

86-863-15611

DIAMOND DRILL REPORT

ON THE

GREY GROUP

*Zephyr 7 claim*

Cariboo Mining Division

93 B/9W

(Latitude 52 33', Longitude 122 18')

OWNER AND OPERATOR

GIBRALTAR MINES LIMITED

McLEESE LAKE, B.C.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**15,611**

Author: M. R. Thon

Submitted: December 15, 1986

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## 1 INTRODUCTION

The Grey Group of mineral claims is part of the Gibraltar Mines Limited permanent property. It is accessed via the mine access road and mine haul roads. It lies due west of the plant site and extends in a northerly direction along the western edge of Gibraltar's claims. The general location is shown in Figure 1.

The 1986 drilling on this group took place along the north wall of the Gibraltar East pit. They were drilled to test ore projections from the stage 2 pit. Drill locations are shown in Figure 3.

Drilling was carried out by G. & D. Diamond Drilling of 5425 Dallas Drive, Kamloops, B.C. during the period April 27 to May 1, 1986. Two vertical N.Q. wireline diamond drill holes were completed for a total of 855 feet (160.6 m). Core was not split. The whole core was sent to the assay lab for analysis. The ground core is stored at the Gibraltar Mines plant site for a period of one year.

## 2 MINERAL CLAIMS

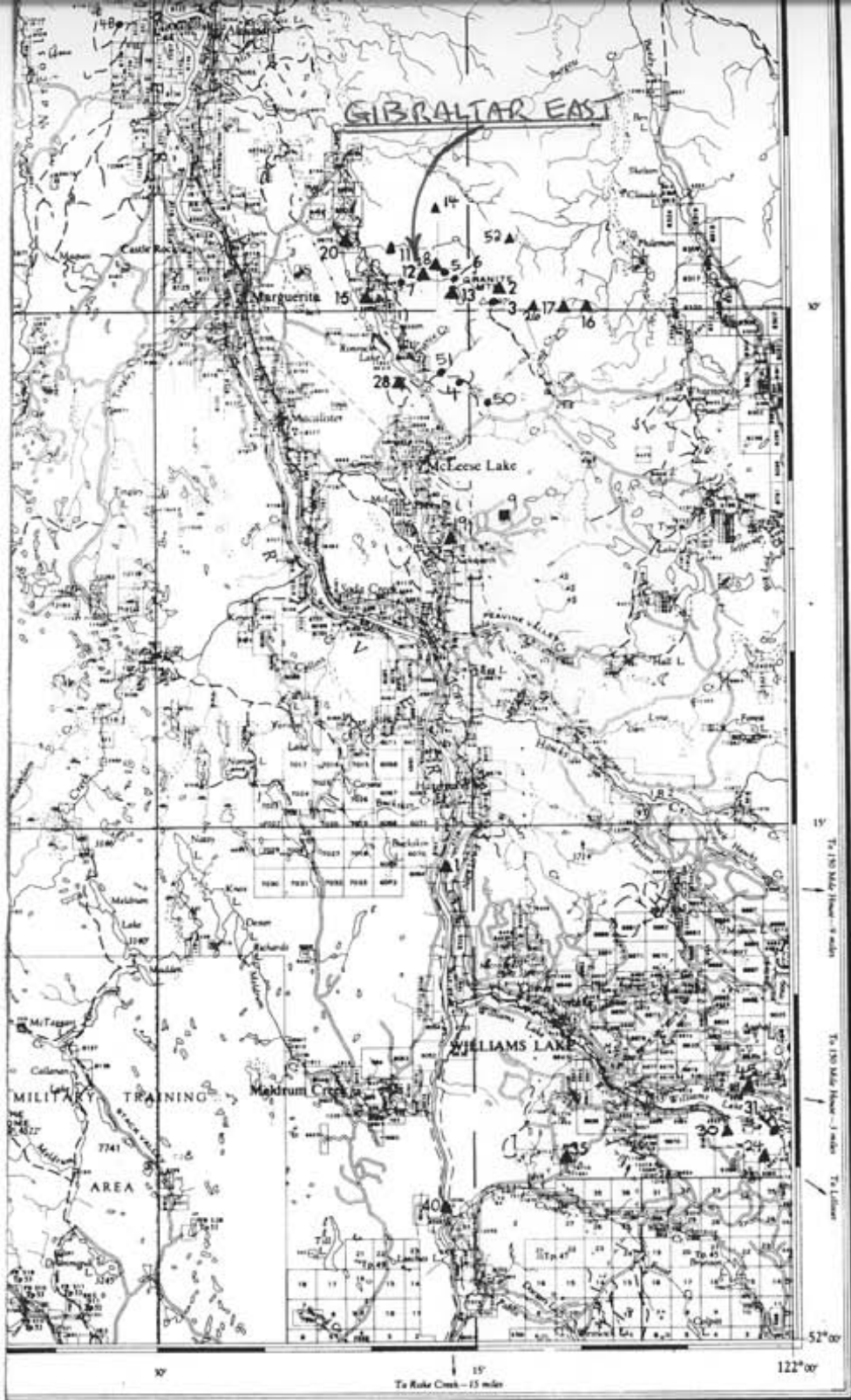
The Grey Claim Group has mineral leases grouped with mineral claims. Particulars of each claim are listed below. All claims are part of the Gibraltar Mines Limited permanent property. Mineral claim locations are shown in Figure 2 (in pocket).

GREY GROUP MINERAL CLAIMS					
NAME	RECORDED DDMMYY	RECORD NUMBER	UNITS	MINERAL LEASE	OPTIONED FRCM
AL # 1	020764	28447	1		
AL # 2	020764	28448	1		
AL # 3	020764	28449	1		
AL # 4	020764	28450	1		
AL # 6	020764	28452	1		
EV #17	170166	31741	1		
EV #19	170166	31743	1		
EV 21	140666	36364	1		
EV 22	140666	36365	1		
GIB #18FR	161271	65175	1		
HY 1	010578	00671	4		
HY 3	120680	01711	9		
HY 4	010578	00673	6		
HY 8	100680	01665	3		
HY 9	100680	01666	2		
HY 10	100680	01667	1		
HY 20	240381	03247	2		
HY 22	020185	06693	2		
IT 3	060471	61680	1		
IT NO 1	140266	32619	1		
IT NO 4	140266	32622	1		
IT NO 5	140266	32623	1		
IT NO 6	140266	32624	1		
IT NO 8	140266	32626	1		

GREY GROUP MINERAL CLAIMS

NAME	RECORDED COMMYY	RECORD NUMBER	UNITS	MINERAL LEASE	OPTIONED FRCM
JAN NO5	100464	27408	1		
JAN NO6	100464	27409	1		
PIN TRM #1	040767	43029	1		
PIN TRM #2	040767	43030	1		
PIN TRM #3	060967	43483	1		
PIN TRM #4	060967	43489	1		
PIN TRM #5	060967	43490	1		
PIN TRM #6	060967	43491	1		
STU #5	180769	33292	1		
SUMMIT NO7	200764	22850	1		
SUMMIT NO8	200764	22850	1		
VAL NO 1	180366	33384	1		
VAL NO 4	180366	33385	1		
DOT NO2	030366	34978	1		
DOT NO3	030366	34979	1		
DOT NO4	030366	34980	1		
DOT NO5	030366	34981	1		
EST #5 FR	200571	62403	1		
PAN NO4	040562	25794	1		
PAN NO5	040562	25795	1		
RUM #79 FR	010670	58239	1		
ZEPHYR # 3	090162	25574	1		
ZEPHYR # 5	090162	25576	1		
ZEPHYR # 5	090162	25578	1		
GG 81	220465	29748	1		
GIB #7	200571	62410	1		
ZEPHYR # 7	090162	25580	1		
IT NO11	140266	32629	1		
BIT #68	211068	48107	1		
CREST #1 FR	090769	52910	1		
GIB #1 FR	200571	62393	1		
GIB #2	200571	62405	1		
GIB #3	200571	62406	1		
GIB #4	200571	62407	1		
GIB #5	200571	62408	1		
GIB #6	200571	62409	1		
JAN NO4	100464	27407	1		
PAN #7	010266	35733	1		
PAN #8	010266	35739	1		
EST #6 FR	200571	62404	1		
GIB 21 FR	210672	66784	1		
JAN #2 FR	220171	61461	1		
PAN NO1	040562	25791	1		

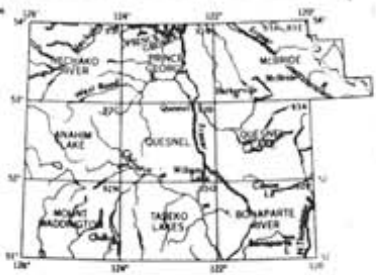
TOTAL UNITS 100



**REFERENCE**

- Road, Hard Surface, All Weather
- Lower Surface, All Weather
- Lower Surface, Less than 2 lanes
- Logging, Mining, etc.
- Four Wheel Drive
- Trail
- Railway
- Main Telephone Line
- Main Electric Power Line
- Horizontal Control Station
- Contour (Interval 500 feet)
- Elevation in feet above mean sea level
- Intermittent Stream
- Intermittent Lake or Seasonal Inundation
- Swamp or Marsh
- Glacier or Icefield
- Spring
- Dam
- Customs Office
- Navigational Light
- Airport
- Anchorages or Tugboat Anchorage
- Abandoned Railway

Universal Transverse Mercator Projection



93 B (MI)

On the above map only the maps published are shown that

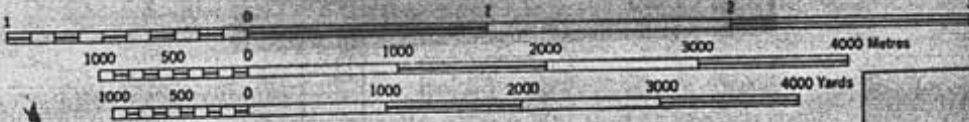
- With District or land name
- Without

Government Agencies at Williams Lake and Quesnel  
Mineral Claims are not shown on this sheet

MAY 86

SCALE 1:50,000

1.25 inches to 1 mile approximately



CONTOUR INTERVAL 100 FEET  
Elevations in Feet above Mean Sea Level  
North American Datum 1927



HAY RANCH  
I R No 1

8002  
8003

9486

9975

2834 Δ

GREY  
GROUP

AREA DRILLED

ALEXANDRIA  
I R No 12

9195

9496  
9497  
9495  
9483

Cuisson  
Lake

9675  
9679

9699  
9699  
9483

9196

11861 11860 11859 11858 11857 11856 11855 11854 11853 11852 11851 11850 11849 11848 11847 11846 11845 11844 11843 11842 11864 11863 11862 11924 11923 11922

9170

FIGURE 1: 93B/9W, 8W  
GREY GROUP LOCATION MAP

## 3 DRILL PROGRAM

(1 ft = 0.305 m)

## 3.1 Objectives

The purpose of this drill program was to test ore projections from the Stage 2 pit. The dip and extent of the systems was in question as well as the proximity of the footwall rock.

## 3.2 Results

The drill hole locations are shown in Figure 3. The locations were surveyed with an E.D.M. AGA survey instrument. Drill logs are included in the pocket of this report. All copper values reported here are for total copper. The logs report total copper and, in some cases, oxide copper (included malachite and azurite), and chalcocite. All molybdenum reported is MoS<sub>2</sub>.

Both holes intersected "Mine Phase Quartz Diorite", a medium grained rock, comprised of about 30% to 35% quartz, 45% to 50% light green, saussuritized feldspar, and about 20% green chloritized mafics. Some seriate-textured "Leucocratic Phase" rock was intersected in places in the holes. This rock type is very quartz-rich with euhedral feldspars and very little chlorite. As well, Granite Mountain Phase rocks were encountered. These are composed of about 40% quartz, 50% saussuritized feldspars, and 10% chloritized mafics. They are generally medium-grained to coarse-grained. In drill hole 86-13, an increase in quartz indicates a gradational contact with this rock type.

Drill hole 86-13 was drilled from a berm on the north wall of the pit. It was collared in rock at 3199.99 feet and cased to 12 feet. A narrow ore zone was intersected from 50 feet to 130 feet grading 0.51% Total Copper, 0.007% molybdenite. This ore zone is in regular Mine Phase rocks with mineralization in the form of chalcopyrite in quartz-chlorite veins and as chalcopyrite and very minor bornite in quartz veins. At the bottom of this ore system the percentage of quartz in the rock increases. An increase in quartz generally indicates a proximity to, or possible change to, the usually barren Granite Mountain Phase. In this case, a narrow 50-foot zone of ore was encountered from 300-feet to 350-feet grading 0.31% Total Copper and 0.002% Molybdenite. Mineralization consisted of chalcopyrite in quartz-chlorite veins, narrow sericitic shears, and in quartz veins. Leucocratic zones were noted in this ore zone and an even further increase in quartz in the rock was noted at 330-feet. The gradational nature of the Mine Phase/Granite Mountain Phase rocks often makes it difficult to pin point the rock change.

86-14 was drilled from the haul road in the northwest corner of the pit. It was collared in rock at 3162.80 feet and cased to 10 feet. This hole encountered ore grade material from the top

1 ft = 0.305 m

of the hole down to the intersection of the Granite Mountain Phase rocks. The ore zone extended from 10-feet to 380-feet for 370-feet of 0.40% Total Copper, 0.009% molybdenite. Copper mineralization was almost entirely in the form of chalcopyrite with the exception of some chalcocite enrichment below a fault zone at 118 to 143-feet. Rock was mainly Mine Phase Quartz Diorite with some quartz-sericite shearing. Mineralization was in quartz-chlorite veins and in quartz-sericite shears.

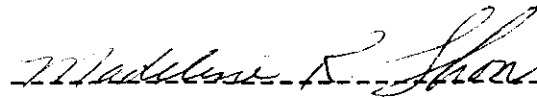
### 3.3 Interpretation and Conclusions

The evidence presented in these two drill holes confirms the very steep dip of the ore structures in this end of the pit. 86-14 confirmed ore projections here while 86-13 decreased the amount of ore. The barren foot wall encroached sooner than expected.

Further drilling is required higher up the wall in the west ramp system of the pit to confirm ore projections made here at a shallower dip. The continuity of structures across a fault along this side of the pit is also in question.

SUBMITTED BY:

GIBRALTAR MINES LIMITED



Madeline R. Thon  
Mine Exploration Geologist



## 4 STATEMENT OF EXPENDITURES

April-May, 1986 Diamond Drilling, Grey Group.

## (a) Drilling Costs

## Direct Footage Charges:

86-13	406'	@ \$13.50/foot =	\$ 5,481.00	
86-14	449'	@ \$13.50/foot =	\$ 6,061.50	
	-----			
	855'		\$11,542.50	\$11,542.50

## (b) Site Preparation

Apr.26	TD20C 1 hrs. @ \$74.75/hr.	\$	74.75
--------	----------------------------	----	-------

## (c) Vehicle Costs

4x4 1980 Suburban,	Apr.29, May 1		
	2 days @ \$20.00/day	\$	40.00

## (d) Assay Costs

84 Cu - MoS2 assays @ \$4.40/assay	\$	369.60
------------------------------------	----	--------

## (e) Supplies

Core boxes: 43 boxes @ \$6.00/box =	\$258.00	
Tags, bags, etc. =	25.00	
	-----	
	\$283.00	\$ 283.00

## (f) Personnel Costs

## Core Logging, Sample Preparation

## G. E. Barker

May 8-26	24 hrs.	
Sep 9-19	24 hrs.	
	-----	
	48 hrs. @ \$22.02/hr. =	\$1,056.96

## Interpretation and Report Preparation

## M. R. Thon

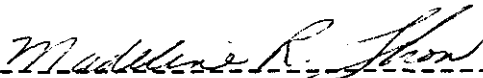
Dec. 11	4 hrs. @ \$22.02/hr. =	\$ 88.08	
		-----	
		\$1,145.04	\$1,145.04

TOTAL DRILLING COST	\$13,454.89
	-----
	-----

APPENDIX 1. Statement of Qualifications

I, Madeline R. Thon, of Gibraltar Mines Limited, McLeese Lake, British Columbia, do certify that:

1. I am a geologist.
2. I am a graduate of the University of British Columbia, with a B.Sc. degree in Geological Science in 1978.
3. From 1978 to the present I have been engaged in mining and exploration geology in British Columbia.
4. I personally assessed the results of this drill program.

  
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Madeline R. Thon

APPENDIX I. Statement of Qualifications

I, George E. Barker, of Gibraltar Mines Limited, McLeese Lake, British Columbia, do certify that:

1. I have a General Science Degree from the University of Waterloo since 1985.
2. From 1978 to the present I have been engaged in mining and exploration geology in British Columbia.
3. I personally logged the core in this drill program.

A handwritten signature in black ink, appearing to read "G.E. Barker", is written over a horizontal dashed line. The signature is fluid and cursive.

George E. Barker

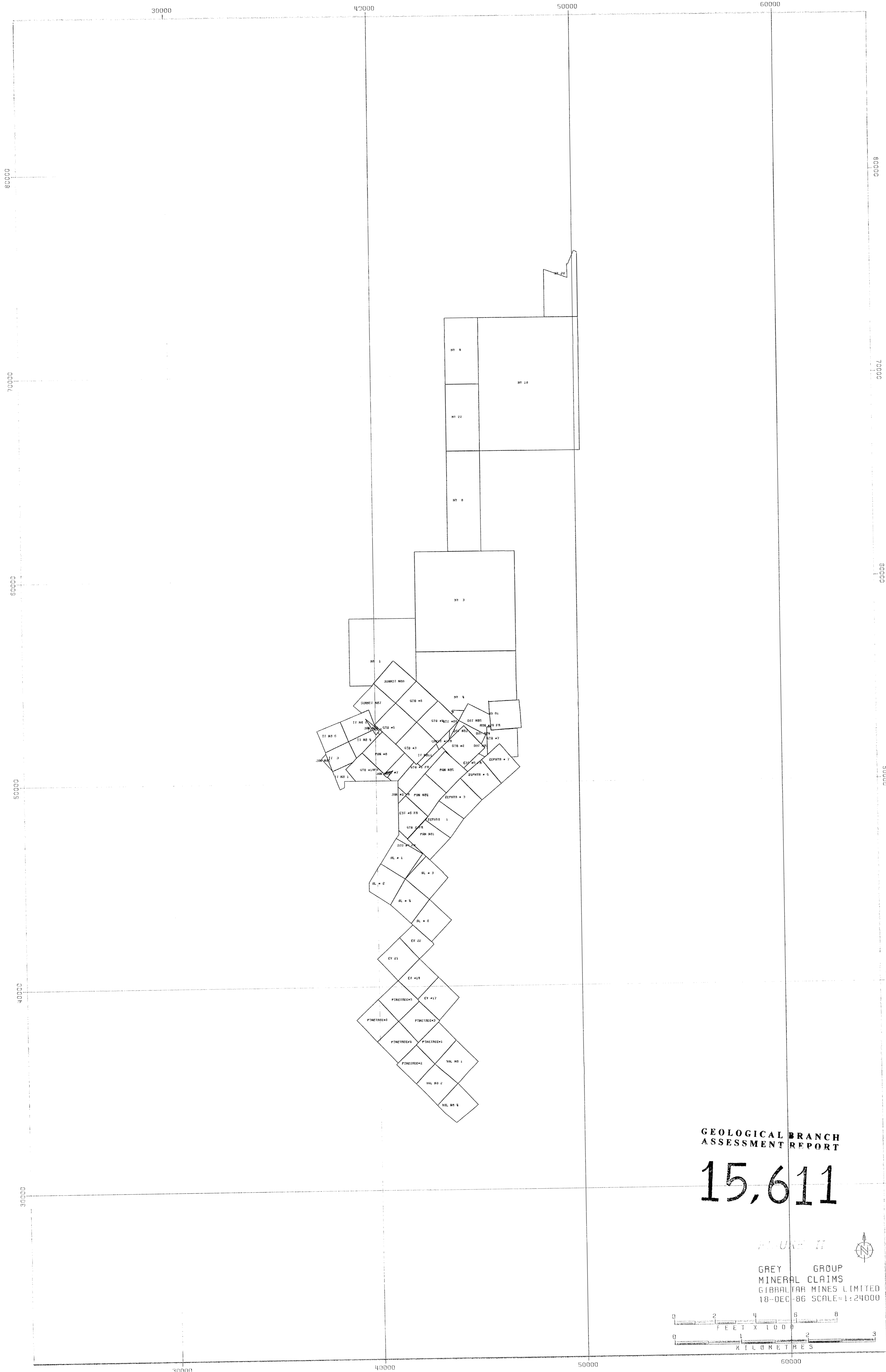
APPENDIX II. List of Abbreviations.....(In Text)

bo.....	bornite
cal.....	calcite
carb.....	carbonate
chl.....	chlorite
cpy.....	chalcopyrite
dissem.....	disseminated
ep.....	epidote
foln.....	foliation
grn.....	grained
lim.....	limonite
mal.....	malachite
mag.....	magnetite
py.....	pyrite
QSP.....	quartz-sericite-pyrite
qtz.....	quartz
rx.....	rock
seri.....	sericite
str.....	strong
stkwk.....	stockwork
wk.....	weak
Wt. Q.D.....	White Quartz Diorite = Leucocratic Phase

## PERMANENT PROPERTY AREA

## REFERENCES

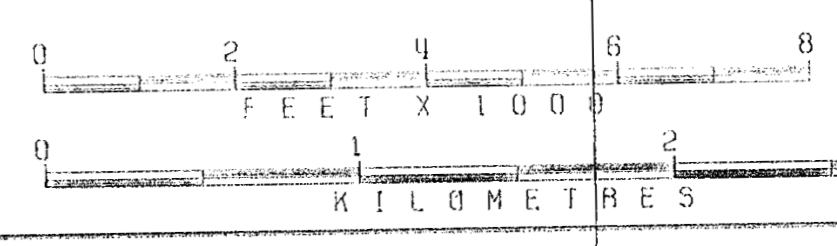
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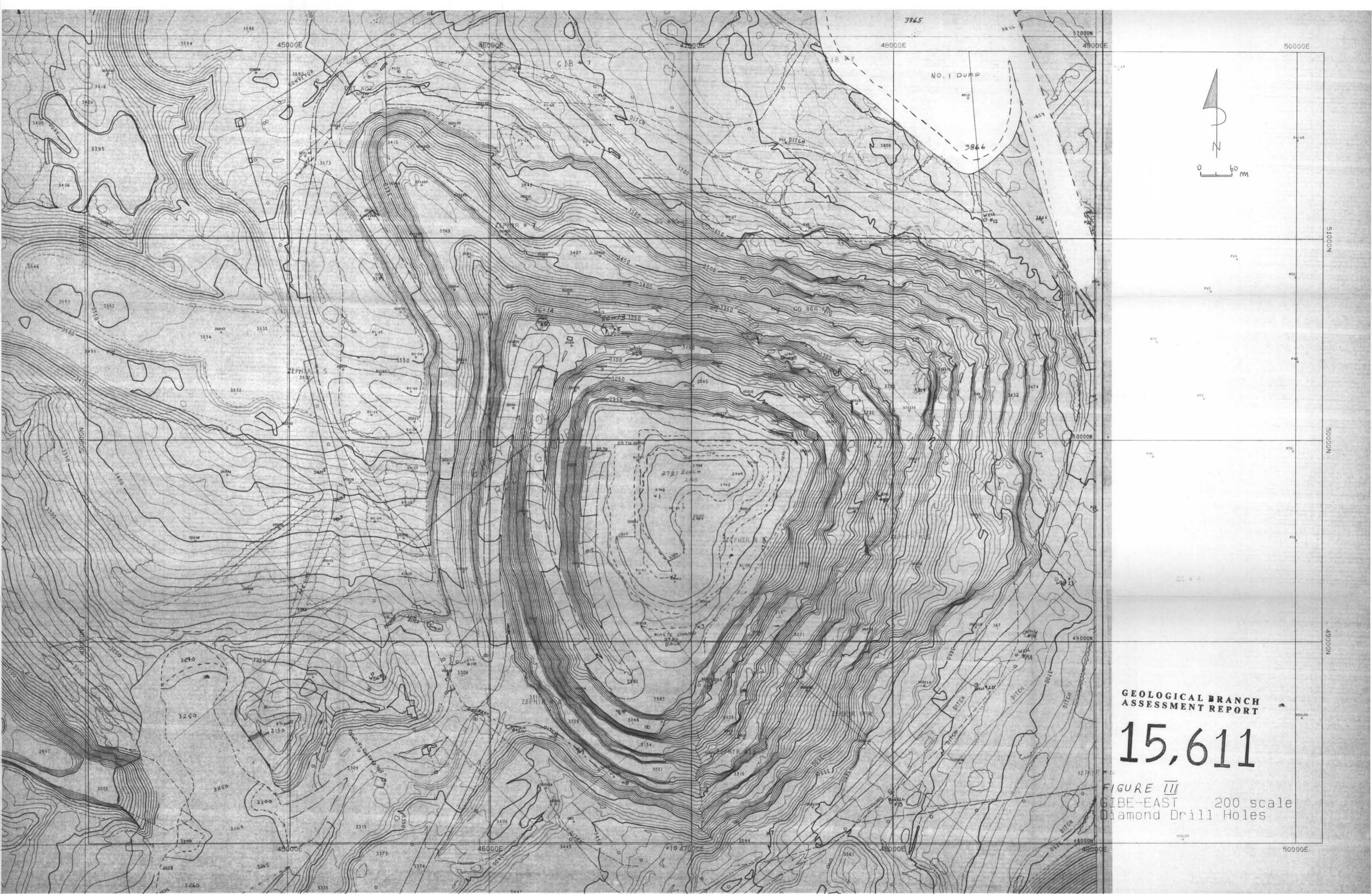
**GEOLOGICAL BRANCH  
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PLATE II  
GREY GROUP  
MINERAL CLAIMS  
GIBRALTAR MINES LIMITED  
18-DEC-86 SCALE=1:24000







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FIGURE III  
GIBE-EAST 200 scale  
Diamond Drill Holes