

GEOLOGICAL PROGRAM

CONFIDENTIAL

The status of this well will be "Tight" therefore, all information regarding the well will be restricted to Chevron Standard personnel and authorized representatives of Western Minerals.

Elevations

Ground Elevation (estimated) - +1650'
 K.B. Elevation (estimated) - 1675'
 K.B. Elevation (surveyed) -

A. Estimated Depth and Elevation of Significant Markers

	Est. Elevation	Est. Depth
Cretaceous	+1650	Surface
Eagle Plain Formation	+1650	Surface
Blackie Sandstone Member	+ 155	1510
Lower Cretaceous Shale Unit	- 175	1340
Orange Marker	- 530	2195
Basal Siltstone Unit	-1027	2692
Paleozoic Unconformity (Mississippian)	-1267	2932
Chance Sandstone Member	-1267	2932
Mississippian Limestone	-1777	3442
Mississippian Shale	-3892	5557
Total Depth	-4350	6000

Note: These depths are based on seismic events and regional cross sections and are subject to revision based on good sample picks and a surveyed K.B.

B. Objective Horizons

Primary - Chance Sandstone

Secondary - 1. Blackie Sandstone
 2. Basal Cretaceous Sandstone

C. Ditch Samples

Two sets of bagged samples are required, one for Chevron and one for the Geological Survey. One set of washed bottled samples and one set of

washed enveloped (double volume) samples are required for Chevron and one set of washed bottled samples is required for Western Minerals. These cuts may be taken from Chevron's bagged set.

Sample interval is as follows:

Surface to T.D. - 10' samples

Five foot samples should be caught at the wellsite geologist's discretion.

D. Penetration Rate Records

A mechanical drilling time recorder should be used on this well.

E. Sample Description

An up-to-date written sample description and a plotted rock log chart must be maintained by the wellsite geologist. A copy of the written description is required by the government. Through cored and/or oil stained intervals a detailed written description of the reservoir characteristics and hydrocarbon shows must be made.

F. Gas Analyzer

A gas detector will be used on this well. Samples will be collected and canned every 30' for future analysis.

G. Formation Evaluation

General

Well control is sparse in this region and it is possible that reservoir conditions could develop almost anywhere in the section. The wellsite geologist must, therefore, be prepared to evaluate potential reservoirs other than those listed under objective horizons.

Any shows in the section above the Chance Sandstone Member will be evaluated after logging unless there is substantial porosity and hydrocarbon indications. Consult Calgary if the "substantial" should occur.

1. Coring and Testing Program

Coring should commence as soon as the top of the Mississippian Chance Sandstone Member is encountered. Report core results to the Calgary office and further instructions will follow. After the Chance Sandstone has been properly evaluated by coring, DST, etc. according to Calgary instructions, continue to drill to the FTD.

After logging is completed, sidewall cores will be taken for paleontological control. One run of the sample barrel with 32 shots each should be sufficient.

2. Logging Program

Use Schlumberger

One logging run will be made at T.D.

(a) Dual Induction Laterolog/S.P.

Try a 10 m.v. S.P. scale.

Run from T.D. to surface casing.

Vertical scales:

2" = 100' - run linear scale using 0-100 scale on resistivity and 0-100-200 scale on conductivity.

5" = 100' - use logarithmic scale on resistivity.

Both scales will be run from T.D. to surface casing.

A 200' repeat will be run at T.D. or over the zone of interest.

(b) B.H.C. Sonic/Gamma/Caliper (Integrated)

Run from T.D. to surface casing.

Run Caliper 50' inside surface casing.

Run Gamma Ray to surface.

Transit time scales 40-90-140 - in Cretaceous.

40-70-100 - in Mississippian.

Gamma Ray scale 0-150 API units.

Vertical scales: 2" = 100' and 5" = 100' from T.D. to surface casing.

A 200' repeat will be run at T.D. or over the zone of interest.

(c) Formation Density Log (Compensated)/Gamma/Caliper

Run over Paleozoic and any other zones of interest.

Run first 5" = 100' scale on bulk density with correction curve.

Run second 5" = 100' scale on porosity curve using a limestone scale.

A 200' repeat will be run at T.D. or over the zone of interest.

(d) Sidewall Neutron Porosity Log

Run a minimum of 1500' of log over the zone of interest.

Run porosity trace on limestone scale.

A 200' repeat will be run at T.D. or over the zone of interest.

(e) Microlog Caliper

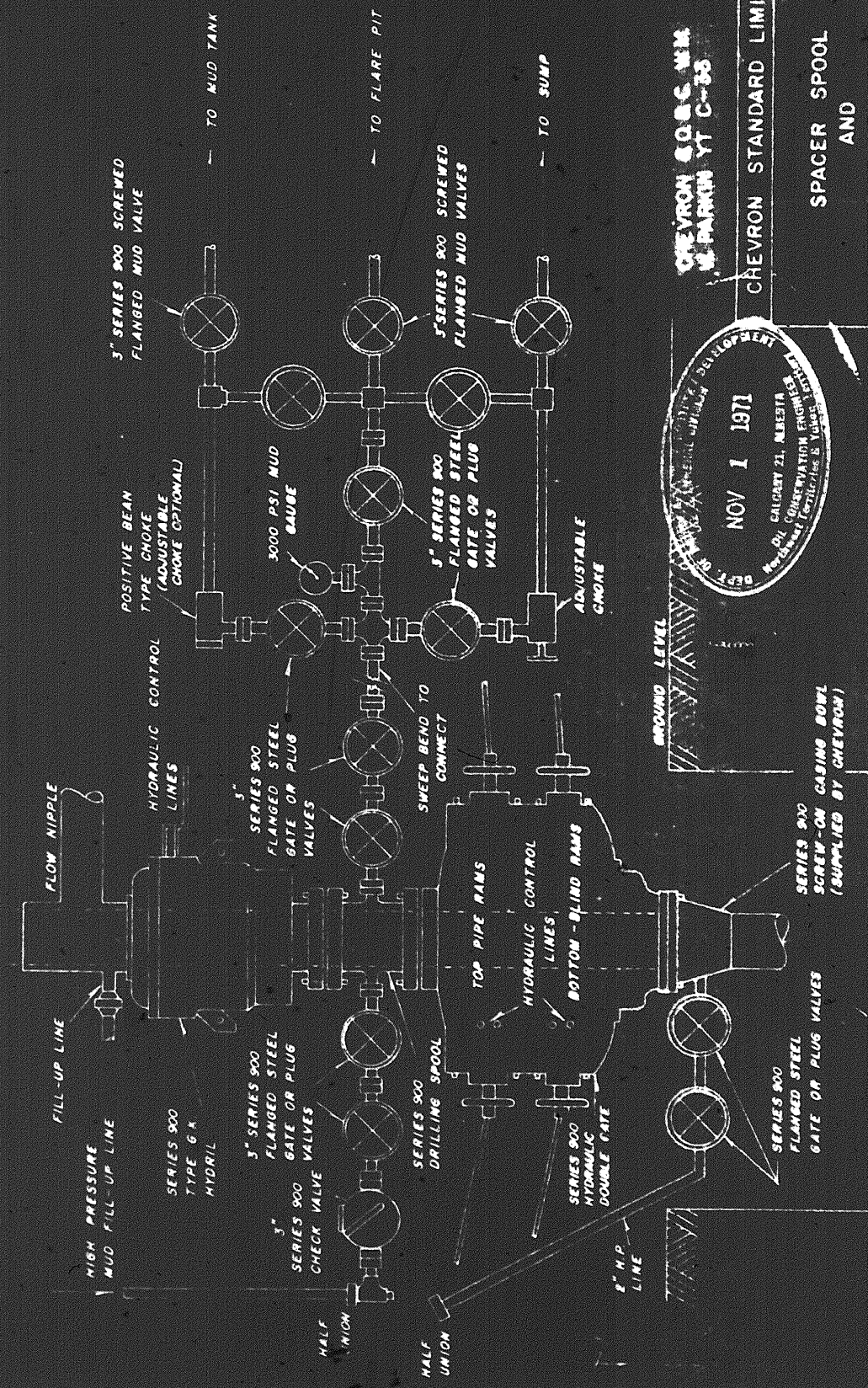
This log may be run over the zones of interest at the discretion of the Formation Evaluation Geologist.

(f) Dipmeter should be available if needed.

H. Fluid Samples

1. Representative fluid samples from all DST recoveries are required for lab analysis. Samples are required from the top, middle and bottom of the fluid column. One sample is sufficient for recoveries under 60'. A set of water samples is required by the logging company for R_w determinations.
2. An extra quart sample of any clean oil, or oil cut liquids obtained on DST is to be taken and forwarded to the Northern Task Force office. The wellsite personnel should have on hand a supply of special containers for these samples.
3. Three one quart mud samples should be collected at 15 minute intervals from the flowline prior to each logging run for R_m and R_{mf} measurements at the wellsite.
4. Stainless steel containers are to be available to collect a sample of any gases obtained on test.

MINIMUM I.D. IS 3/8" FOR 95/8" CASING



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 CHEVRON OIL FIELD DEVELOPMENT
 CALGARY 21, ALBERTA
 OIL CONSERVATION ENGINEERING
 Department Certificate No. 1000

CHEVRON OIL FIELD DEVELOPMENT
 W. PARKIN Y.T. C-35
 CHEVRON STANDARD LIMITED

SPACER SPOOL
 AND
 WING VALVE ASSEMBLY

NOTE - ALL FITTINGS IN THE MANIFOLD
 MAY BE SCREWED FITTINGS

SCALE	DRAWN	DATE
1/2" = 1'	E. W. W.	JAN. 10, 70
A-90575		REV.