

MAR 19660012: CLEAR HILLS

Received date: Dec 31, 1966

Public release date: Jan 01, 1968

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<p>ECONOMIC MINERALS</p> <p>FILE REPORT No.</p> <p><u>FE-AE-029(03)</u></p>

N A M A O M I N E S L T D.

Exploration Report

Iron Prospecting Permit No. 29

Clear Hills, Alberta

Submitted by:

CARROLL OILFIELD ENTERPRISES LTD.
702 Centennial Building
Edmonton, Alberta

REPORT TO DIRECTORS

Purpose of Exploration

The objectives of the Company were firstly to obtain lands which showed some signs of having iron ore in approximately the same consistency as that found on properties held by Peace River Mining; and secondly, to evaluate any such properties as to the volume of ore that might be present.

Exploration Program

The exploration of Iron Prospecting Permit No. 29 commenced by a review of all literature on the subject which was limited. The most comprehensive report being a publication by Donald J. Kidd of the Research Council of Alberta 1959, "Iron Occurrences in the Peace River Region, Alberta."

In 1966, an aerial reconnaissance of the entire area surrounding Rambling Creek and other known outcrops was made by the author. Also, a helicopter with two geologists and an assistant made a more detailed study to evaluate certain bedrock outcrops and glacial till showings, toward the objective of selecting drill-hole sites on the property.

It should be mentioned that between the two aerial visits to the property a complete aerial photo study was made of the area and a plot of the surface feature variation was made. This interpretation covered only that portion for which photos were available. The area held by Namao Mines was fully covered and only a couple blocks of the fringe area were not covered.

Based on the available data the preliminary drilling program was planned for three holes to be drilled which would evaluate the overburden and the main ore body. The firm of Becker Drilling Ltd. from Calgary provided a rig after some 5 months waiting. It was necessary to extend the existing permit so that this work could be done and the Department granted a six-month extension.

Report on the Results of Drilling

Four drill holes were drilled on the property previously proposed. Both coring and chip samples were collected and examined. The drill holes were located on or around the Fire Tower hill in such a manner as to facilitate calculation of ore reserves if ore were encountered.

Results

The results of the drilling proved to be disappointing in that no commercial ore zones were encountered.

The glacial till overburden overlying bedrock was found to be approximately the same as postulated previously in the report on Air Photograph Interpretation of the area under study. In all of the four drill holes bedrock shale and sandstone was encountered immediately below the glacial till zone. Iron ore was found in thin stringers in bedrock at several different elevations than the one where the main ore zone should occur.

Interpretation of Results

The abrupt pinching out or feathering of the iron ore zone and the absence of the main ore zone at the indicated elevation in the drill

holes strongly suggests that the iron ore formation is lenticular in shape in the northeast-southwest direction. On the other hand the formation has considerable extent in the northwest southeast direction as previously ascertained by D. Kidd.

Because the ore stringers were found in place in bedrock and not immediately below the till zone it is obvious that the ore was not subjected to erosion in preglacial times or by the glacier. The occurrence²⁾ of such narrow and long sand bodies is not rare. These bodies represent former sea shore deposits and have been named "show string sands" in geological literature. Many such occurrences are described in major geological textbooks.

Considering the above it is evident that the ore zone does not extend to the northeast but that its probable extension is on line with the strike of the ore body that is to the southwest and to the northwest.

Present Status of Property

The drilling of the property does not preclude the existence of the main ore body either on the portion north or south of the drilled area. However, due to the established configuration of the main ore body the possibility of establishing sufficient reserves to merit a future mine are not too promising.

Ore may be established along the flanks of existing leases but the failure to confirm the outline of the original ore body seems to limit the economic feasibility of establishing reserves by a wide spacing drilling program.

All regulations have been abided by under the Geophysical License No. 3206 and clearance has been received by the Forestry Department.

A decision must be made as to whether or not the Company will take any one of the following options:

1. Request of the Minister of Mines & Minerals that an extension to Permit # 29 be granted, in which case a new budget must be set and an extended drilling program be outlined. The cost of which would approach \$10,000, including the fee for the extension.
2. Apply to the Department of Mines & Minerals to convert a part or the whole of the Permit # 29 to lease. This would entail the submission of the data proving the volume of iron ore reserves and the payment of an annual rental of a minimum of 25¢/acre and such other terms as are outlined by the original Prospecting Permit. It should be noted that a certain portion of your exploration costs may be applied to the first years rental at the Minister's discretion.
3. To drop the program and Permit # 29, in which case all interest would be lost in the property, however, you may request the refund of the \$5,000.00 deposit on the Permit and the \$1,000.00 deposit on your exploration license. Provided, of course, that your actions to date have been prudent and towards the object of proving the property.

It is the opinion of the writer that unless some concrete plans are made to further the exploration of the project then option No. 3 should be taken. If, however, there is a plan of further development then option No. 2 should be taken and the amount of acreage should be reduced to approximately 50%. This would entitle the Company to hold 20,000

acres at approximately \$5,000.00/annum. The Company would then expand its operations by new injected finance and follow another previously discussed line of exploration in this general area.

The records, data, cores and samples are available for perusal at any time and all data required by the Department of Mines & Minerals will be submitted upon your instructions.

It should be noted that a decision must be made and submitted by Tuesday, November 28, 1967 into the hands of Mr. H.H. Somerville, Deputy Minister of Mines & Minerals.

L.I. Wickens, P. Eng.


CARROLL OILFIELD ENTERPRISES LTD.
702 Centennial Building
Edmonton, Alberta

DRILLING RECORD

Hole #1 L.S.D. 16 Sec. 5, Twp. 91, Rge. 4 W6 ✓
Elevation: 2838.50'
Depth Drilled 0 - 400'
Depth Cored 115 - 154' (iron ore 127'-132')
Depth Cored 306 - 316' No Recovery

Hole #2 L.S.D. 14 Sec. 4, Twp. 91, Rge. 4 W6 ✓
Elevation: 2655.75'
Depth Drilled 0 - 210'
Depth Cored 0

Hole #3 L.S.D. 7 Sec. 8, Twp. 91, Rge. 4 W6 ✓
Elevation: 2708.31'
Depth Drilled 0 - 210'
Depth Cored 160 - 210'

Hole #4 L.S.D. 5 Sec. 33, Twp. 90, Rge. 4 W6 ✓
Elevation: 2697.52'
Depth Drilled 0' - 213'
Depth Cored 15' - 213'

DRILL HOLE # 1

IRON PROSPECTING PERMIT No. 29

1-110-1	Shale, sandstone, oolites		
1-110-2	Quartz, shale		
1-160-1	Quartzite, shale, sandstone, pyrite, oolite		
1-160-2	Quartz, sandstone		
1-170-1	Quartz, pyrite, shale oolite		
1-170-2	Quartz, shale		
1-180-1	quartz, shale, sandstone, oolite, granite		
1-180-2	Quartz, pyrite, shale		
1-190-1	Quartz, oolite, shale, pyrite		
1-190-2	Quartz, shale, oolite		
1-210-1	Shale, shells, sandstone, granite		
1-210-2	Shale		
1-220-1	Shale, sandstone, siltstone		
1-220-2	Quartz, shale, oolite		
1-230-1	Shale, sandstone, siltstone		
1-230-2	Shale, sandstone, quartz, siltstone		
1-240-1	Sandstone, shale		
1-240-2	Siltstone, shale, quartz		
1-250-1	Sandstone, siltstone, shale	1-370-1	Shale, siltstone, pyrite
1-250-2	Quartz, shale, siltstone	1-370-2	Quartz, siltstone
1-260-1	Shale, siltstone, pyrite	1-380-1	Siltstone, quartz, pyrite sandstone
1-260-2	Quartz, pyrite, siltstone	1-380-2	Quartz, siltstone, pyrite
1-270-1	Siltstone, quartz, pyrite, sandstone	1-390-1	Shale, siltstone, pyrite
1-270-2	Quartz, pyrite, chamosite	1-390-2	Quartz, siltstone
1-280-1	Sandstone, pyrite, quartz	1-400-1	Shale, quartz, pyrite
1-280-2	Quartz, shale, pyrite, chamosite	1-400-2	Quartz, siltstone, pyrite
1-290-1	Sandstone, siltstone, quartz, pyrite		
1-290-2	Quartz, shale, siltstone		
1-310-1	Siltstone, sandstone		
1-310-2	Quartz, shale, siltstone		
1-320-1	Siltstone, sandstone, pyrite, shale		
1-320-2	Quartz, shale, siltstone		
1-330-1	Shale, siltstone, pyrite		
1-330-2	Quartz, shale, pyrite		
1-360-1	Shale, siltstone		
1-360-2	Quartz, siltstone, shale		

2-60-1	Quartz, shale, sandstone
2-60-2	Quartz, shale
2-70-1	Quartz, pyrite, siltstone
2-70-2	Quartz, siltstone
2-80-1	Quartz, pyrite, shale
2-80-2	Quartz, pyrite, siltstone
2-90-1	Pyrite, quartz
2-90-2	Quartz, pyrite
2-100-1	Pyrite, quartz, siltstone
2-100-2	Pyrite, quartz
2-110-1	Pyrite, siltstone, shale, quartz
2-110-2	Quartz, pyrite
2-120-1	Shale, pyrite, quartz
2-120-2	Shale, pyrite, quartz
2-130-1	Shale, quartz, pyrite
2-130-2	Quartz, siltstone, pyrite
2-140-1	Shale, pyrite, quartz
2-140-2	Quartz, siltstone
2-150-1	Shale, pyrite, quartz
2-150-2	Quartz, pyrite
2-160-1	Quartz, shale, pyrite
2-160-2	Quartz, siltstone, pyrite
2-180-1	Shale, quartz, pyrite
2-180-2	Quartz, pyrite
2-190-1	Siltstone, quartz, pyrite
2-190-2	Quartz, pyrite, siltstone
2-200-1	Siltstone, pyrite, sandstone
2-200-2	Quartz, pyrite, siltstone
2-210-1	Shale, sandstone, pyrite
2-210-2	Quartz, siltstone, pyrite

DRILL HOLE # 3

IRON PROSPECTING PERMIT NO. 29

3-60-1 Quartz, shale, siltstone, coal
3-60-2 Quartz, siltstone, iron oxide, limonite, oolite block
3-70-1 Sandstone, quartz, shale, pyrite
3-70-2 Sandstone, quartz, shale, some limonite
3-80-1 Siltstone, sandstone, pyrite, shale
3-80-2 Shale, quartz
3-90-1 Shale, siltstone
3-90-2 Shale, siltstone
3-100-1 Shale, siltstone, sandstone
3-100-2 Shale, siltstone
3-110-1 Siltstone, sandstone, pyrite, gypsum
3-110-2 Siltstone, gypsum, shale
3-120-1 Quartz, pyrite, limonite, sandstone, shale, (granite)
3-120-2 Quartz, shale, pyrite, limonite
3-130-1 Quartz, shale, gypsum, pyrite
3-130-2 Quartz, shale
3-140-1 Sandstone, siltstone, pyrite
3-140-2 Shale, quartz
3-150-2 Quartz, shale, pyrite
3-150-1 Quartz, pyrite
3-160-1 Siltstone
3-160-2 Quartz, shale, sandstone, pyrite

DRILL HOLE # 4

IRON PROSPECTION PERMIT NO. 29

4-60-1	Siltstone, shale
4-60-2	Shale, siltstone
4-70-1	Shale, siltstone, shells
4-70-2	Shale
4-80-1	Shale, siltstone
4-80-2	Shale
4-90-1	Siltstone, shale
4-90-2	Shale, quartz
4-100-1	Quartz, siltstone, pyrite
4-100-2	Quartz, pyrite, shale
4-110-1	Siltstone, shale
4-110-2	Quartz, pyrite, shale
4-120-1	Shale, quartz
4-120-2	Shale, quartz
4-130-1	Pyrite, siltstone, quartz
4-130-2	Pyrite, shale, quartz
4-140-1	Sandstone, pyrite, siltstone
4-140-2	Siltstone, pyrite, quartz
4-150-1	Sandstone, Pyrite, quartz
4-150-2	Quartz, pyrite, siltstone
4-160-1	Sandstone, pyrite, siltstone
4-160-2	Sandstone, siltstone
4-170-1	Shale
4-170-2	Quartz (sandstone)

All samples washed and sized

No. 1 samples being plus 200 mesh

No. 2 samples being plus 100 mesh

DESCRIPTION

IN TOWNSHIP EIGHTY-EIGHT (88), RANGE THREE (3),
WEST OF THE SIXTH (6) MERIDIAN:

The North half of Section Seven
(7) and Sections Seventeen (17),
Eighteen (18), Nineteen (19),
Thirty (30), Thirty-one (31) and
Thirty-two (32);

AND

IN TOWNSHIP EIGHTY-NINE (89), RANGE THREE (3),
WEST OF THE SIXTH (6) MERIDIAN:

Sections Six (6) and Seven (7),
the West half of Section Eight
(8), Section Eighteen (18) and
the West half of Section Thirty
(30);

AND

IN TOWNSHIP EIGHTY-EIGHT (88), RANGE FOUR (4),
WEST OF THE SIXTH (6) MERIDIAN:

Sections Twelve (12), Thirteen
(13), Twenty-four (24) and Twenty-
five (25), the North half of
Section Twenty-six (26) and Sections
Thirty-five (35) and Thirty-six (36);

AND

IN TOWNSHIP EIGHTY-NINE (89), RANGE FOUR (4),
WEST OF THE SIXTH (6) MERIDIAN:

Sections One (1) and Two (2),
Sections Ten (10) to Fifteen
(15) inclusive and Sections
Twenty-two (22) to Twenty-six
(26) inclusive;

AND

What would be statutory road
allowances if the lands were
surveyed pursuant to The Alberta
Surveys Act, lying within the
outer limits of the above described
lands;

containing an area of Nineteen Thousand, Four Hundred
and Seventy-three (19,473) acres, more or less.

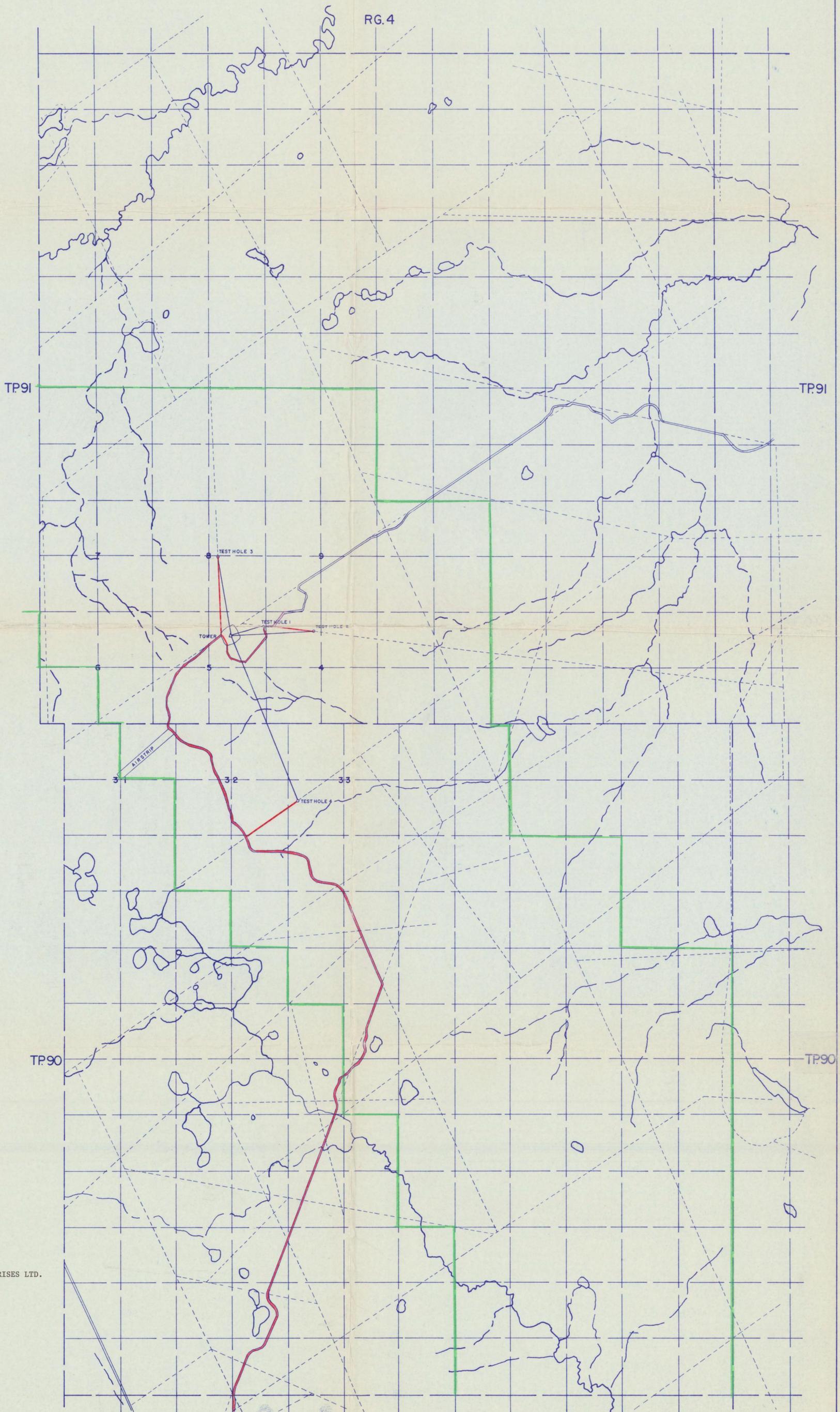
FIG. 2 - Drill
Hole Locations +
Loose boundaries.

TABLE OF COORDINATES FOR TESTHOLES FROM TOWER		
TEST HOLES	TEST HOLES	
	NORTHING	EASTING
1	482.76	1599.35
2	204.48	4096.48
3	3708.84	-554.32
4	-7839.13	3093.89

T PS. 90-91 - RG.4 - W 6th MER

IRON PROSPECTING PERMIT N° 29
GEOPHYSICAL LICENSE N° 3206

SCALE: 2"=1Mile



Submitted by
CARROLL OILFIELD ENTERPRISES LTD.
on behalf of
NAMAQ MINES LTD.
L. I. Wickens, P. Eng.

