



Exploratory Development

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Delineation Service

APPROVAL TO DRILL A WELL

This application is submitted under Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it is the requisite approval for the commencement of drilling operations.

Well Name: Northrock et al East MacKay I-77

Operator: Northrock Resources Ltd. Drilling Program No.:

Contractor: Akita Sahtu Drilling Interest identifier:

Drilling Rig or Unit: 51 Estimated Well Cost: \$3,000,000

Location-Unit: I Section: 77 Grid Area: 64-50-125-30

Coordinates: Lat.: 64° 46' 41.610" Long.: 125° 43' 10.277"

Area: Tulita Field/Pool: MacKay

Elevation-KB/RT: 200.5 (ASL) GL/Seafloor: 197.1

Approx. Spud Date: December 10, 1999 Est. Days on Location: 30

Anticipated Total Depth: 2400m Target Horizons: Hume, Bear Rock, Ramparts

EVALUATION PROGRAM

Ten-metre sample intervals N/A

Five-metre sample intervals From Surface Casing to Ramparts – 3m intervals thereafter

Canned sample intervals from casing shoe to TD every 10 metres

Conventional cores at Possibility of 2 – 18m cores in the Hume

Logs and Tests E-log, Sonic, Neutron – Density from TD – Surface Casing. Dipmeter from TD to Ramparts

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing Program (m³)
340mm	71.43	J-55	30m	2.9m3 Artic Set Cement
244.5mm	53.6	J-55	600m	35.0m3 Artic Set Cement
177.8mm	38.7/34.2	J-55	2400m	49.4m3 RFC

B.O.P. Equipment: Shaffer spherical 279mm x 21MPa annular preventer. 2 – Shaffer LWS 279mm x 21MPa single gate ram preventers.

Valvcon 340 litre x 21MPa 5 station accumulator, electric remote. Cameron WKM 51mm x 76mm x 21MPa choke manifold

Other Information:

Signed: Brian Merchant Title: Drilling Manager

Name: Brian Merchant Company: Northrock Resources Ltd.

Date: October 29, 1999 Phone: 403-264-7478

APPROVAL

An approved copy of this notice is to be posted at each wellsite.

Date: Dec 17/99 Signed: Chief Conservation Officer

File: 9211-N046-1-1

WID: 1879

UWI: 300I776450125300