



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to drill:—

Name and number of well **IOE Spring River YT N-50-69-10-130-30**
 Location: Unit **N** Section **50** Grid **69° 10' 130° 30'**
 Latitude **69° 07' 53" N** Longitude **130° 44' 03" W**
 Unique Well Identifier **300N506910130300**
 Universal Well Location Reference **Lat 69° 13139N Long 130° 73472W**
 Elevation: Ground **304'** **K.B.** feet above sea-level.
 Well is expected to produce from **Upper Paleozoic** formation at a depth
 of about **5700 - 7200** feet. Expected total final depth **7500**
 Area assigned to well _____
 (for Oil Conservation Engineer's use only)

Permit No. **3766** Lease No. _____ Acreage **45,780**

Permittee, licensee, or lessee **Imperial Oil Enterprises Ltd.**

Exploratory Licence No. **1674**

Surface owned by Crown or **Crown** (If alienated submit name and address of owner and occupant.)

Petroleum and natural-gas rights owned by **Crown**

We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Feet of Cement
1. 20 & 28"		Refrigerated Conductor Pipe		60'	to surface
2. 13-3/8"	72.0	N-80	New	500'	to surface
3. 10-3/4"	51.0	N-80	New	0 - 2000	as requested
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment _____

Double gate Shaffer & Hydrill

Well will be drilled with Rotary Rig No. **3** by **Imperial Oil Enterprises Ltd.**
 (Drilling Contractor or company)

Responsible agent of applicant:—

Contractor's Business Licence No. _____

At well **W. E. Hockey**

At registered office **G. M. McPherson**

Address **Box 1410 Inuvik**

Address **10025 - Jasper Avenue**

It is understood that if changes become necessary, notice of the change of plan will be submitted.

Dated at **Edmonton** this **11** day of **December** 19 **70**

Signed by **G. M. McPherson** Company **Imperial Oil Enterprises Ltd.**

Title **Development Manager** Operator's Licence No. **1674**

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:—

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Doghouse and the Drilling Foreman's Office between spud and rig release dates.
2. The Company will submit to this office, on Tuesday of each week, the latest reports

Dated **21st December** 19 **70** Please see over page

Oil Conservation Engineer

Forms to be submitted to Oil Conservation Engineer,
Department of Indian Affairs and Northern Development, Calgary, Alberta.

Poor copy

received by radio on the progress of the well.

3. During well drilling and testing operations, every effort shall be made to ensure that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or sub-surface waters.
4. We draw your attention to Sections 95 and 96 of the Texas Oil and Gas Land Regulations.
5. Any additional strings of casing shall receive the approval of the Oil Conservation Engineer prior to running.



B.H.J. Thomas, Oil Conservation Engineer

IMPERIAL OIL LIMITED

December 18, 1970

File No: DP-28

Mr. B. H. J. Thoms
Oil and Gas Conservation Engineer
Department of Indian Affairs
and Northern Development
Main Floor Regency Building
112 - Eleventh Ave., S. E.
Calgary 21, Alberta

Dear Sir:

Re: IOE Spring River YT N-55-69-10-138-30

For your information and files, we are forwarding the following data on the above mentioned well.

1. Recommended Blowout Preventer Arrangements
2. Geological Prognosis including the recommended formation evaluation program.
3. It is extremely difficult to estimate a permafrost depth in the hard competent shales that will be encountered in Spring River. Permafrost will only be noted in recent glacial deposits down to approximately 158 feet.

Yours very truly,

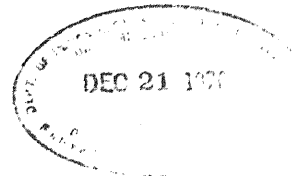
G. M. McPHERSON
DEVELOPMENT MANAGER

By: _____

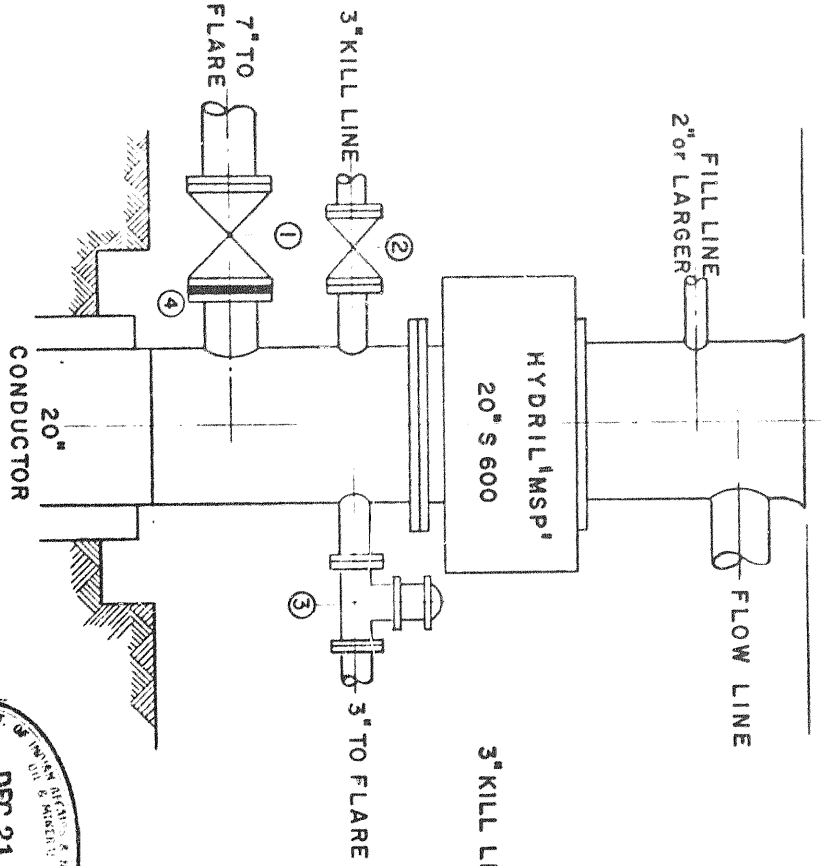
W. J. Crandall

IMP/gmw

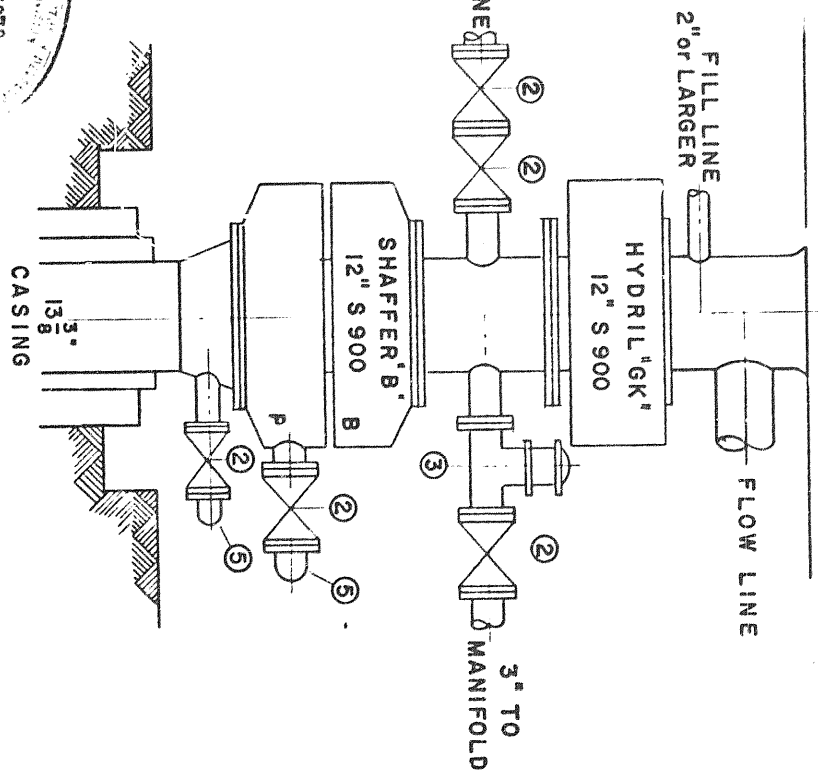
Attachment



NO. 1



NO. 2



DEPT. OF ENERGY
 OFFICE OF MINERAL RESOURCES
 WASHINGTON, D.C. 20540
 DEC 21 1970

DRILL 1 1/2" HOLE TO 500 FEET
 REAM TO 2" FEET
 RUN 1 3/8" INCH SURFACE CASING

WELL JOE Spring River N-38
 RIG Imperial #3
 SERIES 600 & 900

- ① GATE VALVE 7"
- ② LOTORG VALVE 3"
- ③ HYDRAULIC VALVE 4"
- ④ BURST PLATE 20 P.S.I.
- ⑤ BULL PLUG 3"

DRILL 1 1/2" HOLE TO 2000 FEET
 9-1/2" hole 2000' - 7270'

**BLOWOUT PREVENTER
 ARRANGEMENTS**

100 SPRING RIVER Y.1. N-58
(N-58, 69°10'N, 138°30'W)

GEOLOGICAL PROGRAM

<u>*Estimated Depth of Geologic Markers</u>	<u>Estimated P.B. Elevation 320'</u>
Recent	Surface
Lower Cretaceous - Jurassic	158' (+ 162)
Upper Paleozoic	5720' (- 5400)
Triassic	5720' (- 5400)
Permian	5820' (- 5500)
Mississippian	6020' (- 5700)
Lisburne Fm.	6020' (- 5700)
Kayak Fm.	7020' (- 6700)
MDC Unit	7120' (- 6800)
Middle Devonian Neruokpak Fm.	7220' (- 6900)
F.T.D.	7270' (- 6950)

*Depths may be revised pending up-hole velocity information.

SAMPLES

1. Lithology

- 1 set bags -- 10' intervals -- surface to T.D.
- 2 sets of vials -- 10' intervals -- surface to T.D.

2. Paleontology

- 1 set plastic-lined bags, unwashed -- 10' intervals -- surface to T.D.
- 1 bag plastic-lined -- every 10' of core. Wellsite geologist should attempt to get a representative sample including any shaly breaks in a sandstone core.

3. Geochemical

- 1 can -- 30' intervals -- surface to T.D.
- 1 can -- every 10' of core.

4. Department of Northern Affairs and Natural Resources

1 bag -- 10' intervals -- surface to T.D.

FORMATION EVALUATION

1. Coring

Stratigraphic cores will be cut at 2,000', 4,000', 5,700' (base of Jurassic) and below 7,220' (Nerukpuk formation). If the core jams, a minimum of 5 feet of core is required for geochemical and paleontological analysis.

Additional cores will be cut in the Upper Paleozoic wedge at major lithologic breaks and when reservoirs are encountered. If porosity and/or hydrocarbon shows are encountered, the geologist will cut 50 feet of core, test, and if hydrocarbons are recovered, continue to core until the reservoir has been evaluated.

Sidewall Cores. A series of sidewall cores (Core Slicer type) may be requested following each logging run below surface casing.

2. Testing

The wellsite geologist will evaluate by testing any formation that has porosity in core or cuttings samples, and gas or oil shows in cuttings samples and/or drilling mud. The tests will be conducted to obtain information on reservoir pressures, temperatures and fluid properties. All tests will be conducted in accordance with procedures outlined in the Drill-STEM Testing Manual.

3. Mud Logging

Continental Laboratories will have two mud logging technicians at the wellsite. The mud logging crew is responsible to the wellsite geologist and will provide the following services:

- i) Supervision of gas chromatograph equipment.
- ii) Preparation of mud-gas and cuttings-gas logs.
- iii) Testing shale densities.
- iv) Processing and examination of cuttings samples.

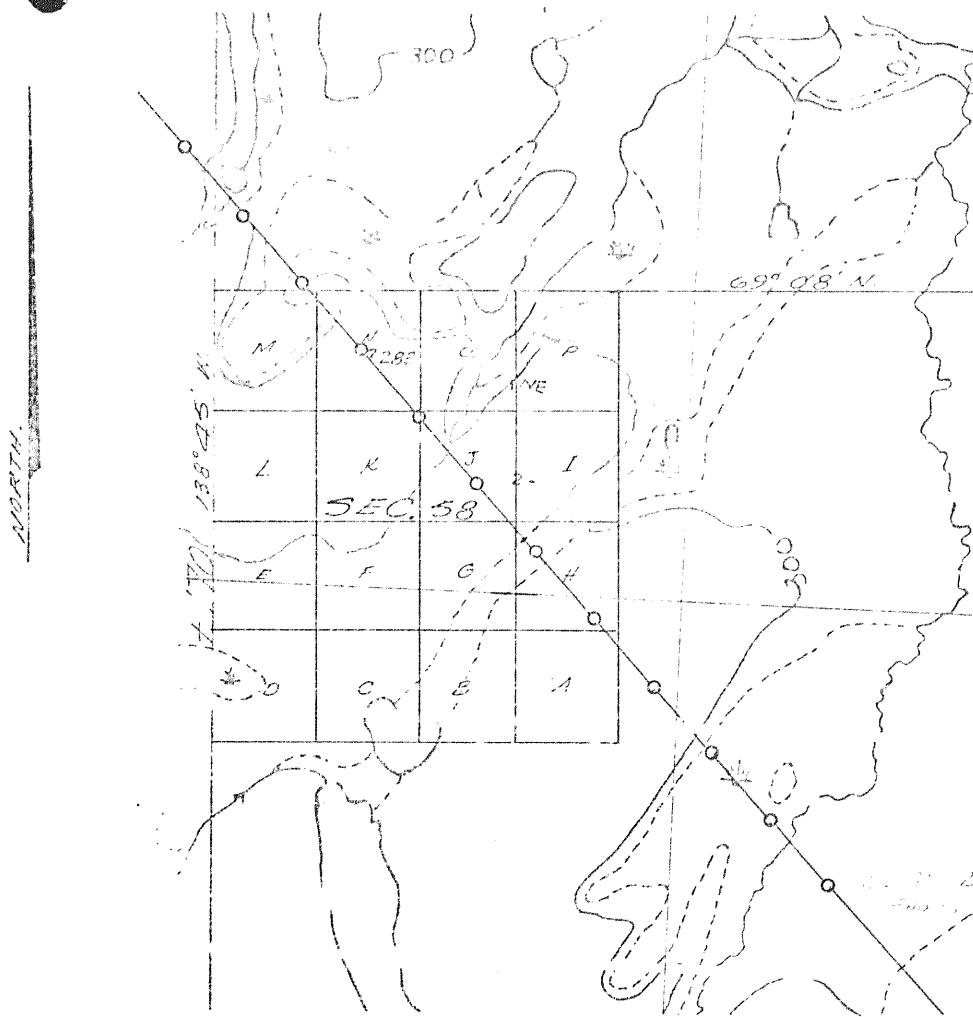
4. Logging

A logging program prepared by the Exploration Specialists group is attached.

5. Velocity Survey

A "crystal-cable" survey will be attempted at 2,000 feet prior to running casing. Conventional check shots are required at F.T.D.

EAS/EMM/mht



IMPERIAL OIL ENTERPRISES LTD.
 LOCATION SKETCH
 10E Spring River T.1. N-58-69-10-138-30
 Scale: 1/25,000
 SHOT POINT 22-70-283
 PLOTTED FROM SEISMIC SURVEY
 LOCATION TO BE STAKED ON SP 22-70-283
 LATITUDE 69° 07' 53" N
 LONGITUDE 138° 41' 05" N.

AMH