul water from my well at Hatch wash in Dry Valley for drilling purposes to the Pan Canadian petroleum site.

Cecil Fowler Sr.

12-8

43-037-31277-PA

SB, 325 23E

PANCANADIAN PETROLEUM COMPANY
RECEIVED

SEP 29 1986

DENVER, COLORADO



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dee C. Hansen, State Engineer

453 South Carbon Avenue • P.O. Box 718 • Price, UT 84501 • 801-637-1303

November 21, 1985

RECEIVED
OCT 01 1986

**DIVISION OF
OIL, GAS & MINING**

Cecil J. Fowler Sr.
P.O. Box 68
Monticello, Utah 84535

Re: Temporary Change No. 85-05-17

Dear Mr. Fowler:

The above referenced Temporary Change Application has been approved. A copy is enclosed for your records and information. Should you have any questions, please feel free to contact this office.

Sincerely,

Mark P. Page, Area Engineer
for Robert L. Morgan, State Engineer

Enclosure

RLM/MPP/mjk

100936

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-037-31277

NAME OF COMPANY: PAN CANADIAN PETROLEUM COMPANY

WELL NAME: BIG KNIFE FEDERAL 12-8 #1

SECTION SW NW 8 TOWNSHIP 32S RANGE 23E COUNTY SAN JUAN

DRILLING CONTRACTOR EXETER

RIG # 68

SPUDDED: DATE 10-7-86

TIME 7:00 PM

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Tom Rubis

TELEPHONE # (801) 587-2266 (Room 129)

DATE 10-9-86

SIGNED JRB

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 499985 A
2. NAME OF OPERATOR PanCanadian Petroleum Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR P.O. Box 929, Denver, CO 80201		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1912' FNL & 735' FWL (SW NW)		8. FARM OR LEASE NAME BIG KNIFE FEDERAL 12-8
14. PERMIT NO. 43-037-31277		9. WELL NO. 1
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6368' GL		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA Sec. 8, T32S, R23E
		12. COUNTY OR PARISH 13. STATE San Juan UT

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

NOTICE OF INTENTION TO:

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

SUBSEQUENT REPORT OF:

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

The subject well was spudded at 7:00 p.m. on October 7, 1986
13-3/8" conductor pipe was set at 80' and cemented with 90 sx C1 'B'.
A 60' core will be cut through the Upper Ismay at +4586'.
H₂S safety equipment will be rigged up on location at +4300'.

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

SIGNED James D. Keisling
James D. Keisling

TITLE Coord., Eng. Operations

DATE 10/9/86

(This space for Federal or State office use)

APPROVED BY NOTED
CONDITIONS OF APPROVAL, IF ANY:

BRANCH OF FLUID MINERALS
MOAB DISTRICT

DATE OCT 15 1986

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

101623

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

5. LEASE DESIGNATION AND SERIAL NO.

U 499985 A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A

7. UNIT AGREEMENT NAME

N/A

8. FARM OR LEASE NAME

BIG KNIFE FEDERAL 12-8

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 8, T32S, R23E

12. COUNTY OR PARISH 13. STATE

San Juan

UT

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
PanCanadian Petroleum Company

3. ADDRESS OF OPERATOR
P.O. Box 929, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with requirements.*
See also space 17 below.)
At surface
1912' FNL & 735' FWL (SW NW)

RECEIVED
OCT 14 1986

DIVISION OF
OIL, GAS & MINING

14. PERMIT NO.
43-037-31277

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6368' GL

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

SUBSEQUENT REPORT OF:

WATER SHUT-OFF
FRACTURE TREATMENT
SHOOTING OR ACIDIZING
(Other) Spud

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.)*

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13-3/8" conductor pipe was set at 80' and cemented with 90 sx C1 'B'.
A 60' core will be cut through the Upper Ismay at +4586'.
H₂S safety equipment will be rigged up on location at +4300'.

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

SIGNED

James D. Keisling
James D. Keisling

TITLE Coord., Eng. Operations

DATE

10/9/86

(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 <input checked="" type="checkbox"/> CAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U 499985 A
2. NAME OF OPERATOR PANCANADIAN PETROLEUM COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A 072310
3. ADDRESS OF OPERATOR P.O. Box 929, Denver, CO 80201		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1912' FNL & 735' FWL (SW NW)		8. FARM OR LEASE NAME BIG KNIFE FEDERAL 12-8
14. PERMIT NO. 43-037-31277		9. WELL NO. #1
15. ELEVATIONS (Show whether DV, RT, OR, etc.) 6368' GL		10. FIELD AND POOL, OR WILDCAT W/C
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 8, T32S, R23E
		12. COUNTY OR PARISH 13. STATE San Juan UT

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

NOTICE OF INTENTION TO:

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

SUBSEQUENT REPORT OF:

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

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

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

The subject well was plugged as follows:

4740-4894' 60 sxs Class B
4496-4645' 80 sxs Class B
1177-1020' 60 sxs Class B
47-Surf 20 sxs Class B

The reserve pit and cellar will be fenced until the location can be reclaimed in the spring.

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

SIGNED James D. Keisling TITLE Coord., Eng. Operations DATE 10/28/86
James D. Keisling

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

*PLEASE DATE, IF NEEDED
OTHER INFO*

*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
PANCANADIAN PETROLEUM COMPANY

3. ADDRESS OF OPERATOR
P.O. Box 929, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1912' FNL & 735' FWL (SW NW)

5. LEASE DESIGNATION AND SERIAL NO.
U 499985 A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A 072310

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME
BIG KNIFE FEDERAL 12-8

9. WELL NO.
#1

10. FIELD AND POOL, OR WILDCAT
W/C

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 8, T32S, R23E

14. PERMIT NO.
43-037-31277

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
6368' CT

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

16. Check Approp

NOTICE OF INTENTION

- TEST WATER SHUT-OFF
- FRACTURE TREAT
- SHOOT OR ACIDIZE
- REPAIR WELL
- (Other) _____

- PCLL
- MULTIF
- ABANDO
- CHANGE

- AIRING WELL
- BRING CASING
- MODERNMENT*

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS proposed work. If well is directionally different to this work.*

7-21-87
TAMI,
PLEASE PROCESS FOR
PEA, AND REQUEST
WCR.

The subject well was plug

- 4740-4894' 60 SXS
- 4496-4645' 80 SXS
- 1177-1020' 60 SXS
- 47-Surf 20 SXS

TUX,
[Signature]

The reserve pit and cellar reclaimed in the spring.

DATE, IF ANY
OTHER INFO
[Signature]

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

SIGNED *James D. Keisling*
James D. Keisling

8/86

(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 TRI-STATE
(Other instructions on reverse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

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1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		3. LEASE DESIGNATION AND SERIAL NO. U 499985 A
2. NAME OF OPERATOR PANCANADIAN PETROLEUM COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A 072310
3. ADDRESS OF OPERATOR P.O. Box 929, Denver, CO 80201		7. UNIT AGREEMENT NAME N/A
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14. PERMIT NO. 43-037-31277	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6368' GL	9. WELL NO. #1
		10. FIELD AND POOL, OR WILDCAT W/C
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 8, T32S, R23E
		12. COUNTY OR PARISH San Juan
		13. STATE UT

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PCLL 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 checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

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

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

The subject well was plugged as follows:

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- 4496-4645' 80 sxs Class B
- 1177-1020' 60 sxs Class B
- 47-Surf 20 sxs Class B

The reserve pit and cellar will be fenced until the location can be reclaimed in the spring.

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

SIGNED James D. Keisling TITLE Coord., Eng. Operations DATE 10/28/86
James D. Keisling

(This space for Federal or State office use)

PEA DATE, IF AFD
OTHER INFO
DM

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

*See Instructions on Reverse Side

BIG KNIFE FEDERAL 12-8

LEASE NAME

1

WELL NO.

3

TEST NO.

4843.0 - 4889.0
TESTED INTERVAL

PAN CANADIAN PETROLEUM COMPANY

LEASE OWNER/COMPANY NAME

LEGAL LOCATION
SECT. - TWP. - RANG.

8-323-235

FIELD AREA

WILDCAT

COUNTY

SAN JUAN

STATE

UTAH OR

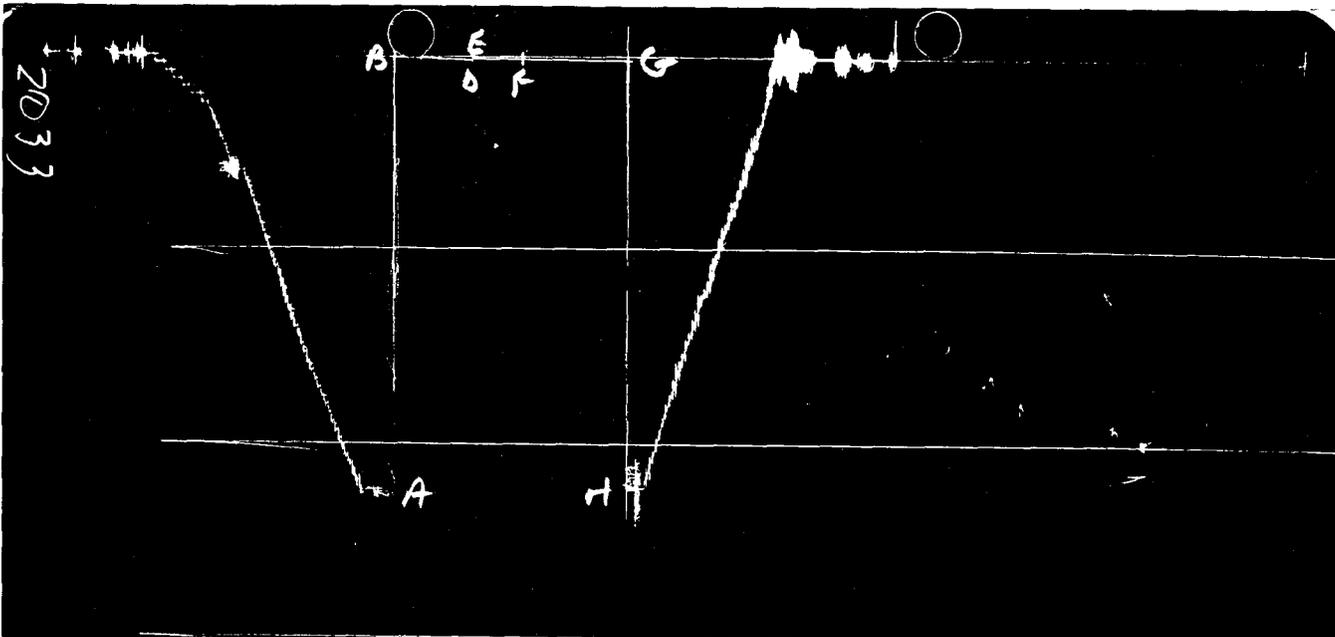
RECEIVED
NOV 03 1986

DIVISION OF
OIL, GAS & MINING



TICKET NO. 23211800
31-OCT-86
FARMINGTON

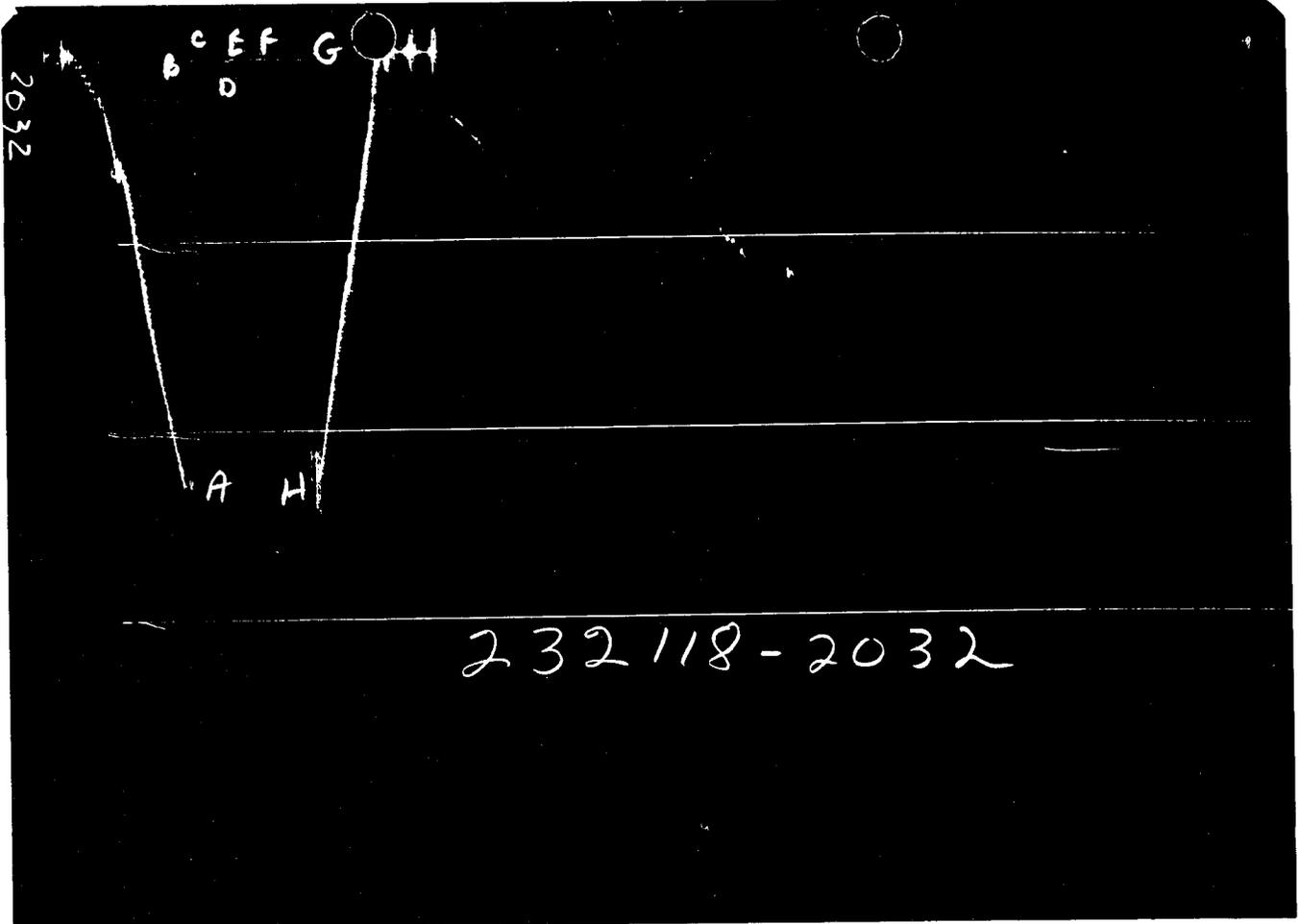
FORMATION TESTING SERVICE REPORT



23218 - 2033

GAUGE NO: 2033 DEPTH: 4822.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2263	2243.5			
B	INITIAL FIRST FLOW	8	8.5			
C	FINAL FIRST FLOW	8	8.5	15.0	15.0	F
C	INITIAL FIRST CLOSED-IN	8	8.5			
D	FINAL FIRST CLOSED-IN	20	19.4	30.0	30.0	C
E	INITIAL SECOND FLOW	14	12.2			
F	FINAL SECOND FLOW	14	12.2	30.0	30.0	F
F	INITIAL SECOND CLOSED-IN	14	12.2			
G	FINAL SECOND CLOSED-IN	27	18.2	60.0	60.0	C
H	FINAL HYDROSTATIC	2223	2220.0			



GAUGE NO: 2032 DEPTH: 4866.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2275	2265.9			
B	INITIAL FIRST FLOW	27	29.8			
C	FINAL FIRST FLOW	27	29.8	15.0	15.0	F
C	INITIAL FIRST CLOSED-IN	27	29.8			
D	FINAL FIRST CLOSED-IN	40	40.0	30.0	30.0	C
E	INITIAL SECOND FLOW	27	34.3			
F	FINAL SECOND FLOW	27	30.4	30.0	30.0	F
F	INITIAL SECOND CLOSED-IN	27	30.4			
G	FINAL SECOND CLOSED-IN	40	36.4	60.0	60.0	C
H	FINAL HYDROSTATIC	2248	2261.1			

EQUIPMENT & HOLE DATA

FORMATION TESTED: DESERT CREEK

NET PAY (ft): _____

GROSS TESTED FOOTAGE: 26.0

ALL DEPTHS MEASURED FROM: KELLY BUSHING

CASING PERFS. (ft): _____

HOLE OR CASING SIZE (in): 8.750

ELEVATION (ft): 6376.0

TOTAL DEPTH (ft): 4869.0

PACKER DEPTH(S) (ft): 4837, 4843

FINAL SURFACE CHOKE (in): _____

BOTTOM HOLE CHOKE (in): 0.750

MUD WEIGHT (lb/gal): 8.90

MUD VISCOSITY (sec): 38

ESTIMATED HOLE TEMP. (°F): _____

ACTUAL HOLE TEMP. (°F): 117 @ 4865.0 ft

TICKET NUMBER: 23211800

DATE: 10-21-86 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP:
FARMINGTON

TESTER: D. AULD

WITNESS: MR. RUBIS

DRILLING CONTRACTOR:
EXETER #68

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>2.040 @ 61 °F</u>	<u>1640 ppm</u>
<u>BOTTOM</u>	<u>2.020 @ 70 °F</u>	<u>1575 ppm</u>
<u>SAMPLER</u>	<u>1.870 @ 68 °F</u>	<u>1870 ppm</u>
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: 0.0

cu.ft. OF GAS: _____

cc OF OIL: _____

cc OF WATER: _____

cc OF MUD: 2150.0

TOTAL LIQUID cc: 2150.0

HYDROCARBON PROPERTIES

OIL GRAVITY (°API): _____ @ _____ °F

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

GAS GRAVITY: _____

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

23' OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4235.0	
3		DRILL COLLARS.....	6.250	2.500	482.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	4718.0
3		DRILL COLLARS.....	6.250	2.500	90.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.870	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4820.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	4822.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4897.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4849.0
20		FLUSH JOINT ANCHOR.....	5.720	2.500	20.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	4866.0
TOTAL DEPTH					4869.0	

EQUIPMENT DATA

RECEIVED
NOV 03 1986

DIVISION OF
OIL, GAS & MINING

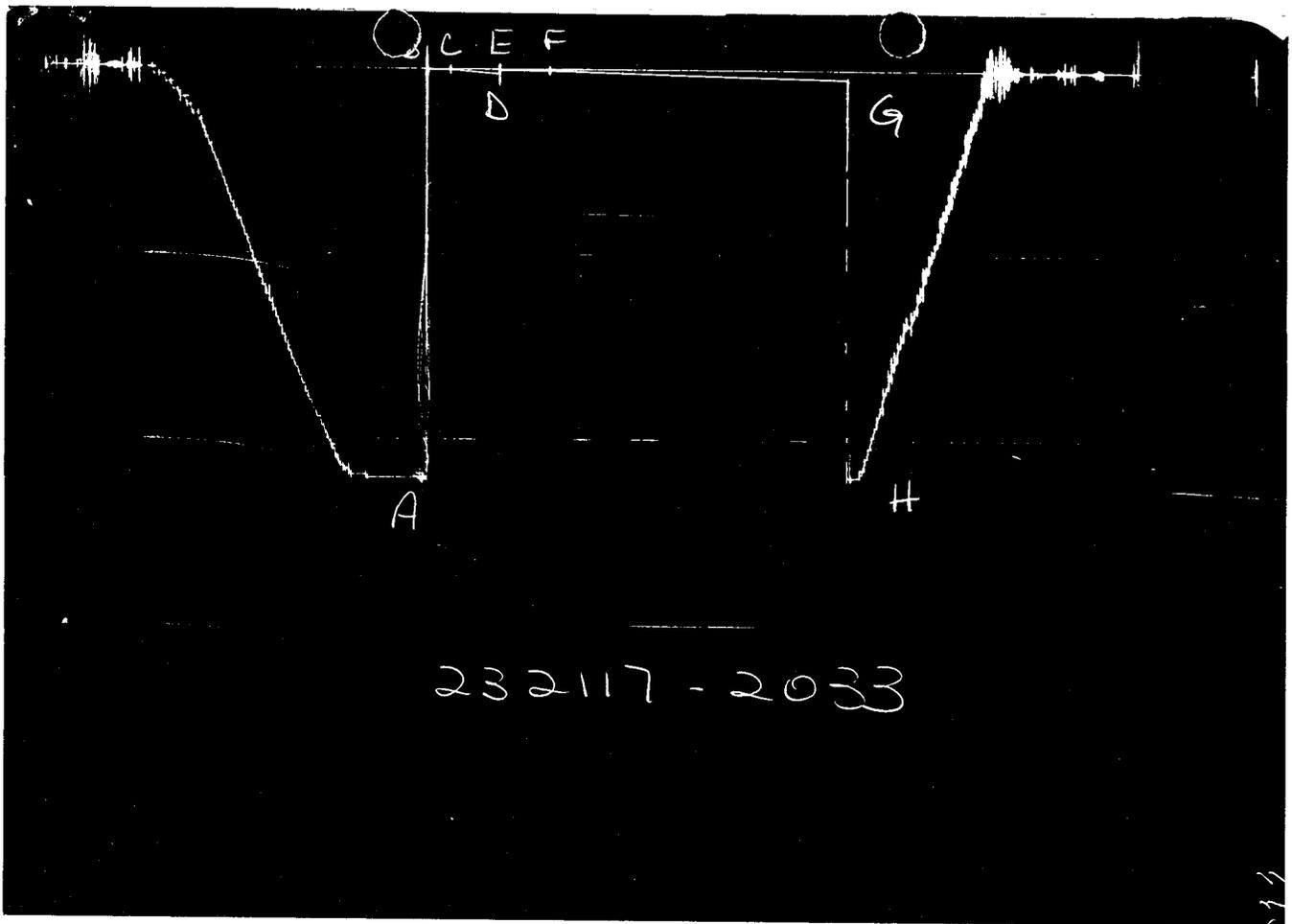


TICKET NO. 23211700
31-OCT-86
FARMINGTON

LEASE NAME	BIG KNIFE FEDERAL 12-8	WELL NO.	1	TEST NO.	2	TESTED INTERVAL	4767.0 - 4821.0	LEASE OWNER/COMPANY NAME	PAN CANADIAN PETROLEUM COMPANY
LEGAL LOCATION	8 - 32 SOUTH - 23 EAST	FIELD AREA	WILD CRT	COUNTRY	SPN JURN	STATE	UTAH		PW

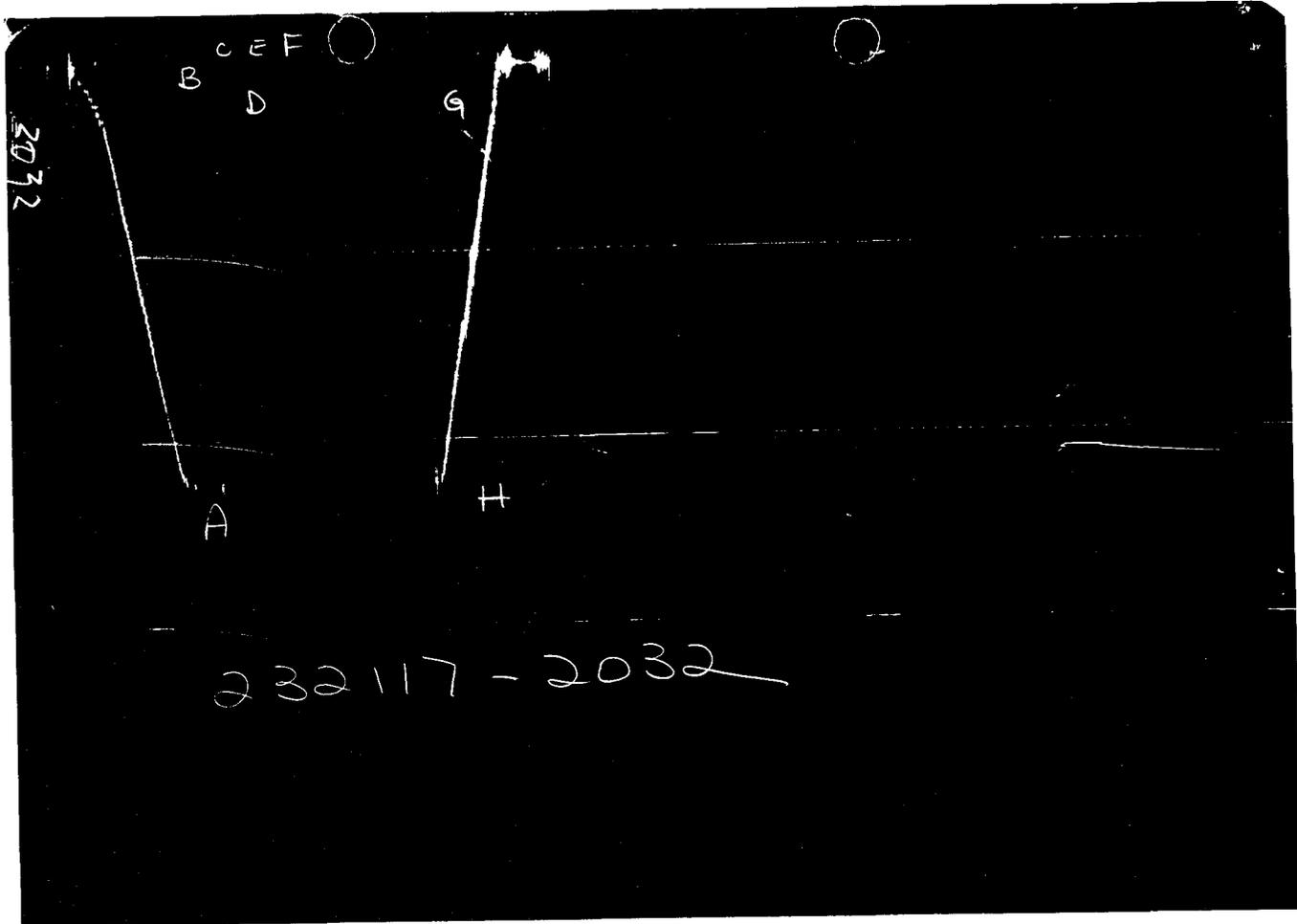
110501

FORMATION TESTING SERVICE REPORT



GAUGE NO: 2033 DEPTH: 4746.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2209	2206.3			
B	INITIAL FIRST FLOW		5.5			
C	FINAL FIRST FLOW	14	5.5	15.0	15.0	F
C	INITIAL FIRST CLOSED-IN	14	5.5			
D	FINAL FIRST CLOSED-IN	40	28.3	30.0	30.0	C
E	INITIAL SECOND FLOW	14	8.6			
F	FINAL SECOND FLOW	14	9.0	30.0	30.0	F
F	INITIAL SECOND CLOSED-IN	14	9.0			
G	FINAL SECOND CLOSED-IN	54	48.9	180.0	180.0	C
H	FINAL HYDROSTATIC	2209	2196.1			



GAUGE NO: 2032 DEPTH: 4818.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2261	2246.8			
B	INITIAL FIRST FLOW	40	40.3			
C	FINAL FIRST FLOW	26	40.3	15.0	15.0	F
C	INITIAL FIRST CLOSED-IN	26	40.3			
D	FINAL FIRST CLOSED-IN	53	62.3	30.0	30.0	C
E	INITIAL SECOND FLOW	40	40.5			
F	FINAL SECOND FLOW	40	40.5	30.0	30.0	F
F	INITIAL SECOND CLOSED-IN	40	40.5			
G	FINAL SECOND CLOSED-IN	80	79.4	180.0	180.0	C
H	FINAL HYDROSTATIC	2248	2240.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: LOWER ISMAY
 NET PAY (ft): 8.0
 GROSS TESTED FOOTAGE: 54.0
 ALL DEPTHS MEASURED FROM: KB
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 8.750
 ELEVATION (ft): 6376.0
 TOTAL DEPTH (ft): 4821.0
 PACKER DEPTH(S) (ft): 4761. 4767
 FINAL SURFACE CHOKE (in): _____
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.10
 MUD VISCOSITY (sec): 40
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 102 @ 4817.0 ft

TICKET NUMBER: 23211700
 DATE: 10-20-86 TEST NO: 2
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP:
FARMINGTON
 TESTER: D. AULD
 WITNESS: MR. RUBIS
 DRILLING CONTRACTOR:
EXETER #68

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
PIT	2.080 @ 66 °F	1824 ppm
BOTTOM	1.440 @ 65 °F	2480 ppm
SAMPLER	1.550 @ 63 °F	2480 ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: 0.0
 cu.ft. OF GAS: _____
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: 2150.0
 TOTAL LIQUID cc: 2150.0

HYDROCARBON PROPERTIES

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

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

18 FEET OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4213.0	
3		DRILL COLLARS.....	6.250	2.500	428.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	4642.0
3		DRILL COLLARS.....	6.250	2.500	90.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.750	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4744.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	4746.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4761.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4767.0
20		FLUSH JOINT ANCHOR.....	5.750	2.500	48.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	4818.0
TOTAL DEPTH					4821.0	

EQUIPMENT DATA

NOV 08 1986

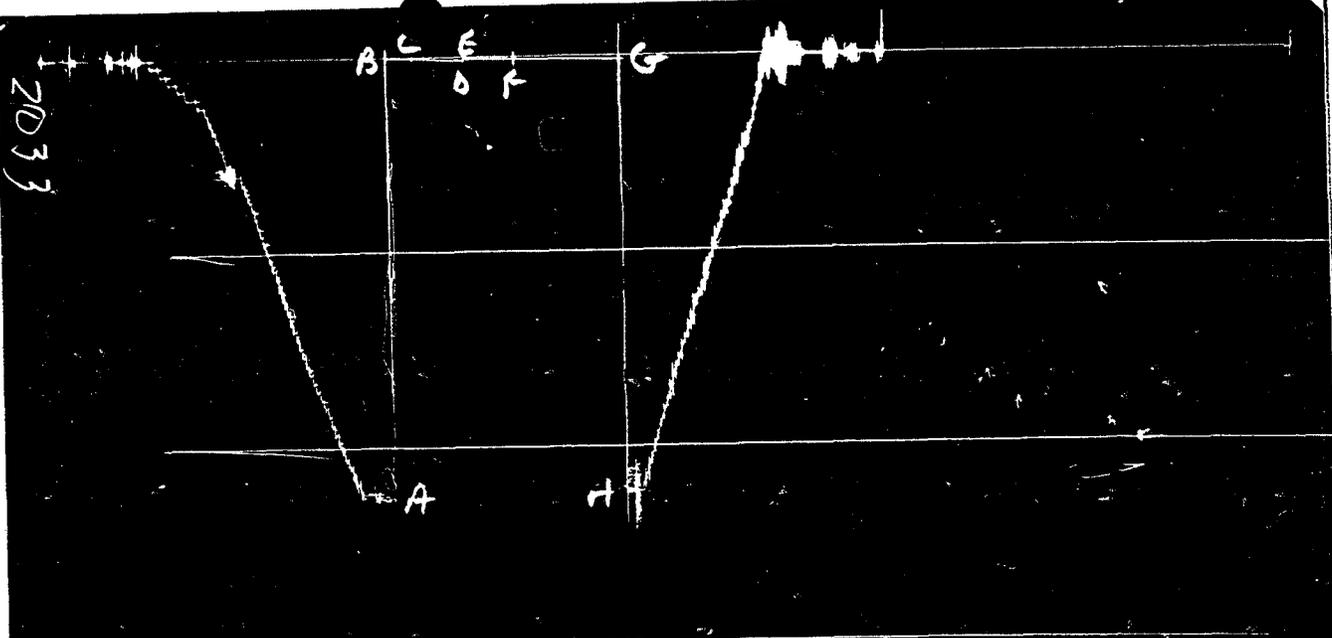
DIVISION OF
OIL, GAS & MINING



TICKET NO. 23211800
31-OCT-86
FARMINGTON

BIG KNIFE FEDERAL 12-8		1	3	4843.0 - 4869.0	PAN CANADIAN PETROLEUM COMPANY	
LEASE NAME		WELL NO.	TEST NO.	TESTED INTERVAL	LEASE OWNER/COMPANY NAME	
LEGAL LOCATION	8-32S-23E	FIELD AREA	WILDCAT	COUNTY	SAN JUAN	STATE
SEC. - TWP. - RMB.						UTRH OR

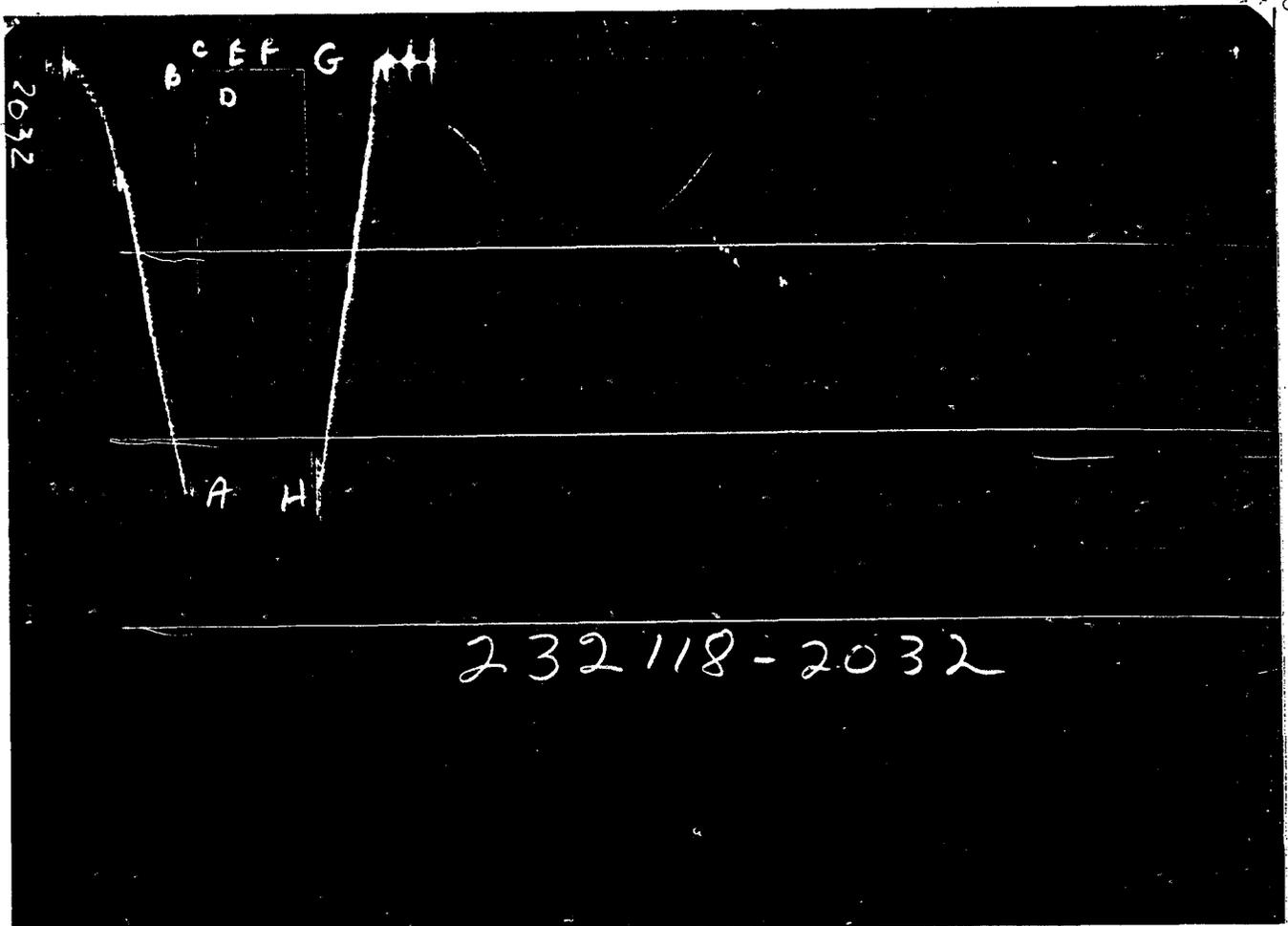
FORMATION TESTING SERVICE REPORT



232118 - 2033

GAUGE NO: 2033 DEPTH: 4822.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2263	2243.5			
B	INITIAL FIRST FLOW	8	8.5	15.0	15.0	F
C	FINAL FIRST FLOW	8	8.5			
C	INITIAL FIRST CLOSED-IN	8	8.5	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	20	19.4			
E	INITIAL SECOND FLOW	14	12.2	30.0	30.0	F
F	FINAL SECOND FLOW	14	12.2			
F	INITIAL SECOND CLOSED-IN	14	12.2	60.0	60.0	C
G	FINAL SECOND CLOSED-IN	27	18.2			
H	FINAL HYDROSTATIC	2223	2220.0			



232118-2032

GAUGE NO: 2032 DEPTH: 4866.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2275	2265.9			
B	INITIAL FIRST FLOW	27	29.8			
C	FINAL FIRST FLOW	27	29.8	15.0	15.0	F
C	INITIAL FIRST CLOSED-IN	27	29.8			
D	FINAL FIRST CLOSED-IN	40	40.0	30.0	30.0	C
E	INITIAL SECOND FLOW	27	34.3			
F	FINAL SECOND FLOW	27	30.4	30.0	30.0	F
F	INITIAL SECOND CLOSED-IN	27	30.4			
G	FINAL SECOND CLOSED-IN	40	36.4	60.0	60.0	C
H	FINAL HYDROSTATIC	2248	2261.1			

EQUIPMENT & HOLE DATA

FORMATION TESTED: DESERT CREEK
 NET PAY (ft): _____
 GROSS TESTED FOOTAGE: 26.0
 ALL DEPTHS MEASURED FROM: KELLY BUSHING
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 8.750
 ELEVATION (ft): 6376.0
 TOTAL DEPTH (ft): 4869.0
 PACKER DEPTH(S) (ft): 4837, 4643
 FINAL SURFACE CHOKE (in): _____
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 8.90
 MUD VISCOSITY (sec): 38
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 117 @ 4865.0 ft

TICKET NUMBER: 23211800

DATE: 10-21-86 TEST NO: 3

TYPE DST: OPEN HOLE

HALLIBURTON CAMP: _____
FARMINGTON

TESTER: D. AULD

WITNESS: MR. RUBIS

DRILLING CONTRACTOR: _____
EXETER #68

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>2.040 @ 61 °F</u>	<u>1640 ppm</u>
<u>BOTTOM</u>	<u>2.020 @ 70 °F</u>	<u>1575 ppm</u>
<u>SAMPLER</u>	<u>1.870 @ 68 °F</u>	<u>1870 ppm</u>
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Pstg AT SURFACE: 0.0
 cu.ft. OF GAS: _____
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: 2150.0
 TOTAL LIQUID cc: 2150.0

HYDROCARBON PROPERTIES

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

CUSHION DATA

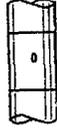
TYPE AMOUNT WEIGHT

RECOVERED:

23' OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4235.0	
3		DRILL COLLARS.....	6.250	2.500	482.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	4718.0
3		DRILL COLLARS.....	6.250	2.500	90.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.870	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4820.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	4822.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4837.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4843.0
20		FLUSH JOINT ANCHOR.....	5.720	2.500	20.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	4866.0
		TOTAL DEPTH				4869.0

EQUIPMENT DATA

DST

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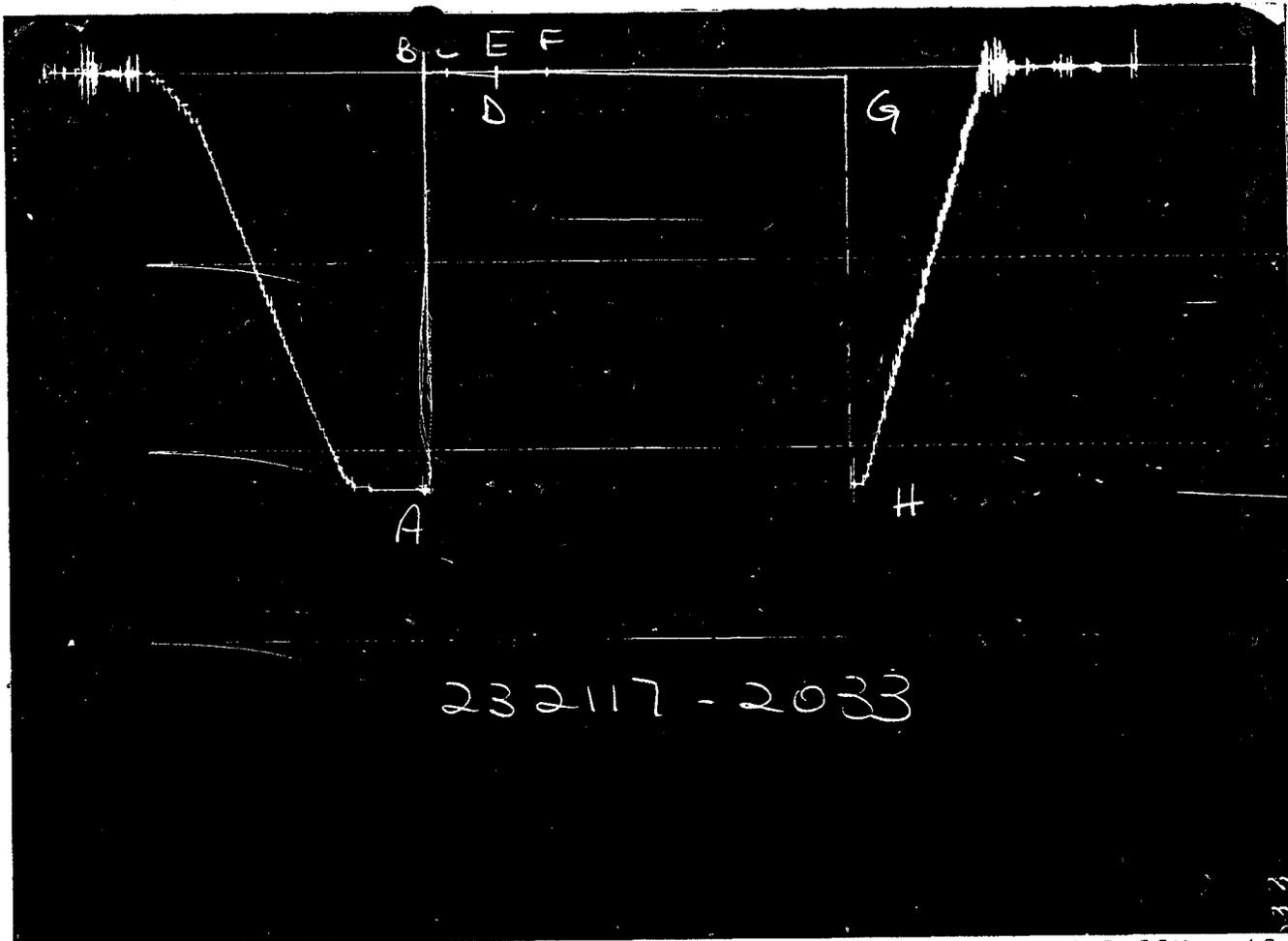


TICKET NO. 23211700
31-OCT-86
FARMINGTON

LEGAL LOCATION SEC. - TWP. - RNG.	8 - 32 SOUTH - 23 EAST	WELL NO.	1	TEST NO.	2	TESTED INTERVAL	4767.0 - 4821.0	COUNTY	SNB JUN	STATE	UTAH	PW
LEASE NAME	PAN CANADIAN PETROLEUM COMPANY											
LEASE OWNER/COMPANY NAME	PAN CANADIAN PETROLEUM COMPANY											
FIELD AREA	WILDCAT											

FORMATION TESTING SERVICE REPORT

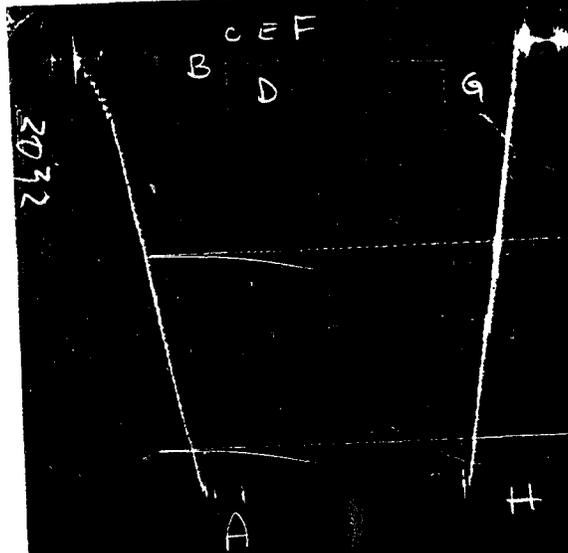
110001



232117 - 2033

GAUGE NO: 2033 DEPTH: 4746.0 BLANKED OFF: NO HOUR OF CLOCK: 12

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2209	2206.3			
B	INITIAL FIRST FLOW		5.5	15.0	15.0	F
C	FINAL FIRST FLOW	14	5.5			
C	INITIAL FIRST CLOSED-IN	14	5.5	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	40	28.3			
E	INITIAL SECOND FLOW	14	8.6	30.0	30.0	F
F	FINAL SECOND FLOW	14	9.0			
F	INITIAL SECOND CLOSED-IN	14	9.0	180.0	180.0	C
G	FINAL SECOND CLOSED-IN	54	48.9			
H	FINAL HYDROSTATIC	2209	2196.1			



232117 - 2032

GAUGE NO: 2032 DEPTH: 4818.0 BLANKED OFF: YES HOUR OF CLOCK: 24

ID	DESCRIPTION	PRESSURE		TIME		TYPE
		REPORTED	CALCULATED	REPORTED	CALCULATED	
A	INITIAL HYDROSTATIC	2261	2246.8			
B	INITIAL FIRST FLOW	40	40.3	15.0	15.0	F
C	FINAL FIRST FLOW	26	40.3			
C	INITIAL FIRST CLOSED-IN	26	40.3	30.0	30.0	C
D	FINAL FIRST CLOSED-IN	53	62.3			
E	INITIAL SECOND FLOW	40	40.5	30.0	30.0	F
F	FINAL SECOND FLOW	40	40.5			
F	INITIAL SECOND CLOSED-IN	40	40.5	180.0	180.0	C
G	FINAL SECOND CLOSED-IN	80	79.4			
H	FINAL HYDROSTATIC	2248	2240.5			

EQUIPMENT & HOLE DATA

FORMATION TESTED: LOWER ISMAY
 NET PAY (ft): 8.0
 GROSS TESTED FOOTAGE: 54.0
 ALL DEPTHS MEASURED FROM: KB
 CASING PERFS. (ft): _____
 HOLE OR CASING SIZE (in): 8.750
 ELEVATION (ft): 6376.0
 TOTAL DEPTH (ft): 4821.0
 PACKER DEPTH(S) (ft): 4761. 4767
 FINAL SURFACE CHOKE (in): _____
 BOTTOM HOLE CHOKE (in): 0.750
 MUD WEIGHT (lb/gal): 9.10
 MUD VISCOSITY (sec): 40
 ESTIMATED HOLE TEMP. (°F): _____
 ACTUAL HOLE TEMP. (°F): 102 @ 4817.0 ft

TICKET NUMBER: 23211700
 DATE: 10-20-86 TEST NO: 2
 TYPE DST: OPEN HOLE
 HALLIBURTON CAMP:
FARMINGTON
 TESTER: D. AULD
 WITNESS: MR. RUBIS
 DRILLING CONTRACTOR:
EXETER #68

FLUID PROPERTIES FOR RECOVERED MUD & WATER

SOURCE	RESISTIVITY	CHLORIDES
<u>PIT</u>	<u>2.080 @ 66 °F</u>	<u>1824 ppm</u>
<u>BOTTOM</u>	<u>1.440 @ 65 °F</u>	<u>2480 ppm</u>
<u>SAMPLER</u>	<u>1.550 @ 63 °F</u>	<u>2480 ppm</u>
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm
_____	_____ @ _____ °F	_____ ppm

SAMPLER DATA

Psig AT SURFACE: 0.0
 cu.ft. OF GAS: _____
 cc OF OIL: _____
 cc OF WATER: _____
 cc OF MUD: 2150.0
 TOTAL LIQUID cc: 2150.0

HYDROCARBON PROPERTIES

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

CUSHION DATA

TYPE	AMOUNT	WEIGHT
_____	_____	_____
_____	_____	_____

RECOVERED:

18 FEET OF MUD

MEASURED FROM
TESTER VALVE

REMARKS:

		O.D.	I.D.	LENGTH	DEPTH	
1		DRILL PIPE.....	4.500	3.826	4213.0	
3		DRILL COLLARS.....	6.250	2.500	428.0	
50		IMPACT REVERSING SUB.....	6.000	3.000	1.0	4642.0
3		DRILL COLLARS.....	6.250	2.500	90.0	
5		CROSSOVER.....	6.000	3.000	1.0	
13		DUAL CIP SAMPLER.....	5.000	0.750	7.0	
60		HYDROSPRING TESTER.....	5.000	0.750	5.0	4744.0
80		AP RUNNING CASE.....	5.000	2.250	4.0	4746.0
15		JAR.....	5.000	1.750	5.0	
16		VR SAFETY JOINT.....	5.000	1.000	3.0	
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4761.0
70		OPEN HOLE PACKER.....	7.750	1.530	6.0	4767.0
20		FLUSH JOINT ANCHOR.....	5.750	2.500	48.0	
81		BLANKED-OFF RUNNING CASE.....	5.750		4.0	4818.0
TOTAL DEPTH					4821.0	

EQUIPMENT DATA

111321

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OIL, GAS & MINING

CORE ANALYSIS REPORT

FOR

PANCANADIAN PETROLEUM COMPANY

NO. 1 BIG KNIFE FED. 12-8
WILDCAT
SAN JUAN, UTAH

PAGE

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

PANCANADIAN PETROLEUM COMPANY
NO. 1 BIG KNIFE FED, 12-8
WILDCAT
SAN JUAN, UTAH

DALLAS, TEXAS

DATE : 21-OCT-86
FORMATION : PARADOX
DRLG. FLUID: WBM
LOCATION : SW,NW SEC. 8-T32S-R23E

FILE NO : 38030-003458
ANALYSTS : DS/SP
ELEVATION: 6376 KB

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID OIL	SATS. WTR	GRAIN DEN	DESCRIPTION
UPPER ISMAY ZONE CORE # 1 4631-4691								
	4631.0-34.0							CORE TAKEN AT WELLSITE
	4634.0-50.0							ANHYDRITE --- NO ANALYSIS
1	4650.0-51.0	0.07	0.01	1.7	7.2	71.8	2.70	LM DKGRY VFXLN SHY
2	4651.0-52.0	1.17	0.60	1.3	9.9	59.2	2.71	LM DKGRY VFXLN SHY **
3	4652.0-53.0	0.05	0.02	0.8	7.3	58.8	2.70	LM DKGRY VFXLN SHY
4	4653.0-54.0	0.03	0.01	2.4	0.0	40.8	2.66	LM DKGRY VFXLN SHY
5	4654.0-55.0	0.01	0.01	0.8	0.0	38.5	2.70	LM DKGRY VFXLN SHY
6	4655.0-56.0	0.02	0.01	1.6	0.0	37.7	2.71	LM DKGRY VFXLN SHY
7	4656.0-57.0	0.02	0.02	1.0	0.0	32.0	2.71	LM DKGRY VFXLN SHY
8	4657.0-58.0	0.03	0.01	0.9	0.0	35.9	2.70	LM GRY VFXLN
9	4658.0-59.0	<0.01	*	1.3	0.0	66.7	2.71	LM GRY VFXLN OVF
10	4659.0-60.0	0.64	0.17	1.4	16.0	32.0	2.73	LM GRY VFXLN OVF **
11	4660.0-61.0	0.05	0.04	0.9	0.0	71.9	2.71	LM GRY VFXLN
12	4661.0-62.0	0.82	0.01	1.1	0.0	24.0	2.71	LM GRY VFXLN SHY **
13	4662.0-63.0	0.75	0.01	0.8	18.2	36.3	2.72	LM GRY VFXLN SHY **
14	4663.0-64.0	<0.01	*	0.5	17.2	34.5	2.68	LM GRY VFXLN SHY OVF
15	4664.0-65.0	0.01	*	0.7	0.0	21.4	2.70	LM GRY VFXLN OVF
16	4665.0-66.0	0.01	*	0.8	0.0	24.8	2.76	LM GRY VFXLN SL/ANHY OVF
17	4666.0-67.0	0.01	*	0.6	11.9	23.7	2.74	LM GRY VFXLN SL/ANHY OVF
18	4667.0-68.0	<0.01	*	0.8	0.0	57.8	2.72	LM GRY VFXLN OVF
19	4668.0-69.0	0.01	*	0.5	0.0	37.7	2.72	LM GRY VFXLN OVF
20	4669.0-70.0	0.02	*	1.0	0.0	33.6	2.74	LM GRY VFXLN SL/ANHY OVF
21	4670.0-71.0	0.01	*	0.7	12.8	25.5	2.70	LM GRY VFXLN OVF
22	4671.0-72.0	<0.01	*	1.1	0.0	32.0	2.72	LM GRY VFXLN OVF
23	4672.0-73.0	0.02	0.01	2.0	0.0	52.5	2.73	LM GRY VFXLN SHY

PANCANADIAN PETROLEUM COMPANY
NO. 1 BIG KNIFE FED. 12-8

DATE : 21-OCT-86
FORMATION : PARADOX

FILE NO : 38030-003458
ANALYSTS : DS/SP

FULL DIAMETER ANALYSIS-BOYLE'S LAW POROSITY

SAMPLE NUMBER	DEPTH	PERM. TO AIR (MD) MAXIMUM	AIR (MD) 90 DEG	POR. He	FLUID SATS. OIL	WTR	GRAIN DEN	DESCRIPTION
	4673.0-91.0							SHALE -- NO ANALYSIS

** DENOTES FRACTURE PERMEABILITY

* SAMPLE NOT SUITABLE FOR FULL DIAMETER ANALYSIS

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CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

PANCANADIAN PETROLEUM COMPANY
NO. 1 BIG KNIFE FED. 12-8

DALLAS, TEXAS
DATE : 21-OCT-86
FORMATION : PARADOX

FILE NO. : 38030-003458
ANALYSTS : DSJSP

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

DEPTH INTERVAL: 4631.0 TO 4691.0

FEET OF CORE ANALYZED : 23.0 FEET OF CORE INCLUDED IN AVERAGES: 23.0

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

PERMEABILITY MAXIMUM RANGE (MD.)	:	0.00 TO 2.0	(UNCORRECTED FOR SLIPPAGE)
HELIUM POROSITY RANGE (%)	:	0.0 TO 100.0	
OIL SATURATION RANGE (%)	:	0.0 TO 100.0	
WATER SATURATION RANGE (%)	:	0.0 TO 100.0	

SHALE SAMPLES EXCLUDED FROM AVERAGES.

AVERAGES FOR DEPTH INTERVAL: 4631.0 TO 4691.0

AVERAGE PERMEABILITY (MILLIDARCIES)

ARITHMETIC PERMEABILITY	:	0.16
GEOMETRIC PERMEABILITY	:	0.02
HARMONIC PERMEABILITY	:	0.00
GEOMETRIC MAXIMUM & 90 DEG PERM.	:	0.01

PRODUCTIVE CAPACITY (MILLIDARCY-FEET)

ARITHMETIC CAPACITY	:	3.8
GEOMETRIC CAPACITY	:	0.52
HARMONIC CAPACITY	:	0.11
GEOMETRIC MAXIMUM & 90 DEG CAPACITY:	:	0.26

AVERAGE POROSITY (PERCENT) : 1.1

AVERAGE TOTAL WATER SATURATION : 43.5
(PERCENT OF PORE SPACE)

AVERAGE RESIDUAL OIL SATURATION : 3.7
(PERCENT OF PORE SPACE)

AVERAGE CONNATE WATER SATURATION ** : 42.1
(PERCENT OF PORE SPACE)

** ESTIMATED FROM TOTAL
WATER SAUTRATION.

PERMEABILITY VS POROSITY

COMPANY: PANCANADIAN PETROLEUM COMPANY
 FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
 COUNTY, STATE: SAN JUAN, UTAH

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

DEPTH INTERVAL	RANGE & SYMBOL	PERMEABILITY		POROSITY		POROSITY AVERAGE	PERMEABILITY AVERAGES		
		MINIMUM	MAXIMUM	MIN.	MAX.		ARITHMETIC	HARMONIC	GEOMETRIC
4650.0 - 4673.0	1 (+)	0.000	2.0	0.0	5.0	1.1	0.16	0.00	0.02

PERMEABILITY: MILLIDARCIES

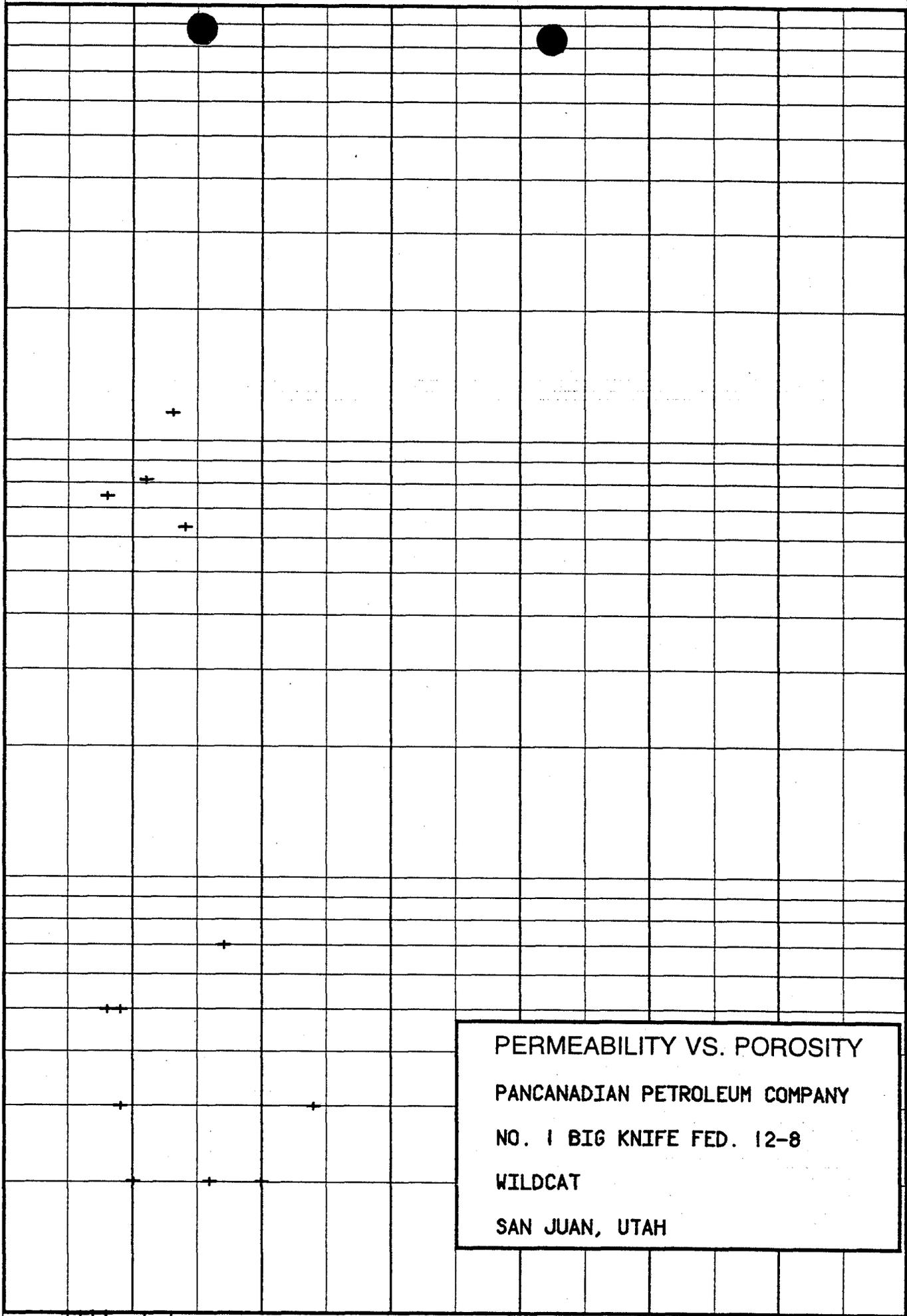
0.1

0.01

0.0 1.0 2.0 3.0 4.0 5.0 6.0

POROSITY: PERCENT

PERMEABILITY VS. POROSITY
 PANCANADIAN PETROLEUM COMPANY
 NO. 1 BIG KNIFE FED. 12-8
 WILDCAT
 SAN JUAN, UTAH



STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PANCANADIAN PETROLEUM COMPANY
FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
COUNTY, STATE: SAN JUAN, UTAH

AIR PERMEABILITY : MD. (HORIZONTAL) RANGE USED 0.000 TO 2.
POROSITY : PERCENT (HELIUM) RANGE USED 0.0 TO 46.0

(PERMEABILITY UNCORRECTED FOR SLIPPAGE)

DEPTH LIMITS : 4650.0 - 4673.0 INTERVAL LENGTH : 23.0
FEET ANALYZED IN ZONE : 23.0 LITHOLOGY EXCLUDED : NONE

DATA SUMMARY

POROSITY AVERAGE	PERMEABILITY AVERAGES		
	ARITHMETIC	HARMONIC	GEOMETRIC
1.1	0.16	0.00	0.02

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PANCANADIAN PETROLEUM COMPANY
 FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY POROSITY RANGES

POROSITY RANGE	FEET IN RANGE	AVERAGE POROSITY	AVERAGE PERM. (GEOM.)	(ARITH)	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.0 - 2.0	21.0	1.0	0.030	0.177	91.3	91.3
2.0 - 4.0	2.0	2.2	0.024	0.025	8.7	100.0

TOTAL NUMBER OF FEET = 23.0

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STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PANCANADIAN PETROLEUM COMPANY
 FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
 COUNTY, STATE: SAN JUAN, UTAH

GROUPING BY FERMEABILITY RANGES

PERMEABILITY RANGE	FEET IN RANGE	AVERAGE FERM. (GEOM.)	AVERAGE FERM. (ARITH)	AVERAGE POROSITY	FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (%)
0.005 - 0.010	4.0	0.005	0.005	0.9	17.4	17.4
0.010 - 0.020	6.0	0.010	0.010	0.7	26.1	43.5
0.020 - 0.039	6.0	0.023	0.023	1.5	26.1	69.6
0.039 - 0.078	3.0	0.056	0.057	1.1	13.0	82.6
0.625 - 1.250	4.0	0.824	0.845	1.1	17.4	100.0

TOTAL NUMBER OF FEET = 23.0

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

COMPANY: PANCANADIAN PETROLEUM COMPANY
 FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
 COUNTY, STATE: SAN JUAN, UTAH

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

POROSITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	ARITH MEAN	MEDIAN
0.0	0.0	0.0	23.0	100.0	1.1	
2.0	21.0	82.2	2.0	17.8	2.2	
4.0	23.0	100.0	0.0	0.0		

TOTAL STORAGE CAPACITY IN POROSITY-FEET = 24.7

STATISTICAL DATA FOR POROSITY AND PERMEABILITY HISTOGRAM

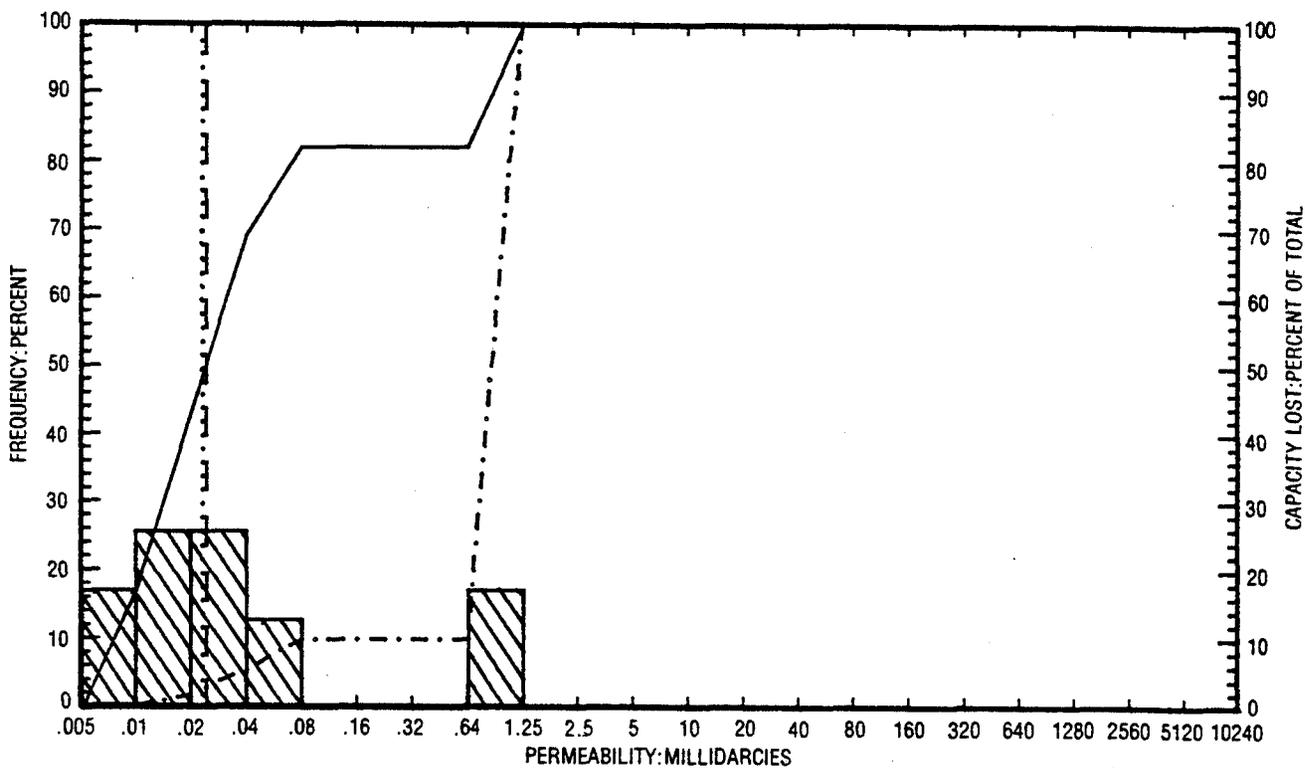
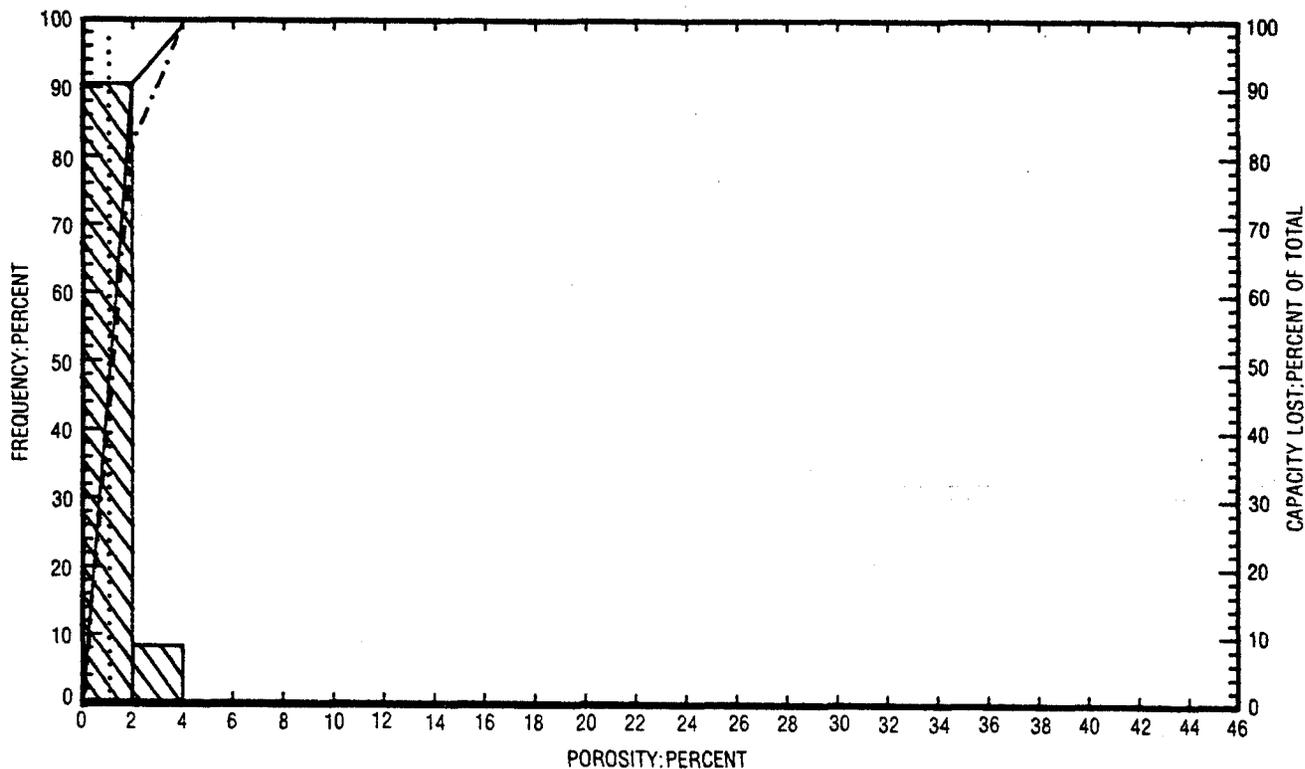
COMPANY: PANCANADIAN PETROLEUM COMPANY
 FIELD : WILDCAT

WELL : NO. 1 BIG KNIFE FED. 12-8
 COUNTY, STATE: SAN JUAN, UTAH

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

PERMEABILITY CUT OFF	FEET LOST	CAPACITY LOST (%)	FEET REMAINING	CAPACITY REMAINING (%)	GEOM MEAN	MEDIAN
0.005	0.0	0.0	23.0	100.0	0.02	0.02
0.010	4.0	0.5	19.0	99.5	0.04	0.03
0.020	10.0	2.1	13.0	97.9	0.08	0.04
0.039	16.0	5.8	7.0	94.2	0.26	0.68
0.078	19.0	10.4	4.0	89.6	0.82	0.88
0.156	19.0	10.4	4.0	89.6	0.82	0.88
0.312	19.0	10.4	4.0	89.6	0.82	
0.625	19.0	10.4	4.0	89.6	0.82	
1.	23.0	100.0	0.0	0.0		

TOTAL FLOW CAPACITY IN MILLIDARCY-FEET (ARITHMETIC) = 3.75

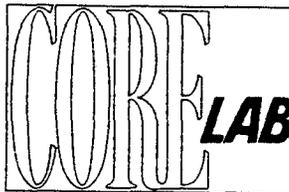


PERMEABILITY AND POROSITY HISTOGRAMS

PANCANADIAN PETROLEUM COMPANY
 NO. 1 BIG KNIFE FED. 12-8
 WILDCAT
 SAN JUAN, UTAH

LEGEND

- ARITHMETIC MEAN POROSITY (dotted line)
- GEOMETRIC MEAN PERMEABILITY (dotted line)
- MEDIAN VALUE ----- (dashed line)
- CUMULATIVE FREQUENCY _____ (solid line)
- CUMULATIVE CAPACITY LOST (dash-dot line)



CORE LABORATORIES, INC.

Petroleum Reservoir Engineering

COMPANY PANCANADIAN PETROLEUM COMPANY FILE NO. 38030-003458
 WELL NO. 1 BIG KNIFE FED. 12-8 DATE 21-OCT-1986 ENGRS. DS;SP
 FIELD WILDCAT FORMATION PARADOX ELEV. 6376 KB
 COUNTY SAN JUAN STATE UTAH DRLG. FLD. WBM CORES _____

CoRes Log
CORE and RESISTIVITY EVALUATION

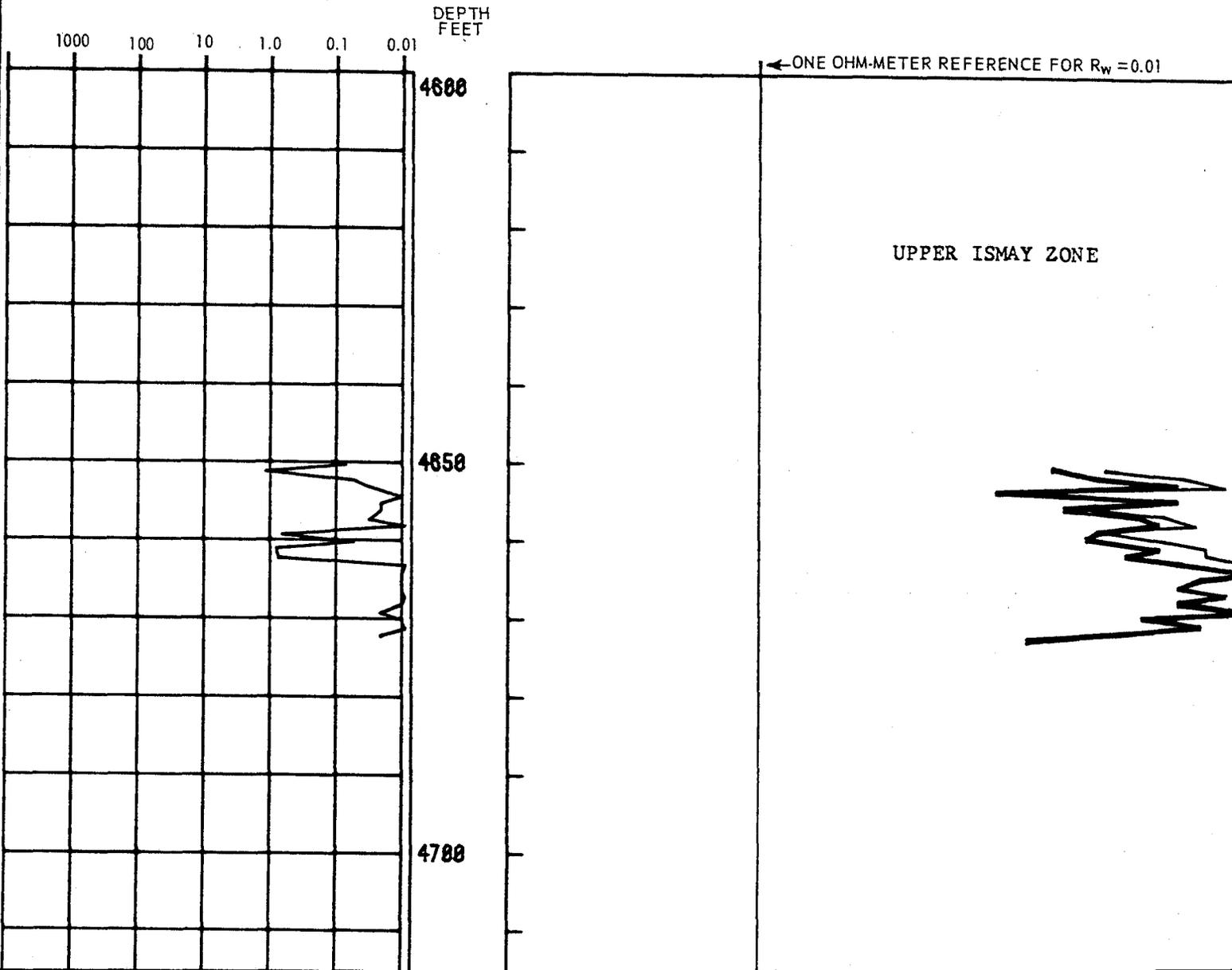
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RESISTIVITY PARAMETERS: a = 1.0 m = 2.0 n = 2.0 . Depths 4631.0 to 4691.0
 a = _____ m = _____ n = _____ . Depths _____ to _____

PERMEABILITY
 MILLIDARCIES

CORE ANALYSIS CALCULATED RESISTIVITY

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




CORE LABORATORIES, INC.
Petroleum Reservoir Engineering

 COMPANY PANCANADIAN PETROLEUM COMPANY

 FILE NO. 38030-003458

 WELL NO. 1 BIG KNIFE FED. 12-8

 DATE 21-OCT-86

 FIELD WILDCAT

 FORMATION PARADOX

 ELEV. 6376 KB

 COUNTY SAN JUAN STATE UTAH

 DRLG. FLD. WBM

CORES _____

 LOCATION SW, NW SEC. 8-T32S-R23E

CORRELATION COREGRAPH

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NOV 10 1986

 DIVISION OF
OIL, GAS & MINING

VERTICAL SCALE: 5" = 100'

 Total Water _____
PERCENT PORE SPACE
100 80 60 40 20 0

 Oil Saturation _____
PERCENT PORE SPACE
0 20 40 60 80 100

Gamma Ray

RADIATION INCREASE →

Permeability $\times 0.1$

MILLIDARCIES

Porosity _____

PERCENT

PARADOX FORMATION

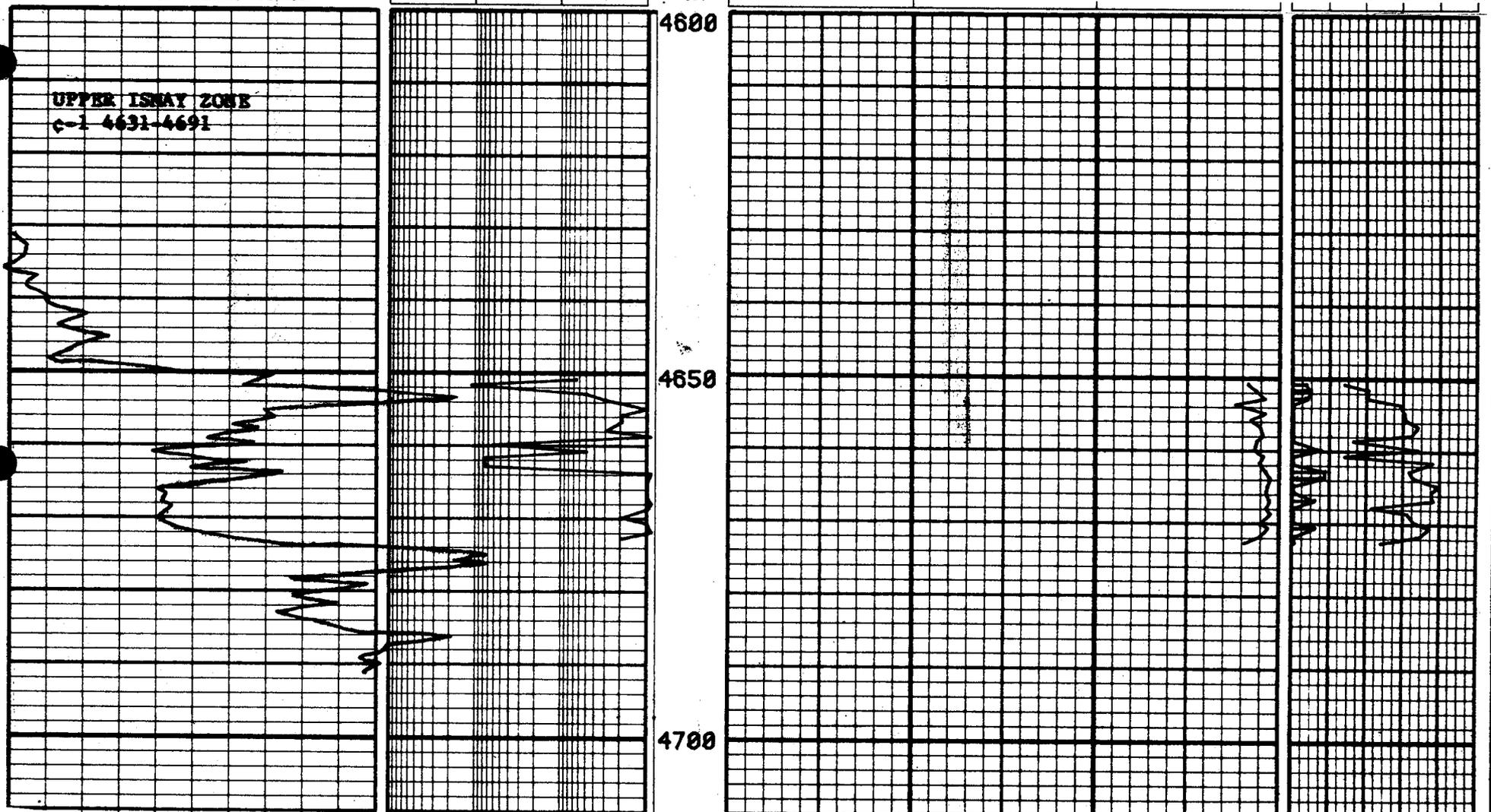
100 10 1.0 .1

 Depth
Feet 30

20

10

0 20 40 60 80 100

UPPER ISNAY ZONE
c-1 4631-4691




UTAH
NATURAL RESOURCES

To: Chip

From: SRB

Date: 7-1-87

- For your information and file.
- For necessary action.
- Reply directly to origin with a copy to this office.
- Please draft a reply for signature of _____

_____ and
return by the following date _____.

- Other Plz. check BLM-Moab
's copy whatever well file
info. is available. We've
never received any reports
from operator.



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

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

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

August 3, 1987

PanCanadian Petroleum Company
P. O. Box 929
Denver, CO 80201

Gentlemen:

Re: Well No. Big Knife Federal 12-8 #1 - Sec. 8, T. 32S, R. 23E
San Juan County, Utah - API No. 43-037-31277

Rule 312 of the Oil and Gas Conservation General Rules requires that Form DOGM-3 "Well Completion or Recompletion Report and Log", along with copies of logs and tests run, be filed with this office not later than 90 days after well completion and/or plugging procedure.

Please complete and return the enclosed Form DOGM-3 or the equivalent federal form including copies of logs and tests which may have been run on the referenced well to the address listed below, at your earliest convenience, but not later than August 31, 1987.

Utah Division of Oil, Gas, and Mining
Attention: Suspense File - Norm Stout
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Respectfully,

Norman C. Stout
Records Manager

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

0448S/04

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0137
Expires August 31, 1985

5

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

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

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. REVR. Other P&A

2. NAME OF OPERATOR
PanCanadian Petroleum Company

3. ADDRESS OF OPERATOR
P.O. Box 929, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)
At surface
1912' FNL & 735' FWL (SW NW)
At top prod. interval reported below
At total depth
same

PROCESSED
AUG 28 1987
DIVISION OF OIL
GAS & MINING

14. PERMIT NO. 43-037-31277 DATE ISSUED 9-12-86

5. LEASE DESIGNATION AND SERIAL NO.
U 49985-A
6. IF INDIAN, TRIBAL OR INDIAN NAME
N/A
7. UNIT AGREEMENT NAME
N/A
8. FARM OR LEASE NAME
Big Knife Federal 12-8
9. WELL NO.
#1
10. FIELD AND POOL, OR WILDCAT
Wildcat
11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
Sec. 8, T32S, R23E
12. COUNTY OR PARISH
San Juan
13. STATE
Utah

15. DATE SPUDDED 10/7/86 16. DATE T.D. REACHED 10/22/86 17. DATE COMPL. (Ready to prod.) N/A 18. ELEVATIONS (DF, RKB, RT, OR, ETC.)* 6368' GL 19. ELEV. CASINGHEAD -

20. TOTAL DEPTH, MD & TVD 4896 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY* 23. INTERVALS DRILLED BY 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 25. WAS DIRECTIONAL SURVEY MADE

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*
N/A
25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIL-BHC 11-25-86 LDT-CML
MUD LOG 11-13-86 BHC-SONIC 10-14-86
27. WAS WELL CORRED
Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
9-5/8"	36	1102'	12 1/4"	310 sxs lite	

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	30. TUBING RECORD
					SIZE
					DEPTH SET (MD)
					PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

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

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)					
		PA					
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
FLOW, TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	

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

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records
SIGNED James D. Keisling Keisling TITLE Coord., Eng. Operations U.S. DATE 8/20/87

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

12/86

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);

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP	
					MEAS. DEPTH	TRUE VERT. DEPTH
Upper Ismay	4564	4698	Cored 4631-4691' See core report	Moenhopi	1505	
Upper Ismay			DST #1 4691-4645' 10-30-30-30 IFP 83/83 wk died in 4 min, ISIP 83, FFP 83/83 no blo, IHP 2202, FHP 2175 no recovery	Cutler	1661	
Lower Ismay			DST #2 4821-4767' 15-30-30-180 IFP 14/40 wk blo, ISIP 40, FFP 14/14 no blo, FSIP 54, IHP 2263, FHP 2223, 18', drlg mud	Honaker Trail	3397	
Desert Creek			DST #3 4869-4843' 15-30-30-60 IFP 8/8 wk blo, ISIP 20, FFP 14/14 no blo, FSIP 27, IHP 2263, FHP 2223, Rec'd 23', drlg mud	Upper Ismay	4564	
				Lower Ismay	4708	
				Desert Creek	4836	

38. GEOLOGIC MARKERS

PanCanadian Petroleum Company

Tel. (303) 825-8371
Telex 00-45640
Postal Address: P.O. Box 929
Denver, Colorado 80201

Suite 1800
600-17th St.
Denver, Colorado 80202

August 24, 1987

RECEIVED
AUG 28 1987
DIVISION OF OIL
GAS & MINING

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

Re: P&A Report
Big Knife Federal 12-8 #1
San Juan County, Utah

Gentlemen:

PanCanadian Petroleum Company hereby requests that the information reported to the Division regarding drilling, testing and/or completion of the subject well, including samples and test data, be held confidential for the initial one year permitted period.

Yours very truly,



James D. Keisling
Coordinator
Engineering Operations U.S.

JDK:krh

Encl.

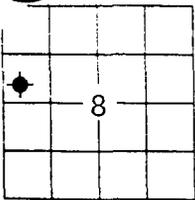
*I CALLED JIM TO EXPLAIN THAT THE CONFIDENTIAL
TIME FRAME HAS EXPIRED.*

Jim
9-2-87

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

INDIVIDUAL WELL RECORD

Sec. 8
T. 32 S.
R. 23 E.
SLB& _____ Mer.
Ref. No. _____



Date March 30, 1988

FEDERAL

State Utah
County San Juan
Field Wildcat
Unit/CA _____
District Moab
Subdivision SWNW
Lease No. 49985-A
Lessee PanCanadian Petroleum Co. 100%
Operator PanCanadian Petroleum Company
Well Name & No. Big Knife Federal 12-8-1
A.P.I. Well No. 43-037-31277
Location 1912' FNL and 735' FWL

Date Drilling Approved September 17, 1986 Well Elevation 6368 GR Feet
Date Drilling Commenced October 7, 1986 Total Depth _____ Feet
Date Drilling Ceased October 22, 1986 Initial Production _____
Oral to P&A
XXXXXXXXXXXXXXXXXXXX October 23, 1986 Gravity A.P.I. _____
Date Completed For Production _____ Initial Reservoir Pressure _____
Abandonment Approved (Final) February 2, 1989
FAN Approved 7-18-91

GEOLOGIC FORMATIONS

PRODUCTIVE HORIZONS

SURFACE Navajo Sandstone LOWEST TESTED Desert Creek

SURFACE MANAGEMENT AGENCY	<u>Private</u>
MINERAL OWNERSHIP	<u>BLM</u>
LEASE EXPIRATION	<u>1/31/92</u>

WELL STATUS

YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1986										SPUD 10/7/86		
1989		SRA Approved 2/289								Oral to P&A 10/23/86 SRA Recd 10/31/86		

First Production Memorandum _____ Lease Extension Memorandum _____ Confirmation _____

Remarks _____

RECEIVED
 DEPT. OF INTERIOR
 BUREAU OF LAND MGMT.
 1989 FEB -9 AM 9:00
 STATE OFFICE

