BRITISH COLUMBIA
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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geological Assessment

TOTAL COST: $3500

AUTHOR(S): J. T. Shearer, M.Sc., P.Geo. (BC & Ontario)

SIGNATURE(S): J Shearer

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-8-216

YEAR OF WORK: 2012

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event # 5422894 - 5431648

PROPERTY NAME: Iron Ross

CLAIM NAME(S) (on which the work was done): Tenure # 503831

COMMODITIES SOUGHT: Iron

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Nanaimo

NTS/BCGS: 92K/05W 92K.031)

LATITUDE: 50 ° 8 '39 " **LONGITUDE:** 125 ° 58 '25 " **(at centre of work)**

OWNER(S):
1) J. T. Shearer
2)

MAILING ADDRESS:
Unit 5 - 2330 Tyner Street
Port Coquitlam, BC, V3C 2Z1

OPERATOR(S) [who paid for the work]:
1) Same as above
2)

MAILING ADDRESS:
Same as above

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
The claims are underlain by Quatsino Limestone in Contact with Triassic Karmutsen basalts intruded by the Adams River batholith, Massive magnetite is associated with garnet-epidote skarn along contacts of limestone and basalt.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
Assessment Report 12102 (1983), 27438 (2002)

Next Page

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$3500 +4500 $ 8,000

GEOLOGICAL and METALLURGICAL ASSESSMENT REPORT on the IRON ROSS PROJECT

(TENURE # 503831)
MX-8-216
LATITUDE 50°18'39"N/LATITUDE 125°58'25"W
UTM10 5577421N+288285E

SAYWARD AREA, ELK CREEK
NANAIMO MINING DIVISION
NTS 92K/05W (92K.031)
Event #5422894 + 5431648

for

Canadian Dehua International Mines Group Inc.
Unit 5 – 2330 Tyner Street
Port Coquitlam, BC
V3C 2Z

By

J. T. Shearer, M.Sc., P.Geo.
Phone: 604-970-6402
Fax: 604-944-6102

February 15, 2013
Fieldwork between November 1, 2011 and December 21, 2012

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LIST of ILLUSTRATIONS and TABLES

TABLES

SUMMARY

1) This Assessment Report documents examination of ore as to specific gravity and preliminary metallurgy to further assess the resource potential for magnetite in the Sayward Area.

2) The former Ross, Iron Ross and Iron Bethea Claims (totalling 22 modified grid units) cover 4 main magnetite showings were converted in MTO in 2005 to Tenure #503831 (totalling 42 cells or 866.93ha).

3) The area is 6 km from tidewater on Kelsey Bay at the town of Sayward and about 52 km north of Menzies Bay.

4) The Iron Ross and Iron Bethea magnetite showings are a short distance (400m) west of the Iron Mike past producer.

5) Initial ore reserves at the Iron Mike mine were approximately 700,000 tons to 1.15 million tons @ 62% Fe (Atherton, 1983). Mining took place in 1965-1966. Drilling by 1965 delineated reserves of 688,277 tonnes proven and 266,983 tonnes probable grading 43.5% iron (Hill & Stark, 1965). Production by Orecan Mines Ltd. in 1965-1966 totalled 168,735 tonnes (82,862 tonnes of 62.25% concentrate). A further 29,937 tonnes of concentrate was shipped in 1969.

6) Extensive geological mapping, airborne and ground magnetometer work was completed by Dickenson Mines Limited in 1983. Four large ground magnetic anomalies coinciding with massive magnetite outcrops were identified by the 1983 work by Dickenson Mines Ltd.

7) The claims are underlain by garnet-epidote-magnetite skarn, which occurs along the contact between underlying Upper Triassic Karmutsen Formation volcanics and overlying Upper Triassic Quatsino Formation Limestone. Drilling in 2002 confirmed the presence of magnetite and skarn zone also totally within the limestone.

8) The largest 1983 magnetic anomaly is called the Iron Ross (formerly the Iron Dick). As defined by the 5000 gamma fluxgate contour its dimensions are 120m by 60m. Massive magnetite assayed (in 1983) 64.15% soluble Fe. A small massive magnetite showing 500m northwest of the anomaly was sampled in 1997 using a saw to cut a channel sample (now called the Iron Steve Zone).

9) Trenching in February 2002 has exposed the massive magnetite outcrop on the Iron Ross Zone over a length of 60m and thickness of at least 4m. Thirteen diamond drill holes were drilled at the Iron Ross Zone prior to 1965. However, the results of this drilling is not currently available.

10) Specific Gravity measurements average 5.1 with the following assay results

Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	P_2O_5	SiO_2	Zn	V	S
0.46	0.47	91.00	0.79	0.16	0.21	0.29	0.05	2.95	330	14	<0.01

11) 400m south of the Iron Ross is the Iron Bethea (formerly the Iron Mac) anomaly measuring 60m by 40m indicates a shallow southwest dip. Massive magnetite assayed (in 1983) 63.1% soluble Fe. Eight diamond drill holes were completed at the Iron Bethea Zone prior to 1965. However, the results of this drilling is not currently available.

12) The Iron Herb I and Iron Herb II magnetometer anomalies occur 750m north of the Iron Ross showing. Assays for skarn and magnetite at the poorly exposed Iron Herb II (1983) is 26.0% soluble Fe.

13) Bulk samples of 150 tonnes was excavated in November 2002 and continuing geological mapping completed.

14) Trenching was completed in February and October 2002 along line 11W (65m) and along 10+70W (75m) within gently dipping Quatsino limestone. The massive magnetite outcrop was stripped along a width of 65m.

15) A small bulk sample was excavated, trucked to Port Hardy and crushed to 7/8" minus. Various tests were conducted by OCL Industries for sandblasting purposes and by Ocean Cement for super heavy concrete.

16) Percussion drilling in October 2002 on the Iron Ross totalled 970 feet (295.66m) in 17 holes mainly around the Iron Ross surface showing and 2002 trenching.

17) Assays indicate zinc is uniformly low, likewise tungsten, mercury and cobalt. Lead, copper and arsenic are geochemically elevated in some samples especially the lower skarn zones. Sulphur is uniformly low. The gold shows more variation but the highest is only 0.5 ppm in hole 17.

    The XRF major elements shows some variation in the lower intervals logged as magnetite. The silica is elevated and this could be a function of sample collection. However, the limestone samples also have relatively higher SiO_2.

18) A ground magnetometer survey was completed in the summer of 2003 on well cut out lines totalling 12.0 line kilometres.

19) The Iron Steve Zone exhibits an intense, well defined, ground magnetometer anomaly approximately 30m wide by at least 150m long. Much of the anomaly has a 20,000 gamma contrast. The exact width is poorly constrained due to fewer lines to the south and the deposit appears to swing to the northwest. Ten additional drillholes are recommended.

20) The Iron Mike produced a limited tonnage in 1965-1966. The present survey indicates a lens of magnetite dipping to the southwest. A decline was collared on this lens but was not economically feasible. Old drill data shows a considerable zone of magnetite, which would only be amenable to underground mining methods. No drilling recommended.

21) A small magnetite zone is suggested by higher readings on Lines 18 and 20 between the West Pit and the Main Pit. Three holes are recommended to firm up previous intersections.

22) A low order magnetic anomaly is present to the west of the West Pit. Two to four drill holes are warranted.

23) The area between the Main Pit and the Iron Bethea Zone has a small anomalous zone near the south side of a hill. Prospecting and mapping are recommended.

24) The Iron Herb I Zone is a strong, continuous magnetic high extending a distance of at least 290 metres in length. Several drill holes are recommended as constrained by road access. Some new road and excavator trenching will need to be built to access the eastern part of the anomaly.

25) The Iron Herb II Zone is outlined by a magnetic anomaly about 120 metres long. At least four drill holes should be positioned along the main road and north branch to test the subsurface of the zone near Lines 39 and 61.

26) Line 41 is situated on the trench and drill fence on the south side of the Iron Ross deposit. From percussion drill data, the Iron Ross deposit is covered by 10 to 15 metres of limestone in the vicinity of 4000 to 7000 gamma total field magnetic response. Four holes are recommended to test for south continuations indicated on Line 42.

27) An area of 4000 gamma readings is present on the west side of Lines 45 and 46 in steeper terrain. Detail prospecting is recommended.

28) Iron Bethea is misplotted. The Iron Bethea deposit is indicated on Line 11, Line 53 and Line 52. The zone covers an area 60 to 90 metres long by 20 to 40 metres wide. Road extension of 190m and drilling is recommended.

29) The lines southeast of the Iron Bethea deposit (Lines 55-58) all exhibit low background values suggesting low magnetite potential.

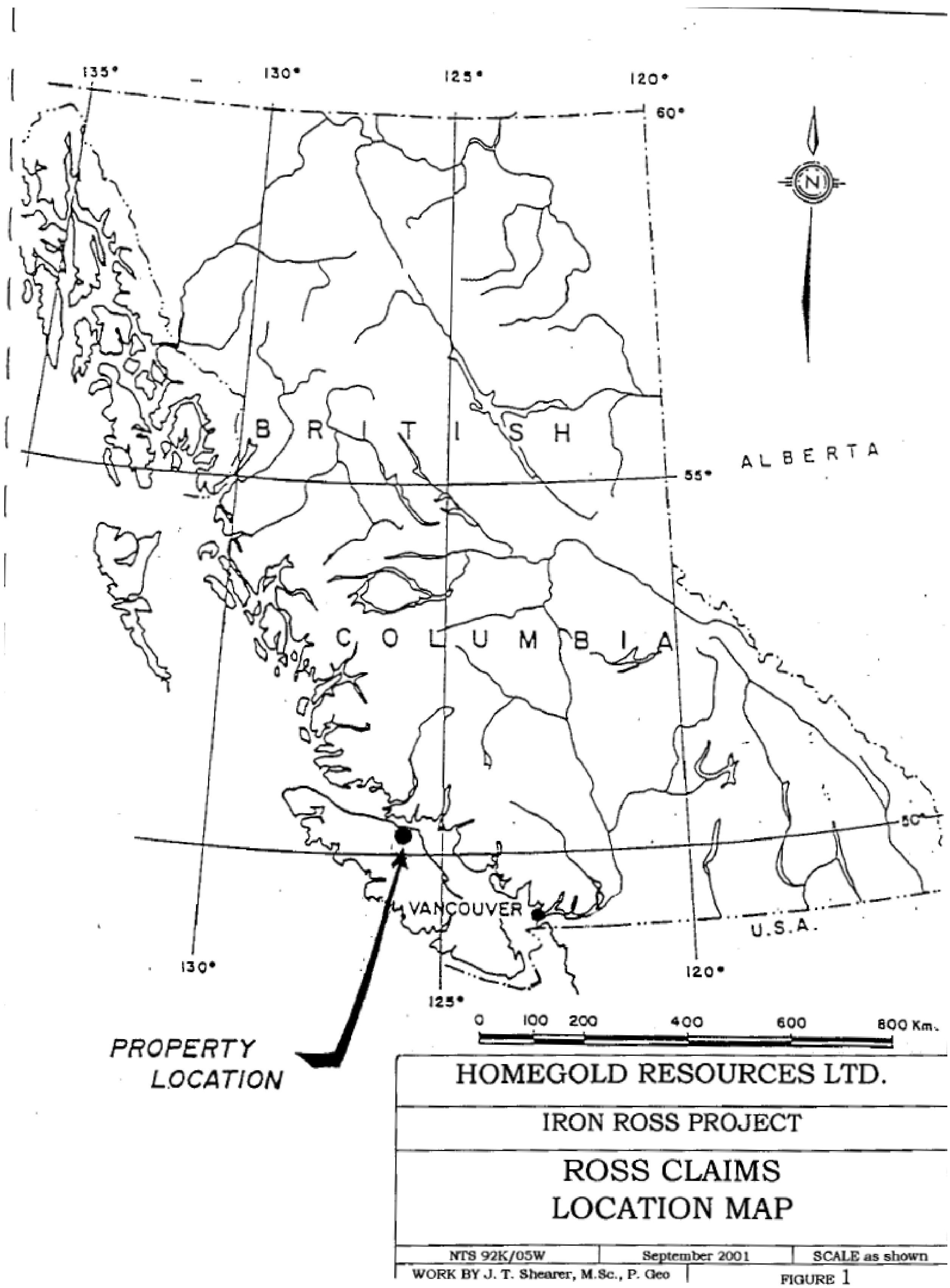
30) Further percussion drilling was completed in the fall of 2003 on the Iron Steve zone and farther east for a total of 31 holes of 1403 feet (427.64m) of drilling.

31) A follow-up bulk sample is recommended for 2013, as outlined in this report, to explore for magnetite mineralization and define geological structure. Specific Gravity is greater than 4.0 and he Magnetite was crushed to 28 mm and then screened to produce a coarse (28x5mm) and fine aggregate (5mm minus). These two aggregates were then blended with a small proportion of washed concrete sand from our source in Jervis inlet to achieve a mix design that met the CSA gradations for concrete aggregate.

32) For the Coarse Feed sample, magnetic separation recovered 63.1% of the mass in a concentrate grading 60% Fe and recovering 72.7% of the iron. Examination of grades and recoveries for individual size fractions shows that grinding to below 30 mesh followed by magnetic separation should increase the Fe grade to greater than 63% and the Fe recovery will improve to over 95%. Similar results were achieved for the High Grade Fines suggesting that the two samples are mineralogically similar.

Respectfully submitted,

J. T. Shearer, M.Sc., P.Geo.
February 15, 2013


135°
130°
125°
120°
60°
N
B R I T I S H
C O L U M B I A
ALBERTA
55°
50°
VANCOUVER
U.S.A.
130°
125°
120°
0 100 200 400 600 800 Km.
PROPERTY LOCATION
HOMEGOLD RESOURCES LTD.
IRON ROSS PROJECT
ROSS CLAIMS LOCATION MAP
NTS 92K/05W
September 2001
SCALE as shown
WORK BY J. T. Shearer, M.Sc., P. Geo
FIGURE 1

INTRODUCTION

The Iron Ross Project is approximately 6 km from tidewater, west of the Community of Sayward, B.C. The main showings of massive magnetite are 400m west of the Iron Mike Mine, which operated in 1965-1966, producing from 168,735 tonnes about 112,799 tonnes of 62.26% iron concentrate.

Extensive airborne and ground magnetometer surveys were completed by 1983 by Dickenson Mines Limited, which outline 4 additional large massive to skarnified magnetite zones to the west of the Iron Mike main pit.

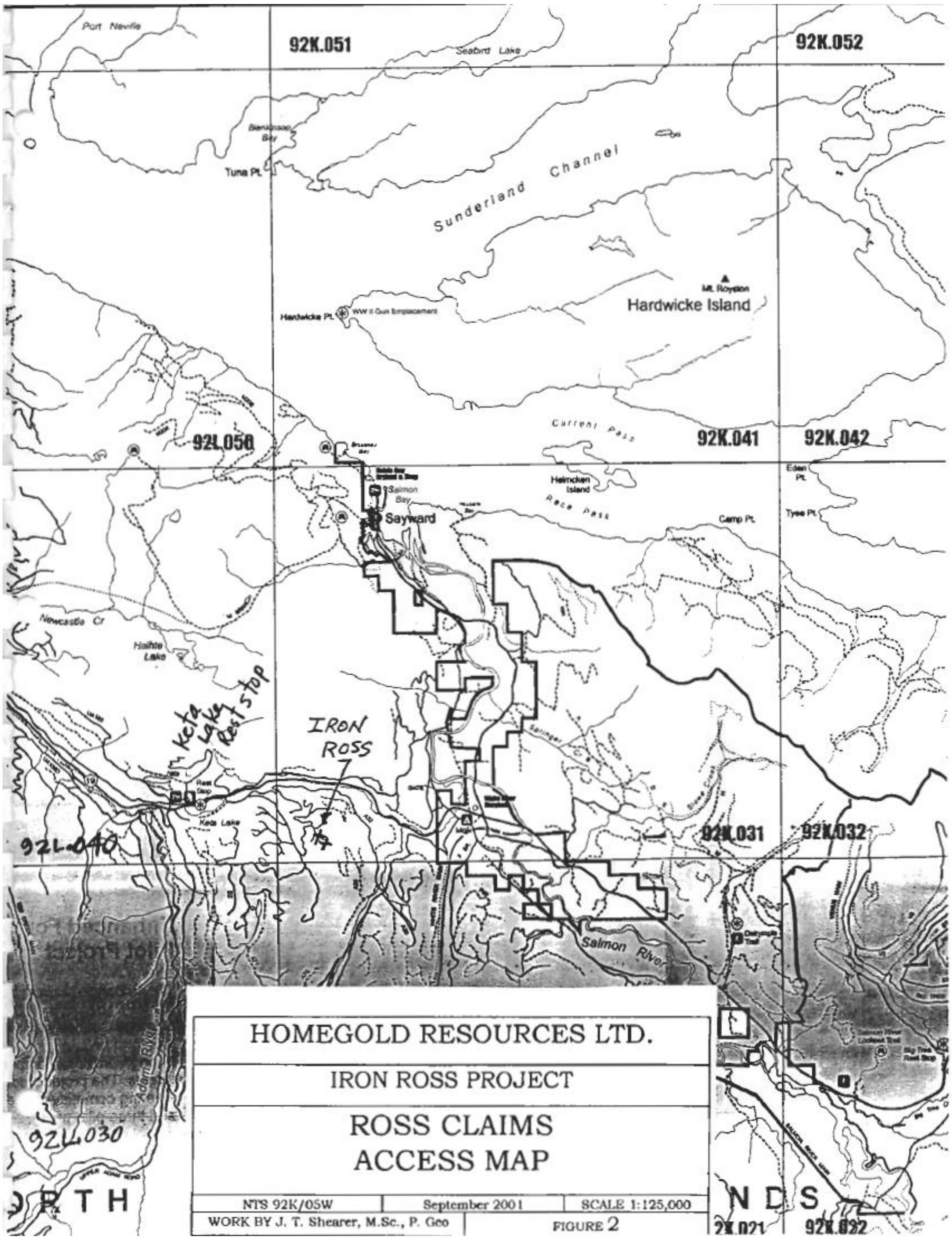
Magnetite concentrates from the Iron Mike were apparently shipped (by ocean-going vessel) out of Menzies Bay 52.2 km to the south. However, as part of a major reorganization of their island operations, the large dryland Log sort operated in Sayward by Weyerhaeuser is scheduled to be phased out during the near future, which may open up opportunities to barge out of Kelsey Bay. Most Weyerhaeuser logs will now go out of Menzies Bay. The Eve River log sort to the north has already been shut down.

Much of the magnetite produced in British Columbia at the present time is from a sophisticated reprocessing of tailings (Craigmont) or small time hit and miss reprocessing coarse waste dumps (Texada Island and elsewhere). Possible markets for magnetite are: heavy aggregate for high-density concrete, heavy media for coal washing, sandblasting abrasives, high-density filter media and radiation shielding aggregates. Two major construction projects under consideration are the expansion of the sub-atomic research TRIUMF facility at the University of British Columbia and the Sumas-Duncan Natural Gas Pipeline (for pipe anchors) by BC Hydro and Williams Pipeline Company. There may also be increasing application to special designed heavy concrete foundations in areas of high hydrostatic ground pressure in areas like Richmond, B.C.

An alternative market may be as a raw material for cement plant use. The current supply from Anyox slag assays 36.4% SiO_2, 5.1% Al_2O_3 but only 45% Fe_2O_3. Anyox slag also assays typically about 3% SO_3 and has a relatively high Bond work index of >23. Bond work index of 10.7 and 15.0 have been obtained for magnetite from other properties on Vancouver Island. The average specific gravity for 3 samples from the Iron Ross Zone is 5.1.

Specifications for sandblasting are minus 20 mesh plus 100 mesh with most of the size distribution in the 50 to 70 mesh fractions. Arsenic should be below 50 ppm for total metals.

Product constraints for use as heavy media coal washing include (1) greater than 4.7 specific gravity, (2) greater than 95% magnetics, (3) not less than 90% passing 235 mesh (45 microns) and (4) not more than 30% passing 10 microns. Testing was conducted in 2003 to produce heavy media concentrate for use in marketing and market evaluation.



HOMEGOLD RESOURCES LTD.

IRON ROSS PROJECT

ROSS CLAIMS
ACCESS MAP

NTS 92K/05W	September 2001	SCALE 1:125,000
WORK BY J. T. Shearer, M.Sc., P. Geo	FIGURE 2	

Figure 2A Access Map

LOCATION and ACCESS

The Iron Ross Project is located about 6 km from tidewater at the town of Sayward B.C. Access is currently from the Elk Creek Mainline logging road, which crosses the Island Highway (Hwy 19) just east of the Keta Lake rest stop.

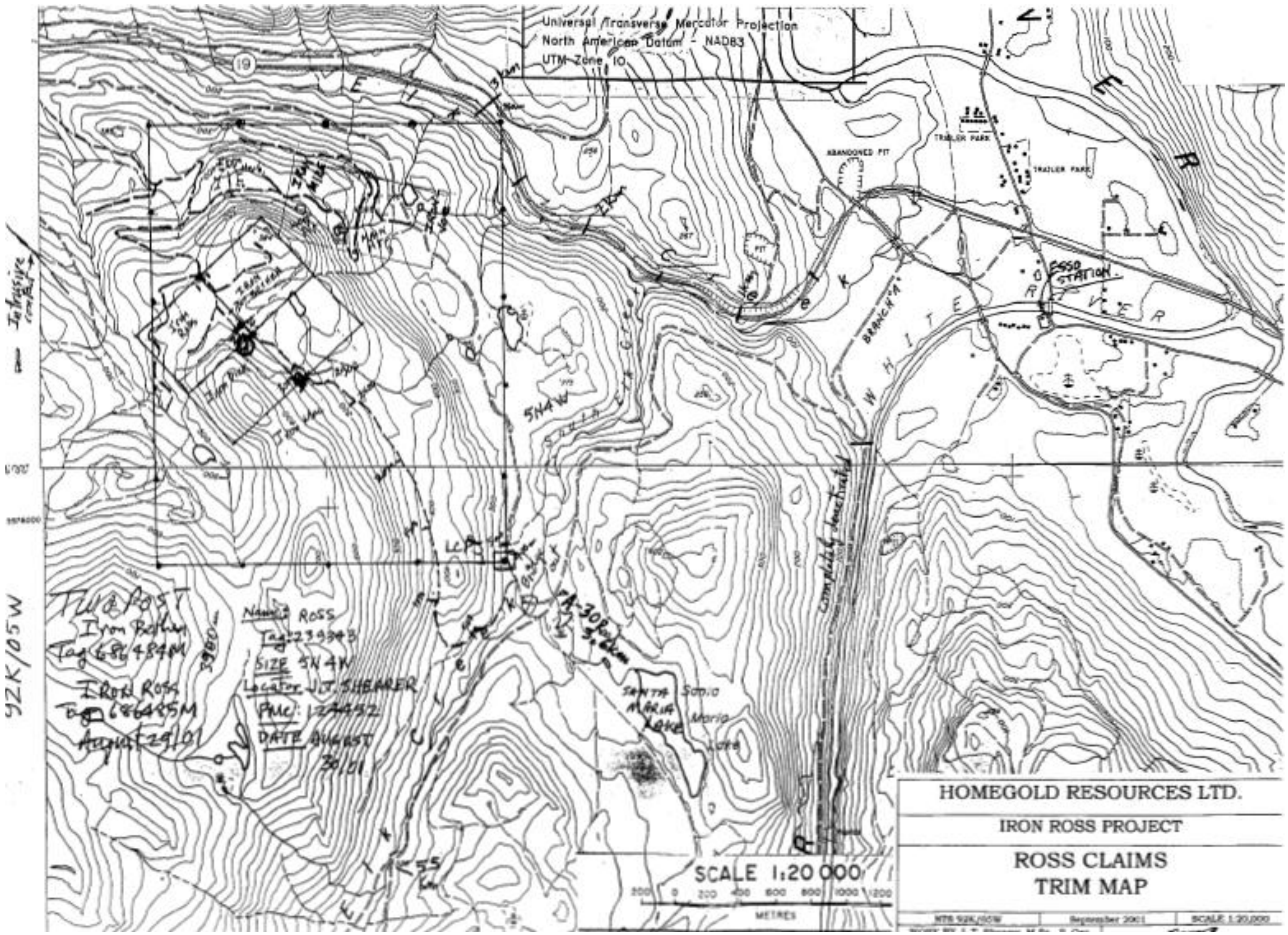
The magnetite showing on the Iron Ross (formerly the Iron Dick) is at 5.13 km along the Elk Creek Mainline from the Highway.

The area is within Tree Farm License #39 owned by Weyerhaeuser (North Island Timberlands, Block 2). Some of the logging in the Sayward Area is done on contract to Weyerhaeuser by Dyer Logging, Superintendent: Bruce Flower, phone 250-282-3381.

In the past, the Iron Mike Mine area was accessed by the White River road, Branch A and then along the Branch A-32. However, the Bridge on A-30 and 4-32 over Tlowlis (lower Elk) Creek has been recently removed but plans call for this bridge to be re-installed and road construction built to access stands of old growth around the Iron Bethea area.

The claims have a variety of second growth and old growth patches of forest. Some of the second growth dates to the 1950’s and 1960’s along A-32 road. The second growth on the Elk Creek Mainline appears to be in the late 1980’s and some harvesting is still taking place along A-30 and Elk Creek 500 branch. Elevations range from 800 feet on the east to 3000 feet on the west.

Figure 3 Trim Map



CLAIM STATUS

The Iron Ross (Sayward) Project consists of 1 converted cell claim as listed in Table I and shown on Figure 4.

TABLE I
List of Claims

Claim Name	Tenure #	Size (ha)	Cells	Date Located	Current Anniversary Date*	Owner
"Ross"	503831	866.93	42	August 30, 2001	January 18, 2015	Dehua

Total 42 Cells

*by application of assessment work documented in this report.

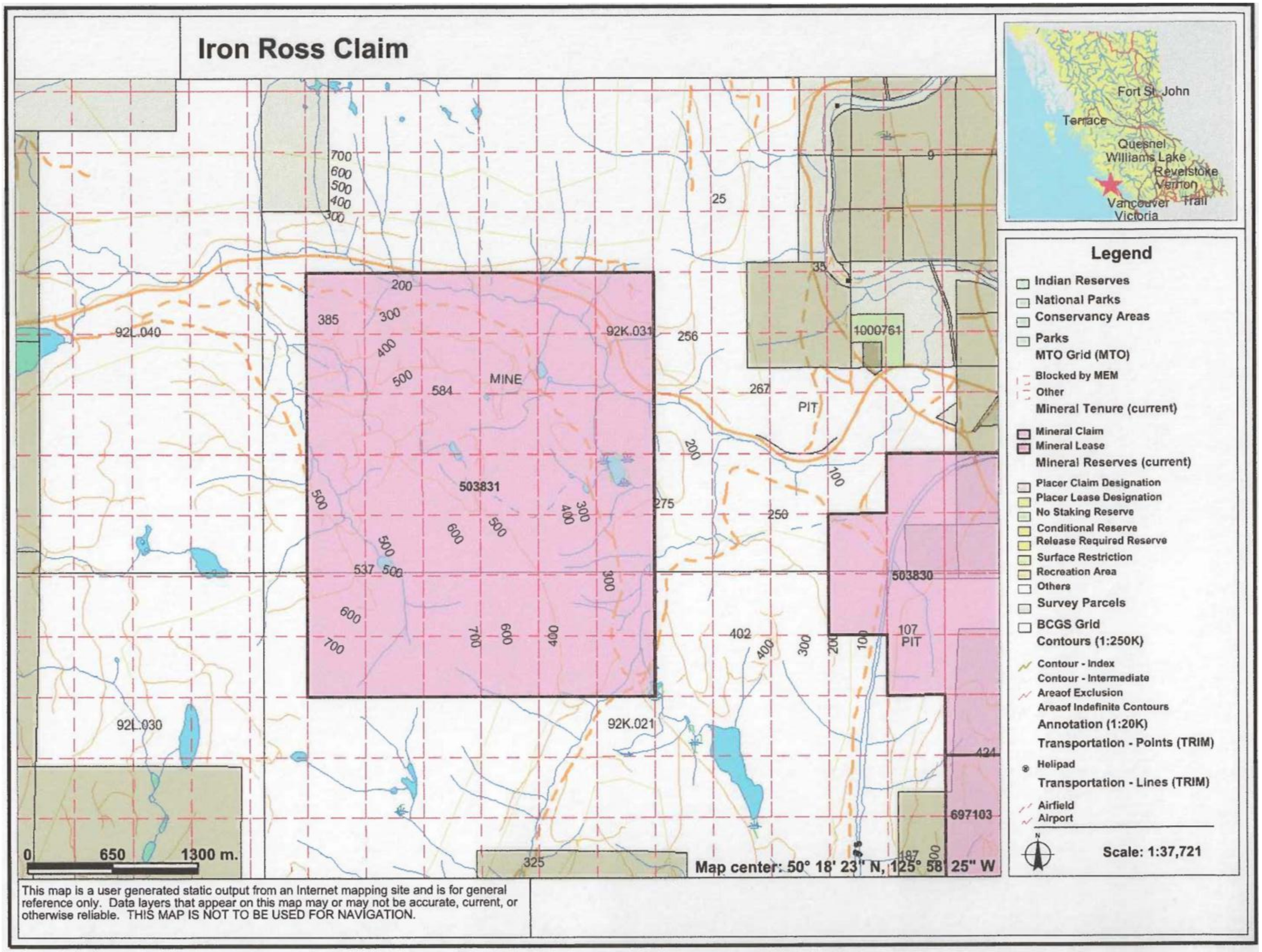
Mineral title is acquired in British Columbia via the Mineral Act and regulations, which require approved assessment work to be filed each year. Following revisions to the Mineral Tenures Act on July 1, 2012, claims bear the burden of $5 per hectare for the initial two years, $10 per hectare for year three and four, $15 per hectare for year five and six and $20 per hectare each year thereafter.

The original Ross claim and internal claims Iron Bethea and Iron Ross were converted in 2005 within the MTO (online) system.

Under the present status of mineral claims in British Columbia, the consideration of industrial minerals requires careful designation of the products end use. An industrial mineral is a rock or naturally occurring substance that can be mined and processed for its unique qualities and used for industrial purposes (as defined in the *Mineral Tenure Act*). It does not include "Quarry Resources". Quarry Resources includes earth, soil, marl, peat, sand and gravel, and rock, rip-rap and stone products that are used for construction purposes (as defined in the *Land Act*). Construction means the use of rock or other natural substances for roads, buildings, berms, breakwaters, runways, rip-rap and fills and includes crushed rock. Dimension stone means any rock or stone product that is cut or split on two or more sides, but does not include crushed rock.

The northeast part of the Ross Claim was taken up by 2-post claims Iron Mike (231490) and Iron Joe (231489). These two claims were owned by Margret Birkenhead 33.3334%, Eileen Hartt 33.3322%, and Audrey Larsen 33.3334% lapsed in 2004.

In August 2002 the Iron Ross claims were optioned to Hillsborough Resources Limited and then in 2004 to Eagle Industrial Corp. The claim is now owned by J. T. Shearer.


Iron Ross Claim
503831
MINE
PIT
503830
92L.040
92L.030
92K.031
92K.021
1000761
697103
Fort St. John
Terrace
Quesnel
Williams Lake
Revelstoke
Vernon
Vancouver
Trail
Victoria
Legend
Indian Reserves
National Parks
Conservancy Areas
Parks
MTO Grid (MTO)
Blocked by MEM
Other
Mineral Tenure (current)
Mineral Claim
Mineral Lease
Mineral Reserves (current)
Placer Claim Designation
Placer Lease Designation
No Staking Reserve
Conditional Reserve
Release Required Reserve
Surface Restriction
Recreation Area
Others
Survey Parcels
BCGS Grid
Contours (1:250K)
Contour - Index
Contour - Intermediate
Areaof Exclusion
Areaof Indefinite Contours
Annotation (1:20K)
Transportation - Points (TRIM)
Helipad
Transportation - Lines (TRIM)
Airfield
Airport
Scale: 1:37,721
0 650 1300 m.
Map center: 50° 18' 23" N, 125° 58' 25" W
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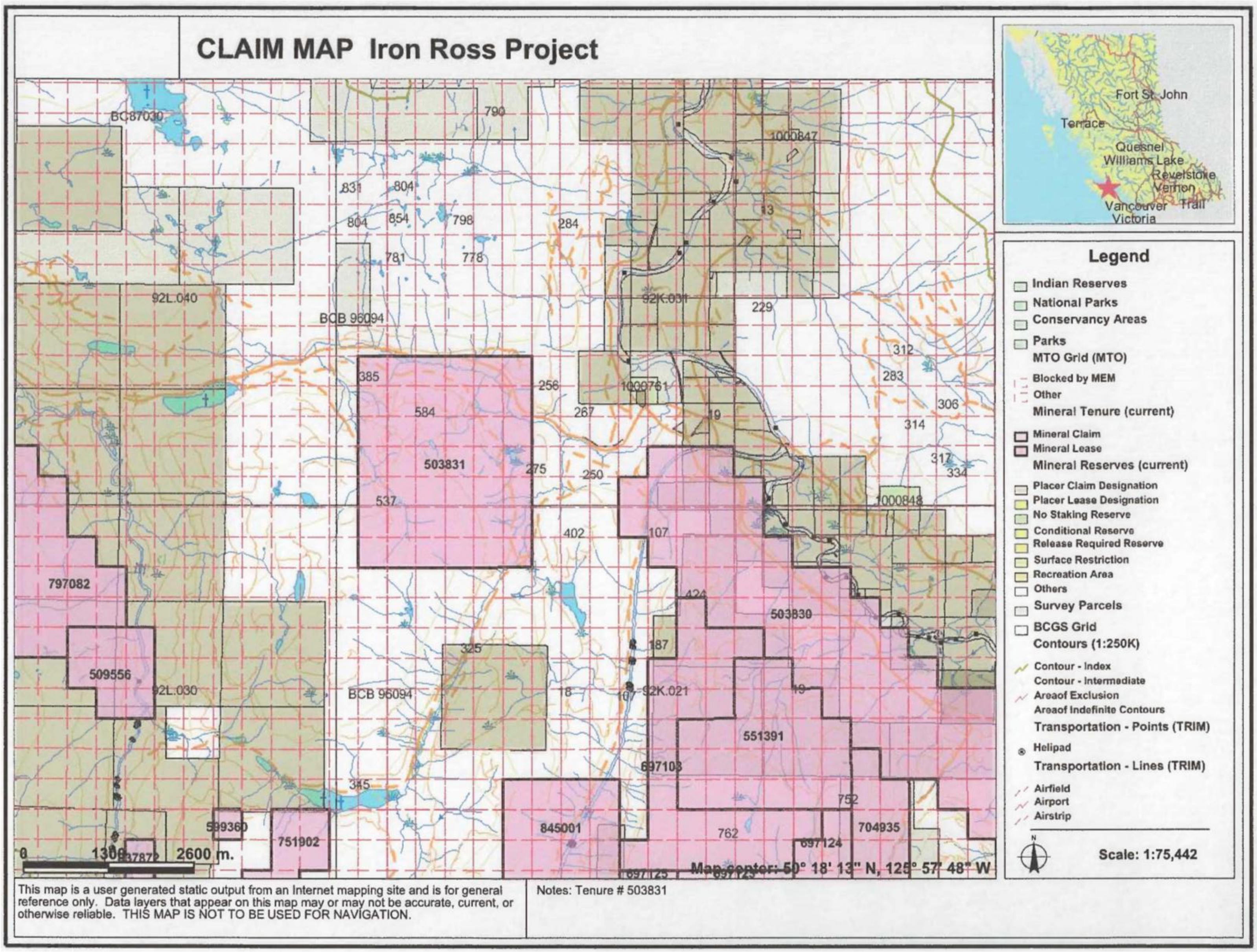
CLAIM MAP Iron Ross Project
Fort St. John
Terrace
Quesnel
Williams Lake
Revelstoke
Vernon
Trail
Vancouver
Victoria
Legend
Indian Reserves
National Parks
Conservancy Areas
Parks
MTO Grid (MTO)
Blocked by MEM
Other
Mineral Tenure (current)
Mineral Claim
Mineral Lease
Mineral Reserves (current)
Placer Claim Designation
Placer Lease Designation
No Staking Reserve
Conditional Reserve
Release Required Reserve
Surface Restriction
Recreation Area
Others
Survey Parcels
BCGS Grid
Contours (1:250K)
Contour - Index
Contour - Intermediate
Areaof Exclusion
Areaof Indefinite Contours
Transportation - Points (TRIM)
Helipad
Transportation - Lines (TRIM)
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Airport
Airstrip
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798
284
781
778
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751902
845001
762
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697124
697125
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1300
2600 m.
Map center: 50° 18' 13" N, 125° 57' 48" W
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.
Notes: Tenure # 503831

HISTORY

The mining history of the area is closely tied to the development of the Iron Mike mine.
A summary of the main events is as follows:

1959 - Iron ore discovered by R. Hartt.

1960 - Property optioned to Marwell Construction from R. Hartt.
- 19 drill holes for 1924 feet (Ex diameter)
- 13 were drilled on Iron Mike claim.
- Dip needle survey over Iron Mike (Main Zone) deposit and Iron Mac, Iron Dick and West Zone deposits (all on Ross Claim)

1961 - Hartt & Associates diamond drilling (EX diameter) (24 drill holes of 2100 feet) and prospecting of claim.
- Diamond drilling totalling 2,100 feet in twenty-four holes was done to the end of 1961 on the Iron Mike, Iron Dan, Iron John and Iron dick claims, and some stripping was done on the iron Ken. The diamond drill holes were grouped in four areas.

1963 - Inter-Can Development Ltd. optioned the property on a ten year renewable lease royalty agreement.
- Stripping and diamond drilling began, claims assigned to Orecan Mine Ltd.

1964 - 5,000 feet diamond drilling by Orecan.
-Stripping in preparation for open pit mining.
- Reserves 700,000 tons to 1.15 million tons at 62% Fe.
-Iron Mike, Company office, 613, 744 West Hastings Street, Vancouver. The Company has under lease the Iron Mike (Hartt) property, 4 miles southwest of Sayward and 3 miles west of the junction of the Salmon and White Rivers. A crew of eight men constructed 3,000 feet of road, did 1,224 feet of diamond drilling in 14 holes, and completed the excavations for the crushing sections of the mill. A considerable amount of ore dressing testing was done in order to establish a satisfactory mill flow sheet.

1965-66 - Most of magnetite on Main and West Pit Zones that was available to open pit mining, no methods are recorded.
- Mine closed, mill sold.

1966-1983 - No known work on claims.

1983 - airborne Magnetometer by Dickenson Mines Limited followed by geological mapping, extensive sampling and ground magnetometer surveys.

1997 - Area staked by J. L. Paquet of Campbell River, who re-staked and held the claims till 2001.

2001 - Area acquired by staking by J. T. Shearer.

2002 - Trenching and bulk sampling Jan.-Feb. 2002 and option to Hillsborough Resources Ltd. in August 2002.

2003 - Road construction, bulk sampling, ground magnetometer. Further percussion drilling, Line cutting, geological mapping.

2005 – Bulk sample, drill blast, truck, crush to 2 size products, barge product to Vancouver

2006 - Proposed diamond drilling.

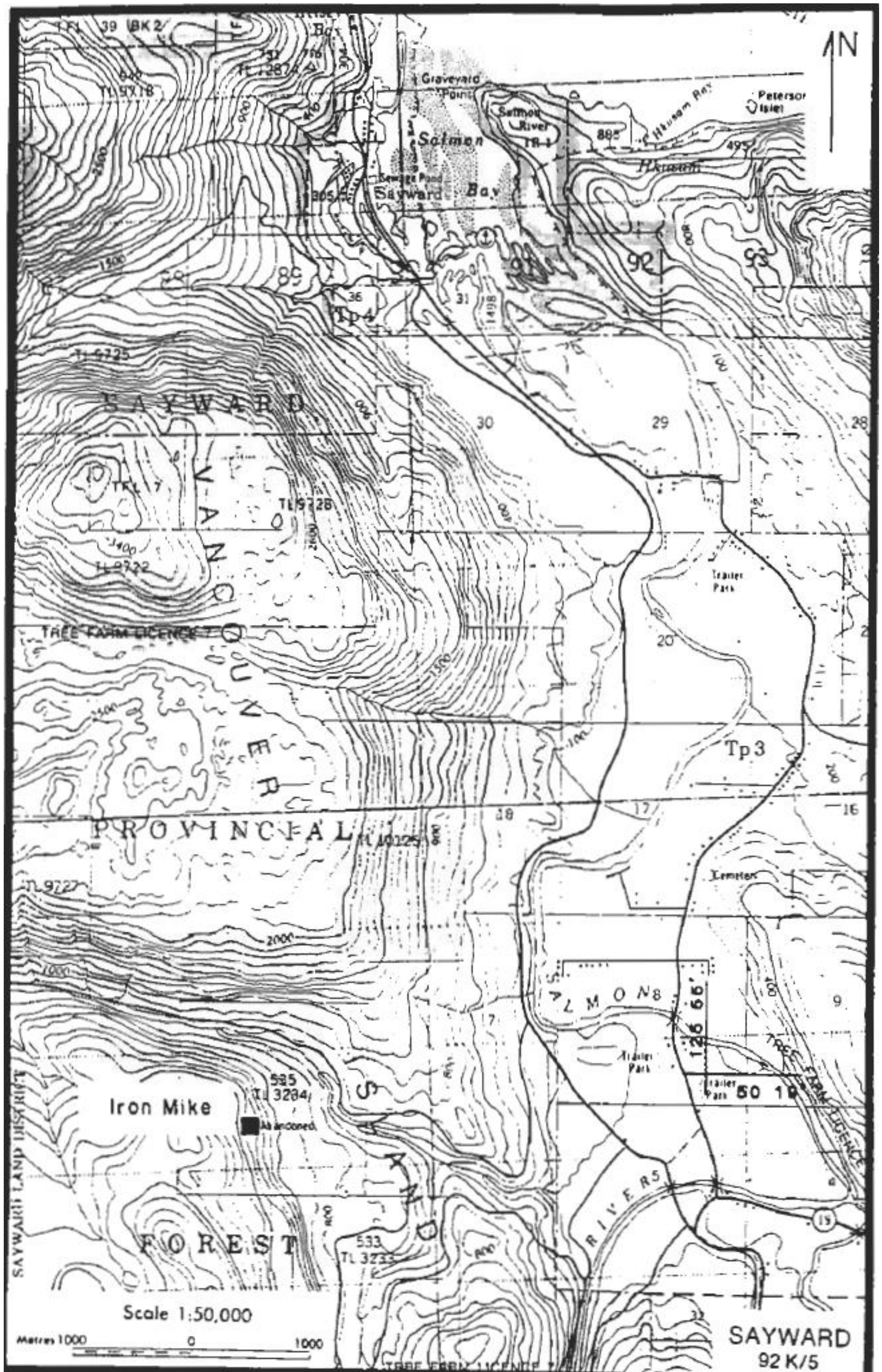


Figure 5 Topographic Map

REGIONAL GEOLOGY

Regional geology has been mapped by Muller et.al. (1974) (92L) and Roddick (1980) (92K) and is published as Geological Survey of Canada Paper 74-8 on the general area to the west of the Iron Ross Project (Muller, Northcote and Carlise, 1974). Northern Vancouver Island and Adjacent Mainland has a complex structural history with frequent rejuvenation of major structures. All Palaeozoic rocks are affected by a series of southeast trending, upright to overturned, southwest-verging folds. An inspection of the regional geology map, Figure 5 (Roddick, 1980, O.F. 480), shows several elongate, fault-bounded slices of metasedimentary rocks sandwiched between separate and distinct plutons of the Coast Plutonic Complex.

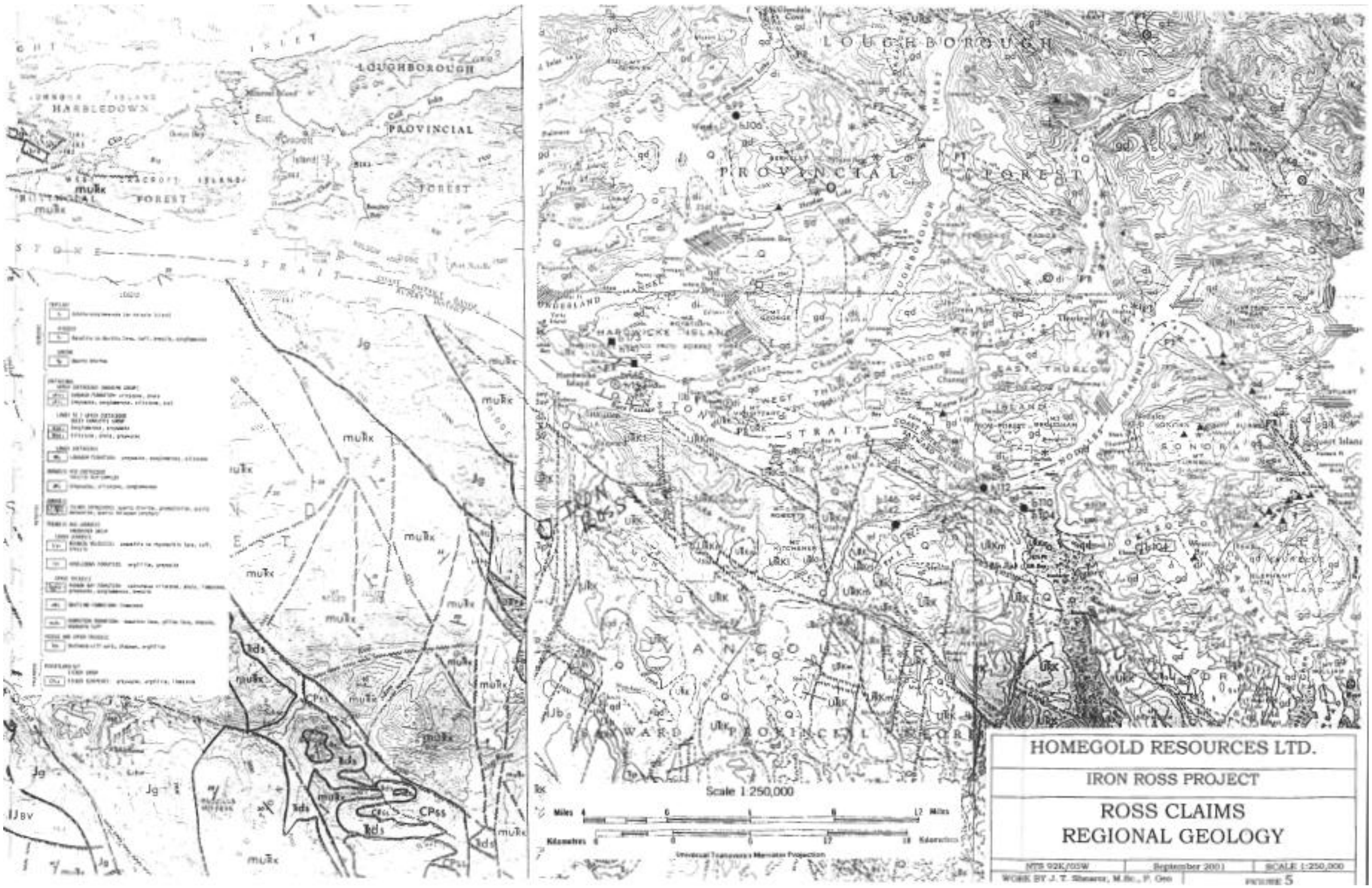
The rocks underlying the claim group are part of the eastern limb of regional synclinal structure. The oldest rocks are in the area of Late Triassic, pillowed and porphyritic basalt of the Karmutsen Formation. This formation is estimated to be greater than 3000m thick.

The Quatsino Formation conformably overlies the Karmutsen Formation. The formation consists of Limestone up to 900m thick. Granitic intrusives are common within the formation and the limestone has been, in places, converted to marble and skarn.

The early Jurassic Bonanza Formation conformably overlies the Quatsino limestone. The lower part of the formation is composed of carbonaceous shale, calcareous shale and greywacke, occasional tuff units are present. The upper half of the formation is composed of dacitic to andesitic lavas with tuffs and breccias.

The Adams River Batholith intrudes all of the above rock types. In the Adams River area the intrusive is mainly granodiorite in composition with some quartz diorite along the lower contacts. The intrusive is early Jurassic in age. The contact with the lower Quatsino Formation is concordant in most places.

Figure 6 Regional Geology



LOCAL GEOLOGY and MINERALIZATION

The area around the Main and West Pit (Iron Mike) areas is underlain by Karmutsen Formation basalt and an intravolcanic band of limestone, which is thought to be part of the Karmutsen Formation rather than the Quatsino Formation. The magnetite occurs on the same horizon as the limestone band and within the basalt (Atherton, 1983).

The volcanics that underlie the limestone and magnetite are pillowed to massive, fine-grained to porphyritic basalts. The pillows indicate tops to be to the west. The volcanics are slightly magnetic to non-magnetic and are generally fine grained. The rocks strike north-south and dip about 25° west. The volcanics are light grey to buff on the weathered surface to dark grey on the fresh surface. The porphyritic rocks contain hornblende phenocryst up to 1 cm long. Slickensides are present along some of the joint planes indicating some movement.

The upper basalt is similar to the lower basalt with more massive porphyritic lava than the pillowed variety. The rock is basically unaltered except in the area of magnetite concentrations. There is a 1-2m band of highly sheared basalt above the magnetite in the Main Pit. The volcanics in the magnetite zone in the West Pit exhibit contact skarn metamorphism. Epidote is common throughout the rock unit.

There is an exposure of limestone along the access road below the Main Pit. The rock is crystalline, granular weathered and pitted. The unit strikes 16° and dips 40° west. Earlier drilling by Orecan indicates the limestone is not continuous (Atherton, 1983).

The ore remnants in the Main Pit are dark black medium crystalline nearly pure magnetite. The magnetite occurs as mainly massive to occasional thin bedded layers. In the West Pit area the magnetite occurs as irregular bands and lenses in a highly altered volcanic. The ratio of magnetite and altered volcanics is variable from section to section. The distribution of magnetite in the pit is shown on the sample sections accompanying this report from the 1983 work by Atherton.

A reference in the Annual Report of the Minister of Mines (ARMM) for 1965 mentions:

> "On the Jim Mineral Claim some 1,400 feet westward from the southwest corner of the Iron Mike Mineral Claim, six holes have been drilled in an area of about 100 by 200 feet. Massive magnetite was cut in core lengths of 27 to 63 feet, all near surface. On the Ken Mineral Claim, about 1,300 feet south-southwest of the same Iron Mike corner, three holes have been drilled, all of which cut magnetite in core lengths up to 10 feet. The Jim and Ken areas are about 1,300 feet apart; a line joining them is sub-parallel to the Iron Mike Zone."

It would appear that this reference is to the currently named Iron Ross and Iron Bethea magnetometer anomalies.

The rocks underlying the west grid #1 area appear to be higher in section than those in the Main Pit area. It is not known if the limestone that occurs on this grid is a second horizon above the Main Pit area or whether the section is repeated by faulting. The geology is shown on Map 7.

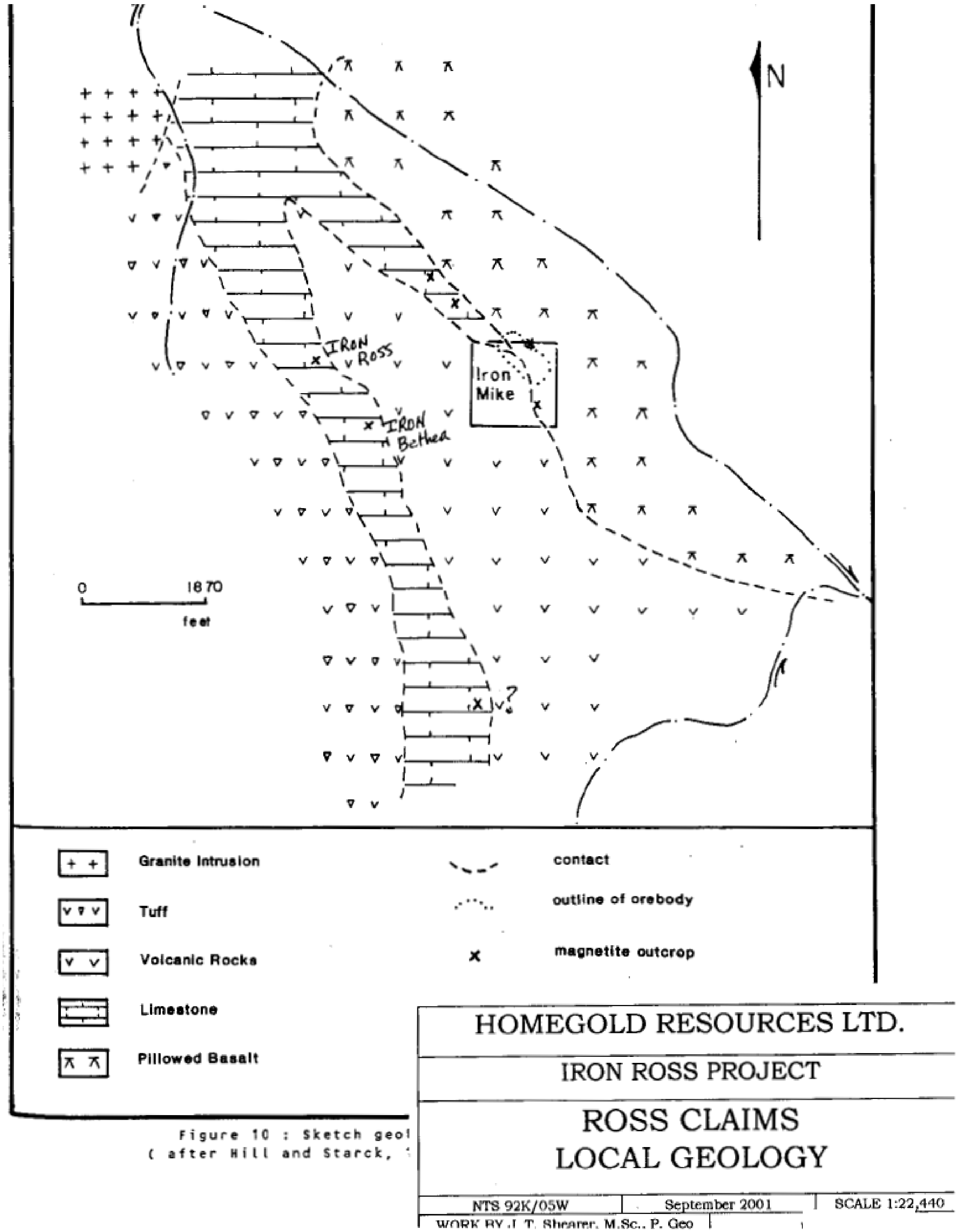


Figure 7 Local Geology (Generalized)

The volcanics below the limestone and magnetite are massive porphyritic to fine grained basalts. All of the outcrops are weakly magnetic. The rock strike north and dip 20° to 40° west.

The limestone occurs as a thin band in the volcanics. The rock has granular texture with some mica. The limestone occurs south of the baseline and is continuous for the length of the grid.

The magnetite occurs in two lensitic bodies. The outline of the occurrences has been outlined by the ground magnetic survey. The magnetite is poorly exposed. The Iron Bethea (formerly Iron Mac) occurrence is located between lines 7W and 8W. It is fine grained, massive nearly pure magnetite. One grab sample taken from the outcrop assayed 58% magnetic Fe. The Iron Ross (formerly Iron Dick) occurrence is exposed in magnetite outcrops located between lines 11W and 12W. Grab samples taken from these outcrops assayed 58.1% Fe and 66.6% Mag. Fe.

The magnetite in the Iron Ross (formerly Iron Dick) and Iron Bethea (formerly Iron Mac) occurrences is very similar to the magnetite in the Main Pit Zone indicated by the massive texture and lack of volcanic lenses in the magnetite.

Sampling in 1983 (Atherton, 1983, page 14) from the Iron Ross and Iron Bethea occurrences gave the following results:

	Sample #	% Mg. Fe Satmagan	% Sol. Fe	Description
Iron Bethea	1735	58.1	63.1	Massive magnetite
Iron Ross	1761	58.1	59.0	Massive magnetite
Iron Ross	1762	66.6	69.3	Magnetite and skarn

Tuff is present above the limestone. It consists of silicified tuff bands separated by limestone or other carbonate rich bands. The tuff is exposed on line 62W 1S and L O 1+25S. Abundant pyrite was seen in these two outcrops.

The upper basalts are fine grained and massive. They are mainly non-magnetic but some outcrops were faintly magnetic. This disseminated magnetite and the disseminated magnetite in the porphyritic basalt below the limestone might be the cause of the airborne magnetic high in the southeast part of the grid according to Atherton (1983).

The magnetite outcrop of the Iron Herb II deposit is much different than in the other occurrences. The Iron Herb II occurrence is located between lines 0 and 1E. The occurrence has one outcrop of lower grade magnetite and skarn that gave the following assay (Atherton, 1983):

	Sol. Fe	Mag Fe (Sat)
1758	26%	20.9%

The outcrop is not in the area of the highest magnetic anomaly and might not be representative of the whole occurrence. The magnetite occurs as lumpy concentration up to 1" in diameter in a greenish brown skarn. This showing is on a bench that extends north from the steep hill to the south of the grid. The position of the occurrence in relation to the Iron Herb I occurrence indicates faulting has occurred since the two occurrences have about 50 feet difference in elevation.

The Iron Herb I occurrence is not exposed in outcrop. Several large boulders occur north of the baseline that show the same lumpy appearance as the Iron Herb II showings.

PREVIOUS TRENCHING PROGRAM COMPLETED in OCTOBER 2002

The work in 2001 to 2003 is outlined below:

1) Sampling & geological mapping

2) Road rehab and trenching

	Line 11W	Trail Building – 100m	
Iron Ross	Line 10+75W		75m
	Line 11+25W		90m
	Saw Cuts Trench		31m
	7W		70m
Iron Bethea	7+50W		100m
	8W		60m
		Total Trail -	525m

3) Trenching, 150m of excavating

4) Excavate 10 tonnes for sandblasting media
Crush to ½ inch minus
Deliver to OCL in Surrey

5) Stripping of the Iron Steve Zone and producing a high grade bulk sample.

The trenching program completed in 2002 was a 75 metre trench along both line 11W and line 10+70W. Solid limestone bedrock was uncovered by this work. A trench was also completed along the 60m perimeter of the massive magnetite.

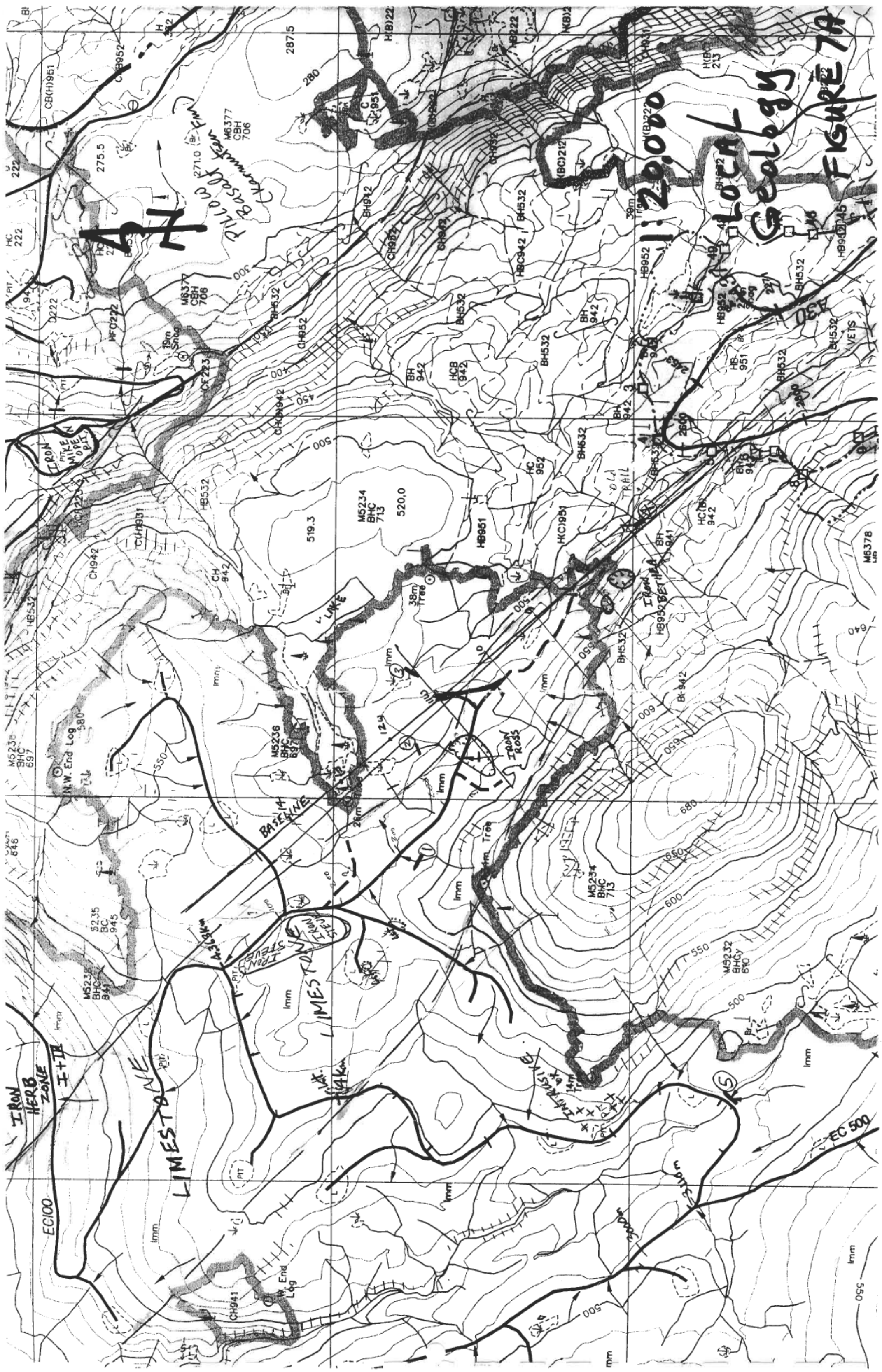


Figure 7A Local Geology

PREVIOUS DIAMOND DRILLING (Prior to 1965)

Coincident with the development and mining of the Iron Mike deposit prior to 1965-1966, there were a number of X-ray (in 1961) and small diameter core holes completed in the Iron Ross and Iron Bethea Zones, as outlined in Table II and plotted on Figure 10.

TABLE II
DIAMOND DRILLHOLES
IRON BETHEA ZONE

	Hole No.	Northing	Easting	Dip	Length	Azimuth	Remarks
1	X-1			-90		000	Prior to 1961
2	X-2			-90		000	Prior to 1961
3	XX-3			-90		000	Prior to 1961
4	501			-90	10' mag	000	Prior to 1965
5	502			-45	8' mag	050	Prior to 1965
6	503			-90	7' mag		1965
7	504			-45		050	1965
8	505			-45		230	1965

DIAMOND DRILLHOLES
IRON ROSS ZONE

					Estimate Magnetite		
1	X-4			-90	663'	000	Prior to 1961
2	X-5			-90	27'	000	Prior to 1961
3	X-6			-90	35'	000	Prior to 1961
4	401			-90	42'	000	Prior to 1965
5	402			-90	35'	000	1965
6	403			-90	55'	000	1965
7	404			-90	35'	000	1965
8	405			-45	63'	230	1965
9	406			-45	27'	050	1965
10	407			-90		000	1965
11	408			-90		000	1965
12	409			-45		050	1965
13	410			-45		050	1965

The drill logs and assays for this previous diamond drilling have not yet been located. The only reference to the results is contained in the Annual Report of the Minister Mines (ARMM) in 1965 pages 255 and 420:

> "On the Jim Mineral Claim some 1,400 feet westward from the southwest corner of the Iron Mike Mineral Claim, six holes have been drilled in an area of about 100 by 200 feet. Massive magnetite was cut in core lengths of 27 to 63 feet, all near surface. On the Ken Mineral Claim, about 1,300 feet south-southwest of the same Iron Mike corner, three holes have been drilled, all of which cut magnetite in core lengths up to 10 feet. The Jim and Ken areas are about 1,300 feet apart; a line joining them is sub-parallel to the Iron Mike Zone."

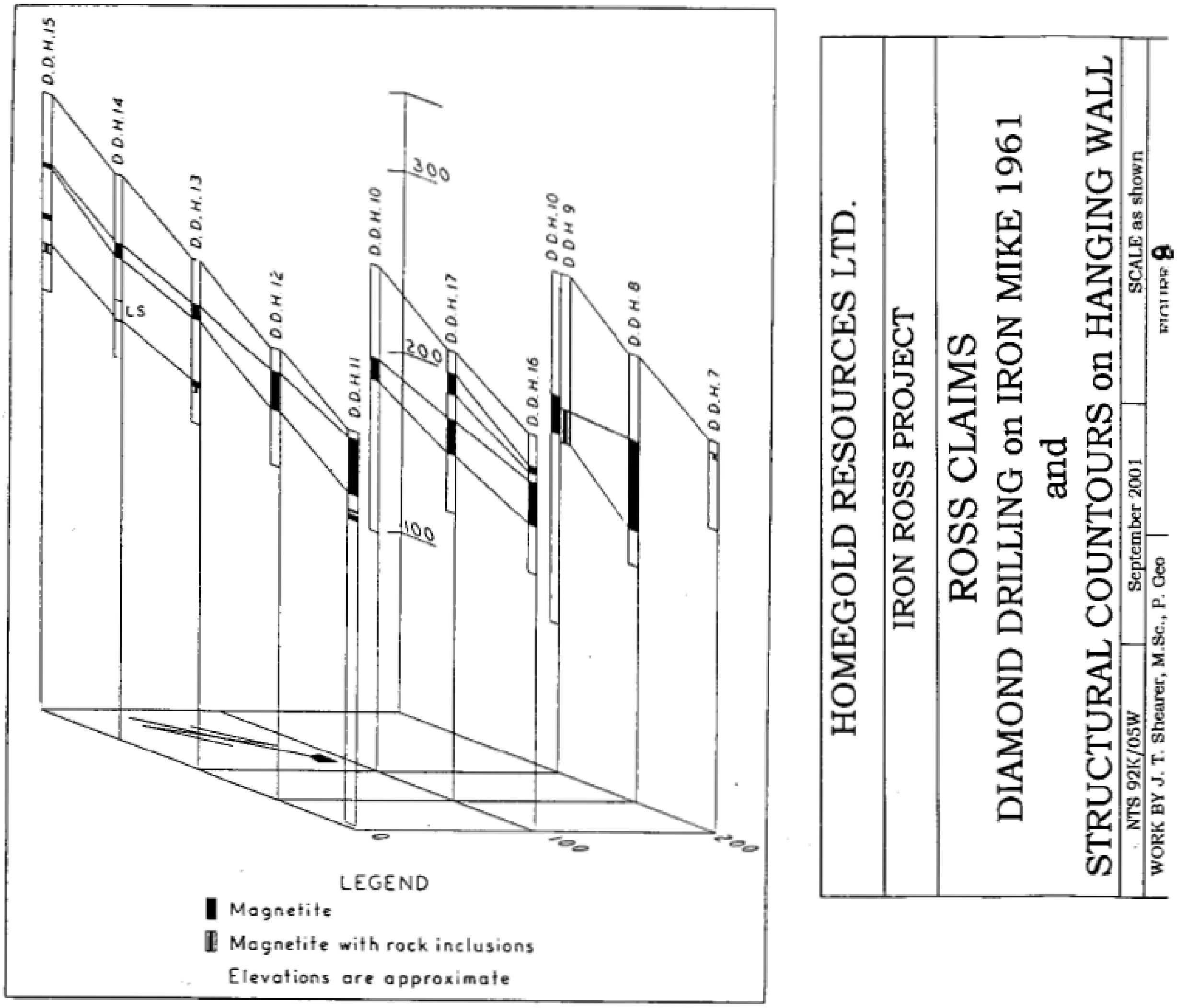


Figure 12. Diamond-drill intersections on the Iron Mike property. 1961

ARMM. page 92

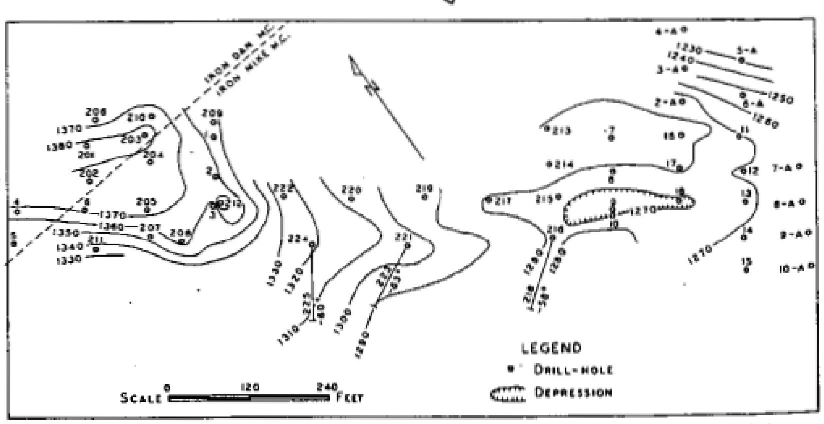


Figure 30. Orecan magnetite zone. Structural contours on hangingwall. 1965

ARMM. Page 226

Figure 8 Diamond Drilling on Iron Mike 1961 and Structural Contours on Hanging Wall

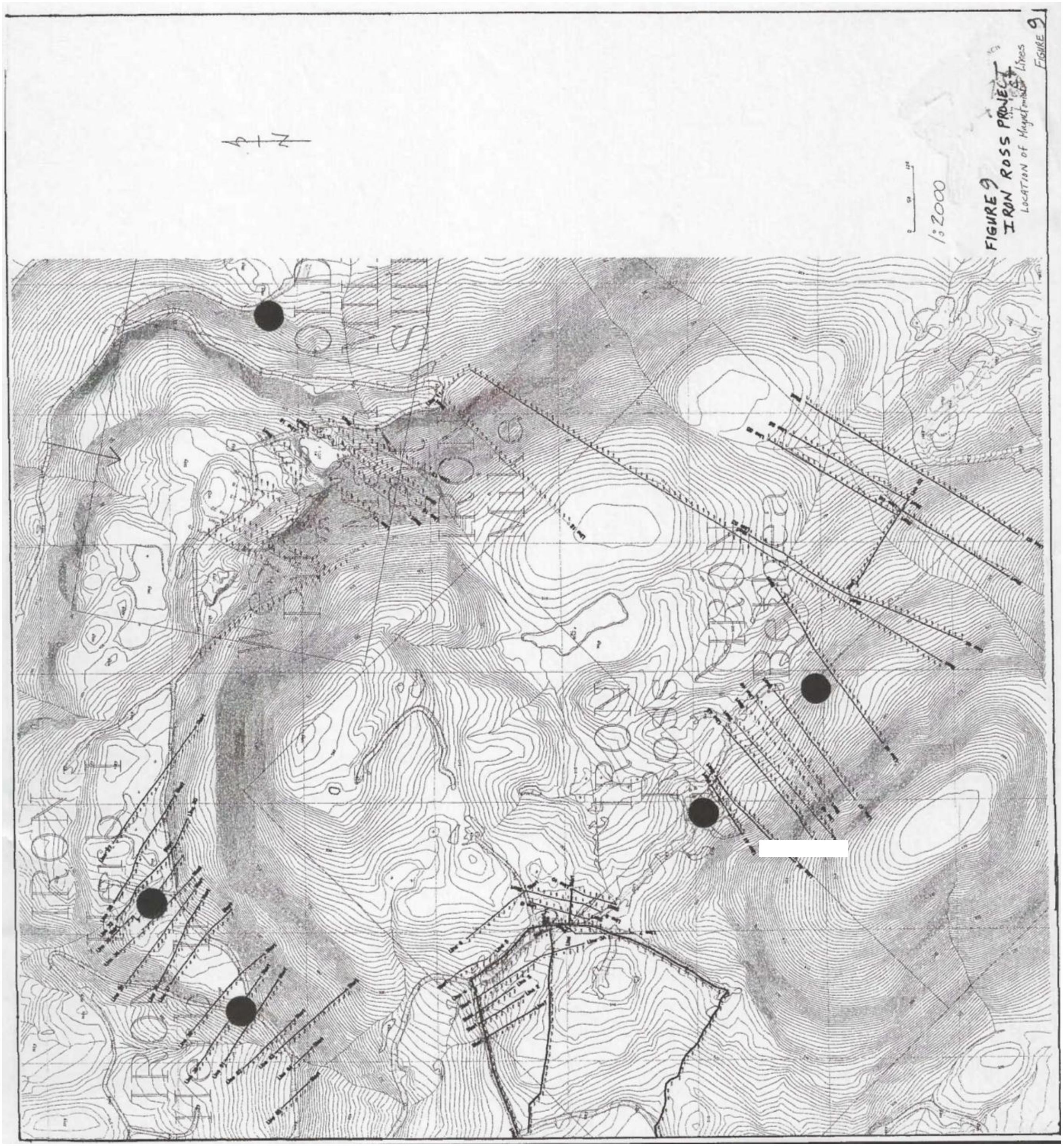


Figure 9 Location of Main Magnetite Occurrences

PREVIOUS PERCUSSION DRILLING OCTOBER 2002

Percussion drilling in October 2002 totalled 970 feet (295.66m) in 17 holes mainly around the Iron Ross surface showing and in 2002 trenching as documented in Shearer (2002).

As the holes were drilled, the cuttings blown out of the holes were logged by J. Shearer, M.Sc., P.Geo. and a representative sample was collected in numbered plastic sample bags. These cutting samples are presently stored at the Homegold Office in Port Coquitlam.

Some limitations in using the percussion drill method were apparent. In hole #2002-1, limestone chips were easily recovered down to a depth of 45 feet but the lower contact was wet and the only return to surface was a small amount of yellow mud (gouge) along the contact. The lithology below 45 feet is unknown. A series of holes along Trench 2002-1 is shown on Figure 12 including Holes 2002-1,13,14, 15 and 16. Two lenses of massive magnetite were found completely contained within the limestone unit. The upper lens varied from 2m to 5m thick over a strike length of about 45 metres. From 3m to 5m below the upper lens, the lower lens varied from about 4m to 5m thick over the same strike length of 45 metres. Geological potential from these intersections suggest a range of about 50,000 tonnes of material rich in magnetite with a rough 1.5 to 2.0 stripping ratio. The stripped material would be mainly limestone.

The remaining drill holes (2002-2 to 12) were positioned along the magnetite outcrop on the south side of the access road situated at the contact of the limestone and underlying volcanics. Hole #2002-2 ended at 30 feet still within mostly massive magnetite. The upper trench-drill access is mainly within limestone and an unknown thickness of skarn starting at 50ft. depth. Hole 2002-11 halfway up the eastern trench intersected a magnetite lens between 34' and 45'.

To better understand the Iron Ross magnetite deposit at least two 60 metre long diamond drill core holes are recommended near hole 2002-13 and 16. A core hole below 45 feet near hole 2002-1 may be advantageous to define the sub-surface extent of the magnetite outcrop zone as it dips to the north.

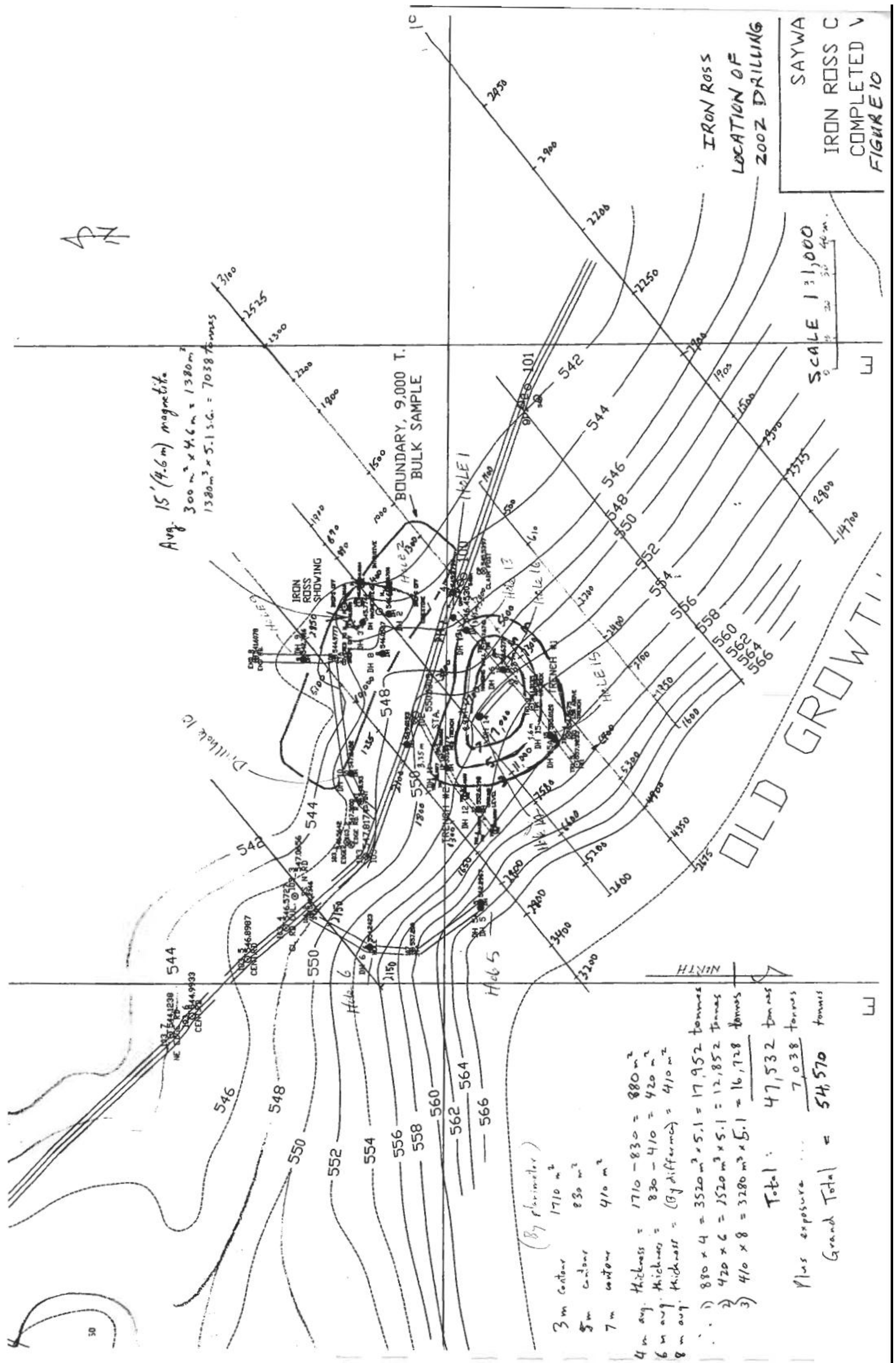


Figure 10 Location of 2002 Percussion Drilling, Iron Ross Zone

PREVIOUS PERCUSSION DRILLING AUGUST-SEPTEMBER 2003

Further percussion drilling was completed in the Fall of 2003 mainly on the Iron Steve Zone and farther east for a total of 31 holes totalling 1,403 feet (427.64m) of drilling.

As the holes were being drilled the cuttings were logged by Hillsborough personnel on a visual basis and a representative sample was collected in plastic sample bags every 10 feet or less. These chip samples were each examined by J. T. Shearer, M.Sc., P.Geo. and a suite was assayed both multi-trace element and major elements as shown in Appendix III. The chip samples from the 2003 percussion drilling are presently stored at the Homegold Resources Office in Port Coquitlam.

Most of the holes were drilled in and around the Iron Steve Zone (Holes 2002-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24 and 25) as plotted on Longitudinal Sections 0+30 and 0+00, Figure 14 and 15.

The cross-sections suggest that the massive magnetite zones could dip relatively gently to the east. Much of the known magnetite zones are found between 1+40N to 1+00N, a distance of over 60 metres. The width of the various magnetite zones varies from 20m to 30m. The cross-sectional thickness ranges from about 6 to 10 metres with variable magnetite content. This gives a general resource potential of about 60,000 tonnes of unknown Fe grade. Similarly to the Iron Ross Zone, the Iron Steve Zone, Figure 14, Longitudinal Section 0+30 shows at least 2 main magnetite zones separated by garnet skarn and hosted within the limestone.

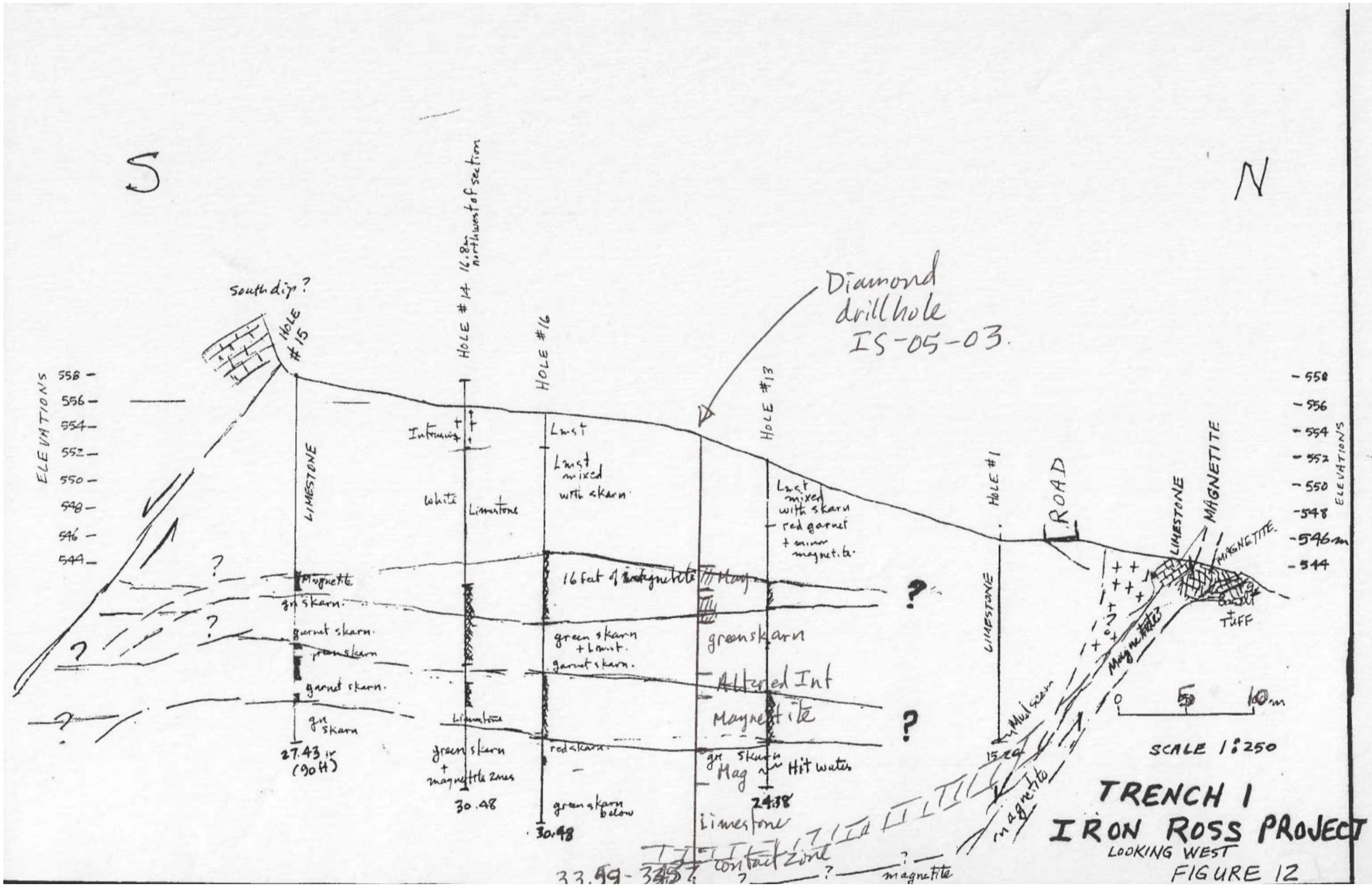
On the surface the Iron Steve Zone is mapped as several discontinuous pods of relatively pure massive magnetite separated by garnet-rich skarn. The ground magnetometer data suggests that the magnetite zones dip moderately shallowly to the east. The orientation of the magnetite zone should be further investigated by continued geological mapping.

The only holes west of the magnetite zones are Holes 2003-21, 16, 19 and 20. The main pods of massive magnetite should be further investigated by angle holes on sections 0+40N, 0+55N, 0+60N and 0+80N (perhaps 1+100N). The main access road is located conveniently to the west of these sections, 5 holes to be 15 to 20 metres in length each. Due to the skarn development at the bottom of holes 2003-25, 04, 05, 24, 10 and 15 might indicate a lower buried magnetite zone which is not seen in outcrop. A longer hole should test for this possibility with a length not less than 60 metres.

Additional percussion drill holes were drilled on the other known zones, Iron Herb I and Iron Herb II to the south east of the Iron Steve Zone. Drill Holes 03-22 and 23 were located north of Iron Steve Zone entirely within limestone intrusives.

Holes 03-23 and 29 were spotted near magnetometer line 32 (Iron Herb Zone). Magnetite was encountered in 03-28 from 2.44m – 3.05m and between 3.35m-4.27m. Hole 03-29 intersected magnetite between 0.91m-1.07m and again between 3.96m-4.27m within an extensive skarn zone. The holes appear to have been placed off the more intense part of the magnetometer anomaly.

Near the former producer, West Pit Holes 03-30 and 31 were drilled to investigate the magnetic anomaly and magnetite observed in road cuts. Holes 03-30 encountered an extensive skarn zone but little magnetite. Hole 03-31 intersected magnetite from 1.22m-3.35m with skarn below.


S
N
South dip ?
HOLE #15
HOLE #14
16.8m northwest of section
HOLE #16
Diamond drill hole IS-05-03
HOLE #13
HOLE #1
ROAD
LIMESTONE
MAGNETITE
ELEVATIONS
558
556
554
552
550
548
546
544
546m
LIMESTONE
Magnetite
gn skarn
garnet skarn
green skarn
garnet skarn
gn skarn
27.43 m (90 ft)
Intrusive
White Limestone
Limestone
green skarn + magnetite zones
30.48
Lmst
Lmst mixed with skarn
16 feet of magnetite
green skarn + Lmst
garnet skarn
red skarn
green skarn below
30.48
greenskarn
Altered Int
Magnetite
gn skarn Mag
Hit water
Limestone
contact zone
33.49 - 34.5
Lmst mixed with skarn + red garnet + minor magnetite
24.38
LIMESTONE
Mud seam
15.24
magnetite
magnetite
MAGNETITE
TUFF
SCALE 1:250
0
5
10m
TRENCH 1
IRON ROSS PROJECT
LOOKING WEST
FIGURE 12

PREVIOUS SAMPLING in 1983 at IRON MIKE MAIN ZONE

The Main Pit area supplied most of the magnetite ore when the mine and mill were operating. The bulk of the magnetite ore that was amenable to open pit mining was removed during this operation. The 1983 survey by H. E. Neal & Associates Ltd. including chip sampling of the open pit (Atherton, 1983). All samples were sent to Lakefield Research Ltd., Lakefield Ontario. The sampling was done on vertical sections with the following results:

TABLE III

Sampling in 1983 at Iron Mike Main Zone (from Atherton, 1983)

Section	Sample Number	*Interval Relative Height In Metres	Thickness in Metres	Mag. Fe Satmagan%	Grade Sol Fe %
2	1701	437.1-437.5	0.6	53.6	58.5
East Wall	1702	437.5-438.3	0.8	15.8	17.3
	1703	438.3-439.2	0.9	41.6	45.8
	1704	439.2-441.1	1.9	16.3	26.5
	1705	441.1-442.0	0.9	25.9	29.8
3					
East Wall	1706	437.1-441.7	4.6	49.0	52.0
4	1707	437.3-439.0	1.7	37.7	42.7
East Wall	1708	444.6-447.5	2.9	55.6	58.7
5	1709	437.0-439.0	2.0	48.6	53.5
South Wall	1710	440.1-442.2	2.1	44.6	49.2
6	1711	436.6-439.2	2.6	53.3	57.7
South Wall	1712	439.2-441.8	2.6	57.2	60.0
7	1713	437.7-440.2	2.5	53.4	57.3
South Wall	1714	440.2-442.7	2.5	53.4	56.7
8	1715	439.0-442.0	3.0	45.5	49.1
South Wall	1716	442.0-445.0	3.0	48.4	52.7
	1717	446.9-448.5	1.6	56.6	60.3
9	1718	439.7-443.2	2.5	57.6	61.9
South Wall	1719	443.2-446.8	3.6	31.2	36.4
10	1720	437.1-441.1	4.0	39.9	43.3
South Wall	1721	441.1-445.5	4.4	50.9	56.4
12					
West Wall	1722	438.5-439.5	1.0	62.0	65.6
13					
West wall	1723	438.5-440.8	2.3	34.9	38.1
14	1724	437.9-439.9	2.0	45.1	49.1

West Wall	1725	439.9-441.9	2.0	53.2	56.1

*refers to elevation shown (Map #5 only, in Atherton, 1983).

Section	Sample Number	*Interval Relative Height In Metres	Thickness in Metres	Mag. Fe Satmagan%	Grade Sol Fe %
15	1726	438.6-440.6	2.0	45.2	49.5
West Wall	1727	440.6-442.9	2.3	59.3	62.5
16					
West Wall	1728	439.2-442.8	3.6	53.8	57.4
17					
West Wall	1729	438.8-441.9	2.1	50.0	53.1
18					
West Wall	1730	439.2-441.5	2.3	51.9	55.6
19	1731	437.9-439.9	2.0	48.5	52.1
West Wall	1732	439.9-441.9	2.0	44.8	58.6
20					
West Wall	1733	438.2-441.3	3.1	48.7	54.1
21					
West Wall	1734	439.9-441.9	2.0	28.1	37.0

*refers to elevation shown (Map #5 only, in Atherton, 1983).

The Sample Sections were located at 5m intervals. The geological description of each section is shown by Atherton, 1983 (on Sheet #6).

Sections were chip sampled at 10m intervals in the West Pit. The sections and sample locations are shown on Sheet #7 (in Atherton, 1983). The results are as follows:

Section	Sample Number	*Interval Relative Height In Metres	Thickness in Metres	Mag. Fe Satmagan%	Grade Sol Fe %
22	1736	475.7-478.0	2.3	56.6	59.0
South Wall	1737	478.0-479.7	1.7	33.9	36.1
	1738	479.7-480.9	1.2	54.6	57.0
23	1739	474.7-475.8	1.1	43.5	46.7
South Wall	1740	475.8-479.9	1.6	21.1	23.7
	1741	477.4-479.8	2.4	51.4	54.5
24	1742	474.8-477.3	2.5	54.6	57.4
South Wall	1743	477.3-479.3	2.0	26.6	29.1
25	1744	475.4-477.4	2.0	21.4	23.9
South Wall	1745	477.4-479.4	2.0	37.3	39.3

26	1746	475.1-478.1	3.0	24.8	27.7
South Wall	1747	478.1-481.1	3.0	31.6	34.5
	1748	481.1-483.1	2.0	30.8	33.3
27	1749	476.4-478.9	2.5	31.5	33.4
South Wall	1750	478.9-481.4	2.5	47.5	50.2

*refers to elevation shown (Map #5 only, in Atherton, 1983).

Section	Sample Number	*Interval Relative Height In Metres	Thickness in Metres	Mag. Fe Satmagan%	Grade Sol Fe %
28	1751	477.5-480.0	2.5	18.0	20.1
South Wall	1752	480.0-482.5	2.5	14.7	16.7
29	1753	478.2-480.5	2.3	20.5	22.5
West Wall	1754	480.5-482.5	2.0	33.3	35.4
30	1755	478.2-480.5	2.3	14.5	18.0
West Wall	1756	480.5-482.8	2.3	24.5	26.9

*refers to elevation shown (Map #5 only, in Atherton, 1983.

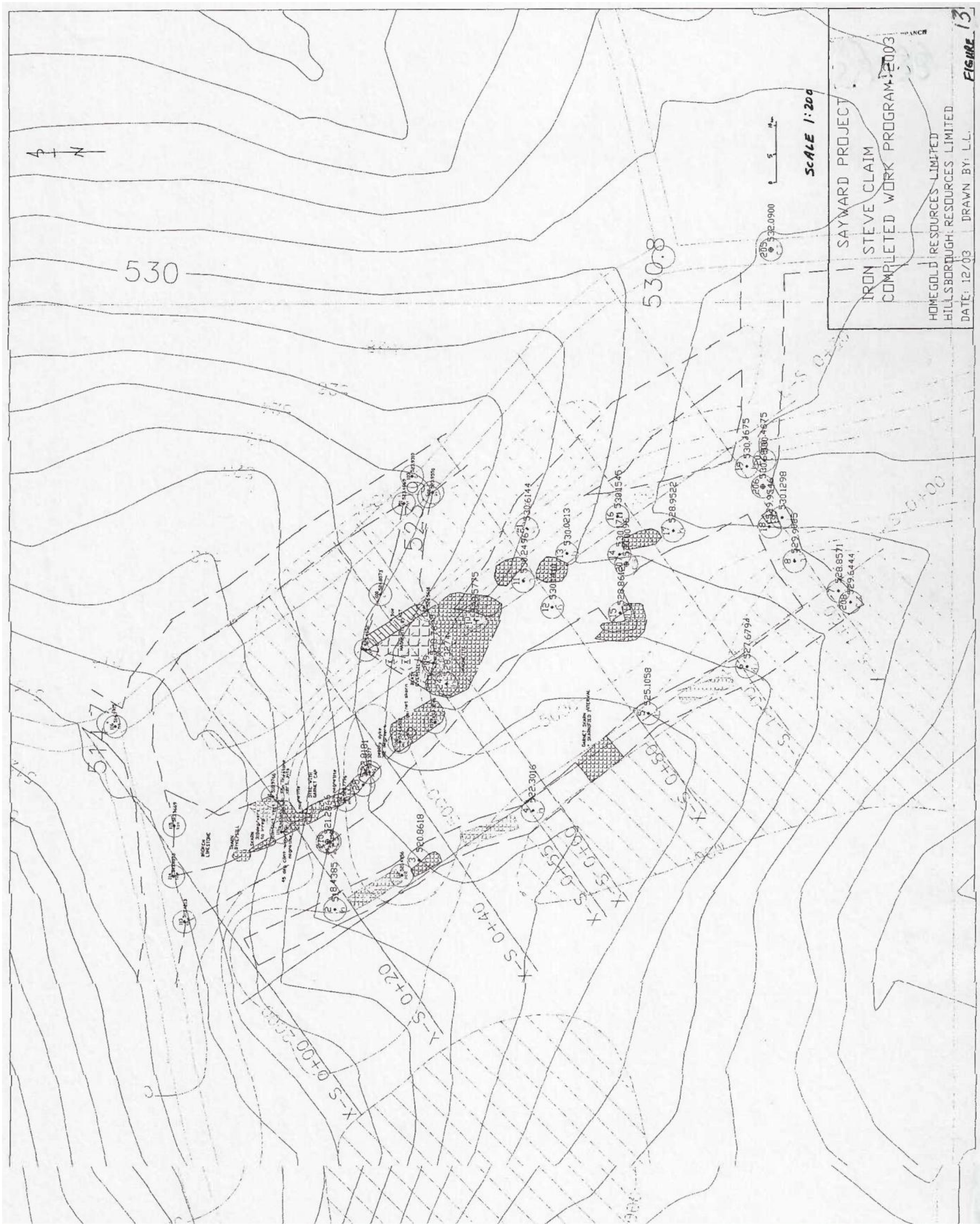


Figure 13 Detail of iron Steve Zone and Bulk Sample Locations, Hole IS-05-01

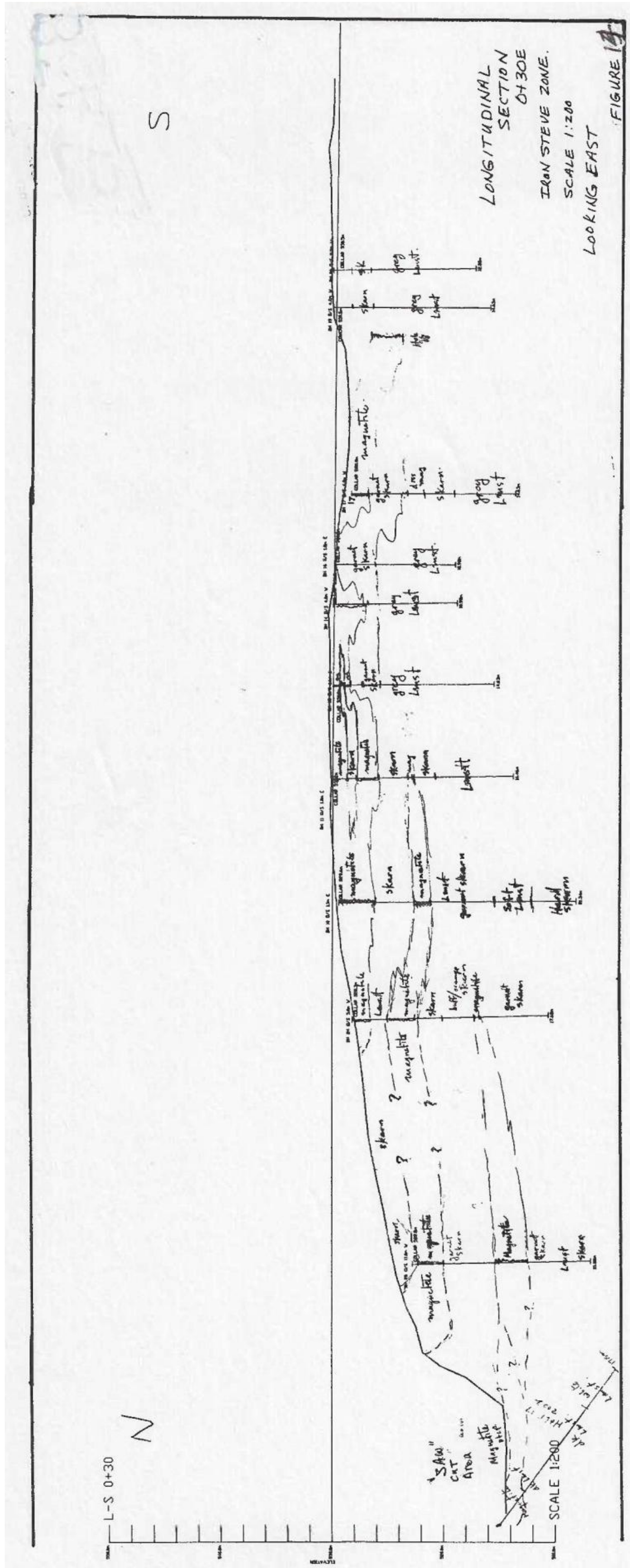
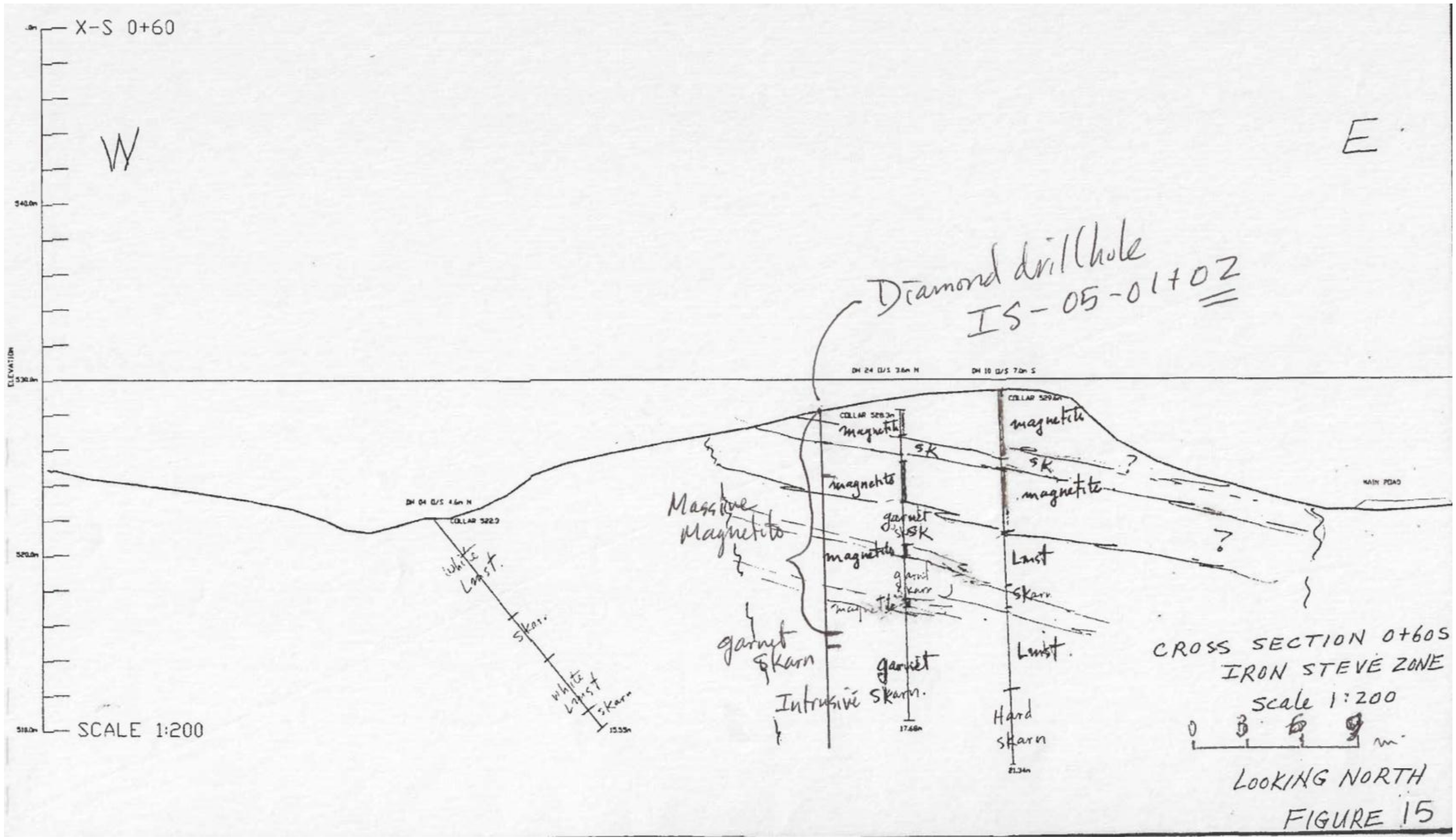


Figure 14 Longitudinal Section 0+30, Iron Steve Zone

Figure 15 Cross-Section 0+60S, Iron Steve Zone



GEOPHYSICS 1983 AIRBORNE and GROUND MAGNETOMETER 1983

The purpose of the ground magnetic survey in 1983 was to follow up broad magnetic anomalies located by an airborne magnetic survey conducted during April 1983. Two grids, grid #1 and #3, were located along the axis of broad magnetic highs (Atherton, 1983).

The instrument used was a Scintrex MF-1 Fluxgate magnetometer, which has the following accuracy scale ± .5% 100 to 10,000 gammas and ± 1% 100,000 gammas.

The method used for diurnal correction was a progressive adjustment for each survey loop and using a BL 7+00W on grid #1 and BL 3+00E on grid #3 as the base station. The time interval for base station checks was 1 to 2 hours.

The results are presented on map #8 with the unit measured in gammas. The contour interval is 1000 gammas, which is considered adequate for locating magnetite concentrations. The readings were measured at 25m intervals and less over anomalous areas.

The values represent vertical intensity and are relative only to the individual base stations for each grid. The primary base station for both grids was BL 2+00E on grid #3 and all values are relative to that station.

The survey outlined four areas of interest on the two grids. They are designated Iron Bethea (formerly Iron Mac), Iron Ross (formerly Iron Dick), Iron Herb I and Iron Herb II. They are shown on Figure #8, scale 1:5,000.

The Iron Bethea (formerly Iron Mac) anomaly is located between lines 7W and 8+25W south of the baseline on grid #1. Readings up to 15,550 gammas were obtained. The anomaly represents an area 60m by 40m. The shape of the anomaly indicates a shallow SW dip to the magnetite concentration. The anomaly is confirmed by the presence of magnetite occurrence between 7+50W and 7+25W along the logging trail.

The smaller magnetic loop located at line 7W 0+50 MS is likely an extension of the Iron Bethea (formerly Iron Mac) anomaly.

The Iron Ross (formerly the Iron Dick) anomaly is located between 10+75W and 11+50W on grid #1. The anomaly is 100m south of the baseline. Readings up to 11,000 gammas were obtained. The anomaly covers an area 120m by 60m as defined by the 5,000 gamma contour. Outcrop evidence confirms that this anomaly is caused by magnetite.

The Iron Herb I anomaly consists of two magnetic highs with readings up to 18,100 gammas. The magnetic highs are separated by a magnetic low. The south anomaly is from 1+75E to 2+00E on the baseline to 75m north on lines 2E and 2+50W. This anomaly represents an area 85m by 50m. The northern anomaly centred at 100N on line 2+50E and 0+75N on line 3E.

The anomaly covers an area 35m by 95m. No outcrop evidence was found to confirm this anomaly. The presence of large boulders located in the same area as the magnetic low dividing the two anomalies indicates magnetite is the source.

The Iron Herb II anomaly is located from 0+12.5W as the baseline to 0+50E as the baseline to 0+45N on line 0+50E. The anomaly covers an area 120m by 50m by the 5,000 gamma contour.

A smaller anomaly was located at 1+50N on line 3+00W. This was located over an area of slightly magnetic basalt.

GROUND MAGNETOMETER JUNE 2003

SURVEY AREAS

1) Iron Steve Area, Lines 1-10

A close-spaced ground magnetometer survey was completed by Hillsborough personnel between June 4 and June 16 on lines cut by chainsaw using an Omni-Plus mobile total field magnetometer. (serial #418141). Diurnal magnetic field variation was corrected using an Omni-Plus stationary base station (serial #634358).

1a) Recce Lines Around Iron Steve Area, Lines 71 & 72

The Iron Steve Area is covered by Lines 1, 2, 3, 3a, 4 and 5. The possible southerly extension of the Iron Steve Zone is partially covered by Line 3A and 71.

Lines to the east are lines 6, 7, 8, 9, 10, 11 and 72.

The deposit is exposed on Line 3 and 3a by natural outcrops and old trenches. An irregular siliceous magnetite lens is exposed near the side of the road and was sampled in previous years (1997?) with a channel cut with a diamond saw. Two old packsack holes have been observed.

As shown on map 2, the 5000 gamma and 10,000 gamma contour starts about 42m south on Line 3 and Line 3a at 50m south. Values in the 20,000 gamma range continue south on line 3a from 80m to at least 115m south. High values continue on Line 3a south of Line 71 to 190m south. The total field measurements by the Omni-Plus are limited in absolute accuracy when in areas of very steep magnetic gradient.

The strongly negative readings on Line 4 and 72 suggest that the Iron Steve deposit dips relatively moderately shallowly to the east. Perhaps the deposit has a steeper dip in the southern portion (but the data coverage to the south is not adequate to determine).

Drillhole Recommendation:

A program of 20 drillholes was submitted in a Notice of Work at 15m spacing by S. Gardner, P.Geo. I concur with these 20 holes but would also strongly recommend several more holes be spotted at the intersection of Line 3a and Line 71 and south along Line 3a (a total of at least 5 holes at 15m spacing).

The Iron Steve deposit occupies a small low ridge from about 536m elevation to 516m elevation. A general magnitude of possible resource available to an open cut might be on the order of 20m wide x 10m deep x 60m long x 4.5 SG = 54,000 tonnes. Of course, drilling is required to confirm any possible tonnage and the deposit is expected to be irregular in detail. A larger volume of magnetite material may be too deep for open cut extraction.

1a) Recce Lines

Lines 6 through 10, located to the immediate east of the Iron Steve deposit do not appear to indicate any anomalous magnetic values. Line 71 indicates highly anomalous values near its intersection with Line 3a up to 8,170ɣ with a higher value width of about 30m. Readings on Line 72 starting near the base station location and going around the Iron Steve Zone shows negative values to the northwest of the Iron Steve Zone (similar to Line 4) with relatively stable background values to the south of the deposit.

2) Iron Mike Mine and West Pit Area, Lines 12-17

The Iron Mike Mine produced 168,735 tonnes averaging about 45% Fe to make 112,799 tonnes of concentrate averaging 62.26% Fe.

The magnetometer survey shows a northwest-southeast magnetic anomaly on Lines 13, 14, 15 and 15 (maximum reading of 13,781gammas) which is just upslope from the southwest corner of the Pit where a decline was collared to follow a large lens of magnetite visible in the pit wall. The present survey confirms that this magnetite lens dips to the south-southwest at a moderate angle. On a cursory examination, it appears that steepness of the slope precludes any large amount of magnetite being available for open cut extraction. The plan in the 1960s was to mine this magnetite by underground methods. A considerable tonnage of magnetite was outlined by diamond drilling in support of the proposed underground operation. This underground operation apparently was not financially viable.

4) West Pit Area, Lines 18-25

A small magnetic anomaly is present on Line 18; the 1,000 gamma contour shows an anomaly 30mx50m. Old records suggest that diamond drilling in the 1960s intersected magnetite in this area. Three drillholes are recommended.

The West Pit produced magnetite ore in the 1960s. A weak magnetic anomaly is present on Line 21 to the west of West Pit, having a maximum value of 3,452 gammas. This anomaly is relatively weak suggesting a low grade magnetite zone or a more deeply buried magnetite zone. Two to four holes are warranted.

3) Area Between Iron Mike & Iron Bethea, Lines 11 & 12

Line 12 starts southeast of the Iron Mike Pit about 160m. All values on Line 12 are in the background range. Line 11 starts near the start of Line 12 and doglegs about 100m southeast of Line 12. There is a low order anomaly on the south end of the middle hill. The 2,000 gamma contour is 60m in length with the highest reading 4,083 gammas (elevation 510m). Another low order anomaly 50m southwest of the previous anomaly is about 45m long on the 2,000 gamma contour at elevation 498m. Both of these low order anomalies should be checked with prospecting and follow-up magnetic survey lines.

5) & 6) Iron Herb I & II, Lines 27-37 and Lines 38-39, 61-65

The Iron Herb I and II areas were covered in the 1983 fluxgate vertical field survey (Alterton, 1983). The Iron Herb I area in the 1983 survey was described as two magnetic anomalies separated by a central low. Values were up to 18,100 gammas (vertical field). The two anomalies were approximately 85m x 50m and 95m x 35m in extent.

In the 2003 survey the Iron Herb I area extends in an arcuate fashion from beyond Line 37 on the west to beyond Line 27 a distance of at least 290 metres. The central core of the Iron Herb anomaly are mainly well above 10,000 gammas up to 25,034 gammas. The zone appears to dip toward the south.

Drillholes can be positioned relatively easily along the north road beginning from the main road at Line 34 at about 40m to 50m along the branch road. Several holes could be positioned from this locality to test the thickness of the magnetite zone. Excavator trenching is also recommended up the small knoll to the east where a clearing-swamp is shown on the map.

The Iron Herb II anomaly is described from the 1983 survey as a magnetic high 120m x 50m in extent. In the present (2003) survey the Iron Herb II anomaly is about 120m long between Lines 38, 39, 61 and 62 but is somewhat irregular and variable in station values. The highest value is 11,236 gammas. The zone appears to dip to the south-southwest. At least 4 drillholes should be positioned along the main road and north branch to test the subsurface of the zone near Lines 39 and 61.

There is a 75m gap between Line 37 and Line 38. The trend of the Iron Herb I and Iron Herb II anomalies suggest a possible 60 metre right lateral offset between the anomalies due to a possible northwest-southeast fault or that perhaps the zones are separate lenses.

Lines 63, 64 and 65 suggest that the Iron Herb II anomaly does not extend to the southwest.

7) & 8) South of Iron Ross, Lines 41-48 and Iron Bethea, Liens 49-57

7) Iron Ross

Line 41 is situated on the trench and drill fence on the south side of the Iron Ross deposit. From percussion drill data, it is known that the Iron Ross magnetite deposit is covered by about 10 to 15 metres of limestone in the vicinity of the 4,000 to 7,000 gamma response. The two stations on Line 42 of 3595 suggest that there may be some extension of the deposit to the south extending from the central cross trench, a distance of about 30 metres. A couple more percussion holes are recommend in this area, likewise 20m west of the start of Line 42 (4,197 gammas).

An area of 4,000 gamma plus readings is present on the west side of Lines 45 and 46 about 120-160m south of the Iron Ross in somewhat steeper terrain. Some detail prospecting is in order to check for magnetite outcrops or float. The steepness of the slope may preclude open cut reserves being present.

Line 48 is entirely background values.

8) Iron Bethea

The “dot” for Iron Bethea appears to be misplotted. The higher magnetic values on Line 11 (6,685 gammas), Line 53 (up to 12,819 gammas) and Line 52 (4,855 gammas) appear to partially reflect the position of the Iron Bethea zone. In the 1983 survey, the Iron Bethea magnetic anomaly (formerly the Iron Mac) was within Lines 7W to 8+25W (old grid) covering an area 60m x 40m with readings up to 15,550 gammas over vertical field. The magnetic pattern suggested a shallow southwest dip.

The 2003 survey only partially covered the area of interest but might range from 60m to 90m long by 20m to 40m wide. Two additional lines parallel to the southeast of Line 49 would give sufficient coverage. The old road past the Iron Ross deposit would need to be extended about 190m along the old (1950s) logging road, which can be traced to the new logging road corner near the middle of Line 57. Further prospecting and eventually drilling are recommended on the Iron Bethea as access is improved.

Some unknown tonnage, by way of open cut, is potentially available subject to favourable results of future work.

The lines southeast of Iron Bethea (Lines 55, 56, 57 and 58) all exhibit low background values suggesting low magnetic potential.

2010 RE-LOGGING of PREVIOUS DIAMOND DRILL CORE (from June 2005 core)

The core from the diamond drill program conducted with a Boyles 37 Unitized drill rig producing NQ core in June 24, 2005 was re-logged between June 1, 2010 and November 15, 2010.

The drill core was originally stored in Sayward and then subsequently moved to the Fish Hatchery facility near Adephi Creek. The core is presently stored behind the main shop under a tarp.

The logs for diamond drill hole IS-05-01 to 03 are contained in Appendix III. This diamond drilling was not submitted for assessment credit. This current report documents a re-logging of holes IS-05-01 to IS-05-03. The locations of the diamond drill holes are shown on Figure 7.

Hole IS-05-01 – The Magnetite zone is well exposed on surface. The upper Magnetite zone was intersected from surface down to 1.90m where a very fine grained green igneous sill was encountered from 1.90m to 2.48m. Only a narrow skarn interval was encountered before more green altered intrusive to the end of the hole at 26.82m (88 ft.).

Hole IS-05-02 – Hole IS-05-02 was drilled to investigate whether the altered intrusive encountered in hole IS-05-01 was contained in a vertical structure. Massive magnetite was intersected in hole IS-05-02 from surface to 12.22m which is underlain by orange-brown garnetite. Less altered chloritized intrusive starts at 20.89m.

Hole IS-05-03 was spotted in Trench 1 above the Iron Ross Zone. Fine grained limestone was encountered from 2.44m to 10.36m above a magnetite-skarn zone from 10.36m-24.75m. Massive pure magnetite was intersected between 11.84 to 14.56m (2.72m) and 20.96m to 24.75m (3.97m). This is the "Upper Zone". The contact zone exposed east of the access road was intersected between 33.59m and 34.37m.

WORK in 2012 SPECIFIC GRAVITY and METALLURGY

The Magnetite was crushed to 28 mm and then screened to produce a coarse (28x5mm) and fine aggregate (5mm minus). These two aggregates were then blended with a small proportion of washed concrete sand from our source in Jervis inlet to achieve a mix design that met the CSA gradations for concrete aggregate. The mix design also involved the addition of a Boron additive to increase certain shielding properties to potentially produce a concrete that could be used for radiation shielding for a particle accelerator. The concrete densities achieved were greater than 3500 kg/m3.

The objective was to evaluate the amenability of the material to magnetic separation with the goal of producing a saleable iron ore concentrate. The test program was conducted on two samples referred to as Coarse Feed and High Grade Fines. The Coarse Feed sample consisted of coarse rock with top size of about 14 cm, weighing 13.9 kg and grading 51.9 % Fe. The sample was crushed to a top size of about 6 mesh for magnetic separation. The High Grade Fines sample contained -6 mesh material, weighing 5.99 kg and grading 58.6 % Fe.

For the Coarse Feed sample, magnetic separation recovered 63.1% of the mass in a concentrate grading 60% Fe and recovering 72.7% of the iron. Examination of grades and recoveries for individual size fractions shows that grinding to below 30 mesh followed by magnetic separation should increase the Fe grade to greater than 63% and the Fe recovery will improve to over 95%. Similar results were achieved for the High Grade Fines suggesting that the two samples are mineralogically similar.

Multielement, Inductively Coupled Plasma Mass Spectrometry (ICP) analysis of the magnetic separation products shows that the concentrates are quite clean and do not contain significant levels of elements of concern.

CONCLUSIONS and RECOMMENDATIONS

The known massive magnetite zones covered by the Ross Mineral Claim have been explored intermittently for some time since discovery in the late 1950's. Assays by previous workers indicate over 62% Fe_2O_3 as relatively coarse crystalline magnetite.

A program of trenching and bulk sampling was completed in early 2002, followed by percussion drilling in later 2002, a ground magnetometer survey in June 2003 and further percussion drilling in September 2003. This report documents the results of a diamond drill program in 2005 with a re-logging of the core. This work was not previously submitted for assessment credit.

Extensive airborne and ground magnetometer surveys were completed in 1983 by Dickenson Mines Limited, which outline 4 additional large massive to skarn and magnetite zones to the west of the Iron Mike main pit.

Hillsborough was successful in producing a high grade bulk sample from the Iron Steve Zone in 2003 which was used in super-heavy concrete applications.

Much of the magnetite produced in British Columbia at the present time is from a sophisticated reprocessing of tailings (Craigmont) or hit and miss reprocessing coarse waste dumps (Texada Island). Possible markets for magnetite are: heavy aggregate for high-density concrete, heavy media for coal washing, sandblasting abrasives, high-density filter media and radiation shielding aggregates. Two major construction projects under consideration are the expansion of the sub-atomic research TRIUMF facility at the University of British Columbia and the Sumas-Duncan Natural Gas Pipeline (for pipe anchors) by BC Hydro and Williams Pipeline Company. There may also be increasing application to special designed heavy concrete foundations in areas of high hydrostatic ground pressure in areas like Richmond, B.C.

An alternative market may be as a raw material for cement plant use. The current supply from Anyox slag assays 36.4% SiO_2, 5.1% Al_2O_3 but only 45% Fe_2O_3. Anyox slag also assays typically about 3% SO_3 and has a relatively high Bond work index of >23. Bond work index of 10.7 and 15.0 have been obtained for magnetite from other properties on Vancouver Island.

A diamond drill program is recommended for 2013 consisting of a series of short angle holes along the limestone contact at the Iron Steve Zone, two short vertical holes at the Iron Ross Zone to investigate both the limestone hosted magnetite and limestone-basalt contact magnetite. If the logging access roads open up the Iron Bethea area then two angle holes would be warranted at Iron Bethea Zone.

The Magnetite was crushed to 28 mm and then screened to produce a coarse (28x5mm) and fine aggregate (5mm minus). These two aggregates were then blended with a small proportion of washed concrete sand from our source in Jervis inlet to achieve a mix design that met the CSA gradations for concrete aggregate.

For the Coarse Feed sample, magnetic separation recovered 63.1% of the mass in a concentrate grading 60% Fe and recovering 72.7% of the iron. Examination of grades and recoveries for individual size fractions shows that grinding to below 30 mesh followed by magnetic separation should increase the Fe grade to greater than 63% and the Fe recovery will improve to over 95%. Similar results were achieved for the High Grade Fines suggesting that the two samples are mineralogically similar.

Respectfully submitted,

J. T. Shearer, M.Sc., P.Geo.
Consulting Geologist
February 15, 2013

ESTIMATE of COSTS for FUTURE WORK

Program 2004: Follow-up Geological Mapping and Select Diamond Drilling

(A)	Project Supervision:		
	J. T. Shearer, M.Sc., P.Geo.		
	Room, Board and Transportation and Helper		$ 10,000.00
	Contact Diamond Drilling (1,500 ft. @ $19/ft.)	28,500.00	
	Excavator/Bulldozer to move drill		5,000.00
	Consumables @ $5/ft.		7,500.00
	Mob & Demob of Dill & Bulldozer		2,000.00
	Analytical		4,000.00
	Report Preparation, Drafting & Reproduction	3,000.00	
		Subtotal	$ 60,000.00
(B)	Additional Bulk Samples, 5,000 tonnes		
	Load & Haul to Crusher & Load Trucks with Excavator @ $2.50/tonne		12,500.00
	Drill/Blast Tank Drill $160/hr.		8,000.00
	Truck to Sayward 30 tonne Trucks, 250 loads, 15 days, $5/tonne approx.		25,000.00
	Barge from Sayward to Mitchell Island, $5/tonne		30,000.00
	Load & Unload, Approx		4,500.00
	Crush at Site, Approx. $5/tonne x 5,000 tonnes to specification		20,000.00
	Mob of Crusher and Tank Drill		5,000.00
	Road Use		5,000.00
	Supervision		5,000.00
		Subtotal	$ 115,000.00
		TOTAL	**$175,500.00**
(C)	Program 2005: Mine Permit work, application for 100,000 tonne per year production permit.		
	Geological Mapping, Drill Supervision:		
	J. T. Shearer, M.Sc., P.Geo. & Assistant		$ 10,000.00
	Mapping, Survey Control, Lease Survey		9,000.00
	Definition Drilling, 1,000 ft @ $16/foot average, percussion and diamond drilling		16,000.00
	Mob & Demob and Supplies		4,000.00
	Assay – Analytical		3,500.00
	Mine Planning & Product Design		16,000.00
	Forestry Cutting Plan		3,000.00
	Environmental Survey		5,500.00
	Acid Rock Drainage Sampling and Report		2,000.00
	Permit Application and Reporting		2,000.00
	Report Preparation, Word Processing & Reproduction		3,000.00
	First Nations Liaison		4,000.00
	Public Meetings & Advertising		2,000.00
		Total	$ 80,000.00

Program 2004 & 2005 GRAND TOTAL $246,000.00

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APPENDIX I

STATEMENT OF QUALIFICATIONS

FEBRUARY 15, 2013

Appendix I

STATEMENT of QUALIFICATIONS

I, JOHAN T. SHEARER, of 3572 Hamilton Street, in the City of Port Coquitlam, in the Province of British Columbia, do hereby certify:

1. I am a graduate of the University of British Columbia (B.Sc., 1973) in Honours Geology, and the University of London, Imperial College (M.Sc., 1977).

2. I have over 30 years experience in exploration for base and precious metals and industrial mineral commodities in the Cordillera of Western North America with such companies as McIntyre Mines Ltd., J. C. Stephen Explorations Ltd., Carolin Mines Ltd. and TRM Engineering Ltd.

3. I am a fellow in good standing of the Geological Association of Canada (Fellow No. F439) and I am a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia (Member No. 19,279) and a member of the CIMM and a fellow of the Society of Economic Geologists (SEG), Fellow #723766.

4. I am an independent consulting geologist employed since December 1986 by Homegold Resources Ltd. at #5-2330 Tyner St., Port Coquitlam, B.C.

5. I am the author of the present report entitled "Geological and Metallurgical Assessment Report on the Iron Ross Project, Nanaimo Mining Division: dated February 15, 2013.

6. I have visited the property on Nov. 29 & 30, 2001, Feb. 6-12, 2002, March 14-17, 2002, October 20-October 29, 2002 and June 2003 and October 2003. I re-logged the diamond drill core between June 1, 2010 and November 15, 2010 and April 25-27, 2012 I have carried out mapping, percussion drilling and sample collection and am familiar with the regional geology and geology of nearby properties. I have become familiar with the previous work conducted on the Iron Ross Project by examining in detail the available reports and maps and have discussed previous work with persons knowledgeable of the area.

7. I own an interest in the Ross, Iron Ross and Iron Bethea Claims and own Homegold Resources Ltd.

Dated at Port Coquitlam, British Columbia, this 15th day of February, 2013.

J. T. Shearer, M.Sc., F.G.A.C., P.Geo.
Quarry Supervisor #98-3550
February 15, 2013

APPENDIX II

STATEMENT OF COSTS

FEBRUARY 15, 2013

Appendix II

Statement of Costs
Iron Ross Project

Geological		without HST
J.T. Shearer, M.Sc., P.Geo.,		
3 days @ $700/day, April 25-27, 2012		$ 2,100.00
	Sub-total on Wages	$ 2,100.00
Expenses		
Truck Rental, 3 days @ $120/day,		360.00
Hotel in Campbell River – 2 men, $120		240.00
Meals & Supplies		185.00
Albert Brotchie, 2 days @ $300/day, April 26+27, 2012		600.00
Richard Nelson, 2 days @ $300/day, April 26+27, 2012		600.00
Metallurgy at UBC (Magnetic Separation)		6,000.00
Report Preparation		1,400.00
Drafting		200.00
Word Processing and Reproduction		250.00
	Sub-total	$ 9,835.00
	Grand Total	**$ 11,935.00**

Event #	5422894
Date Filed	December 21, 2012
Amount Filed	$3,500.00
PAC Filed	$1,334.64
Total Filed	$4,334.64

and

Event #	5431648
Date Filed	February 13, 2013
Amount Filed	$4,500.00
PAC Filed	$
Total Filed	$4,500.00

APPENDIX III

MAGNETIC SEPARATION STUDY
on IRON MIKE SAMPLES
Klein, Yuan and Hitch, 2012

FEBRUARY 15, 2013

UNIVERSITY OF BRITISH COLUMBIA
NORMAN B. KEEVIL Institute of Mining Engineering

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MAGNETIC SEPARATION STUDY ON IRON MIKE SAMPLES

Prepared for:

Mr. Arni Johannsn
Canadian Nexus Ventures
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Vancouver BC Canada V7Y 1G5

Prepared by:

Bern Klein, PhD, P.Eng
Glen Haoyue Yuan, M.Eng.
Michael Hitch, PhD, P.Eng P.Geo.

May 17, 2012

1. Summary

This report summarizes the results of a preliminary metallurgical test program on samples from the Iron Mike deposit. The objective was to evaluate the amenability of the material to magnetic separation with the goal of producing a saleable iron ore concentrate. The test program was conducted on two samples referred to as Coarse Feed and High Grade Fines. The Coarse Feed sample consisted of coarse rock with top size of about 14 cm, weighing 13.9 kg and grading 51.9 % Fe. The sample was crushed to a top size of about 6 mesh for magnetic separation. The High Grade Fines sample contained -6 mesh material, weighing 5.99 kg and grading 58.6 % Fe.

Each sample was sieved into size fractions, which were then subjected to magnetic separation. Magnetic separation was conducted using a hand magnet for fractions coarser than 30 mesh and a Davis Tube for fractions finer than 30 mesh.

For the Coarse Feed sample, magnetic separation recovered 63.1% of the mass in a concentrate grading 60% Fe and recovering 72.7% of the iron. Examination of grades and recoveries for individual size fractions shows that grinding to below 30 mesh followed by magnetic separation should increase the Fe grade to greater than 63% and the Fe recovery will improve to over 95%. Similar results were achieved for the High Grade Fines suggesting that the two samples are mineralogically similar.

Multielement, Inductively Coupled Plasma Mass Spectrometry (ICP) analysis of the magnetic separation products shows that the concentrates are quite clean and do not contain significant levels of elements of concern.

Based on the results of this study, a test program to verify the proposed process should be conducted on a representative sample(s). The test program would also help to develop the proposed process flowsheet (rougher, scavenger and cleaning stages for magnetic separation) and provide concentrate for market studies. The concentrate should also be analyzed to confirm levels of potential contaminants.

2. Test Procedures

Two samples were received for magnetic separation testing. One sample was labeled ”Coarse Feed”. The second sample was prepared by combining three bags of unlabeled sample and based on it’s appearance was labeled “High Grade Fines”. Dry weights of the two samples were 13.9kg for the Feed and 5.99 kg for the High Grade.

The Coarse Feed sample was comprised of coarse rock with a top size of approximately 14cm. The sample was crushed using a laboratory scale jaw crusher followed by a gyratory crusher and finally a cone crusher. Cone crushed product was re-crushed to reduce the top size to about 6 mesh. The High Grade Fines sample was already crushed and therefore no further crushing was required.

A representative portion of each sample was obtained using a riffle splitter to conduct screen analyses. The Coarse Feed sample weight used for screen analysis was 2386.7g and the High Grade Fines sample weight used was 1453.1g. The sieve sizes used were 6 mesh, 16 mesh, 30 mesh, 50 mesh, 100 mesh, 150 mesh and 200 mesh. Magnetic separation tests were performed on each size fraction. For the coarse fractions (+30 mesh), a hand-magnet was employed for magnetic separation and for the fine fractions (-30 mesh), a Davis Tube was used.

The hand-magnetic separation procedure included one-stage rougher and two-stages of cleaning. Following separation, the magnetic separation product was labeled Magnetics and the nonmagnetic products were combined to create the Nonmagnetics. For Davis Tube testing, a 50g subsample was fed to the Davis Tube and following three minutes of washing the Magnetics and Nonmagnetics were collected, dried and weighed. In total, 32 test products were obtained. Each was dried, weighed, pulverized, and sent for assay. The assays included multi-element ICP and wet chemical digestions for Fe assays.

The data from the test programs is compiled in the Appendices:

- Appendix I – ICP and Fe Assay Results for Coarse Feed Sample Magnetic Products
- Appendix II – ICP and Fe Assay Results for Coarse Feed Sample Nonmagnetic Products
- Appendix III – ICP and Fe Assay Results for High Grade Fines Sample Magnetic Products
- Appendix IV – ICP and Fe Assay Results for High Grades Fines Sample Nonmagnetic Products
- Appendix V – Size Analysis Results for Coarse Feed Sample
- Appendix VI – Size Analysis Results for High Grade Fines Sample
- Appendix VII Magnetic Separation on Coarse Feed Sample
- Appendix VIII Magnetic Separation on High Grade Fines Sample

3. Test Results

3.1 Sample Characterization

The test program was conducted on two samples referred to as Feed and High Grade Fines. The Feed sample consisted of coarse rock with top size of about 14 cm, weighing 13.9 kg and grading 51.9 % Fe. The sample was crushed to a top size of about 6 mesh for magnetic separation. The High Grade Fines sample contained crushed -6 mesh material, weighing 5.99 kg and grading 58.6 % Fe.

Visual examination of the samples indicated the iron was primarily in the form of magnetite although some pyrrhotite and pyrite was also present. The main gangue minerals were quartz, feldspar, pyroxene and garnet.

The results of the sieve analysis for the Coarse Feed and High Grade Fines are presented in Tables 1 and 2. Cone crushing of the Coarse Feed generated a large proportion of material in the +30 mesh fraction (84.1%). Crushing did produce sufficient sample in each of the finer fractions for magnetic separation tests. The Fe grades of the sized fractions ranged from 49.9% in the +6 mesh fraction to 59.3% in the -30+50 mesh fraction. In general Fe distributions followed the mass distributions.

Table 1. Screen analysis results for Coarse Feed sample

Mesh	Micron	Distribution (%)	Cum Retaining	Fe%	Fe Dist%
6	3360	27.2	27.2	49.9	26.2
16	1190	47.2	74.5	51.9	47.2
30	595	9.6	84.1	52.6	9.8
50	297	5.4	89.5	59.3	6.2
100	149	3.5	93.0	53.7	3.6
150	106	1.6	94.6	54.6	1.7
200	74	1.2	95.8	54.4	1.2
-200	0	4.2	100.0	51.4	4.1
Total		100.0		51.9	100.0

The High Grade Fines sample did not require crushing prior to magnetic separation testing. Although it contained very little +6 mesh material, about 75% of the sample was coarser than 100 mesh. Fe grades varied somewhat from 54.6% to 60.9% for the different size fractions, but in general Fe distributions followed mass distributions, indicating that there is no preferential upgrading in specific particle size ranges.

Table 2. Screen analysis result for High Grade Fines sample.

Mesh	Micron	Distribution (%)	Cum Retaining	Fe%	Fe Dist%
6	3360	1.7	1.7	58.2	1.7
16	1190	35.9	37.6	59.4	36.4
30	595	16.5	54.1	59.2	16.7
50	297	11.5	65.6	54.6	10.7
100	149	9.5	75.0	60.9	9.9
150	106	8.1	83.1	59.6	8.2
200	74	3.4	86.6	59.5	3.5
-200	0	13.4	100.0	56.7	13.0
Total		100.0		58.6	100.0

3.2 Magnetic Separation

Magnetic separation tests were conducted on sub-samples from each size fraction. For size fractions coarser than 30 mesh, magnetic separation was conducted using a hand magnet. For fractions finer than 30 mesh, separation was by Davis Tube. The weight percentage magnetics was determined for each fraction and both the magnetics and nonmagnetics were analyzed by multi-element ICP and for Fe by wet chemical digestion (see Appendix I, II, III and IV).

Table 3 presents the magnetic separation results for the Coarse Feed sample. The table shows that the weight % magnetics ranged from 45.5% in the +6 mesh fraction to 92.4% in the -30+50 mesh fraction. Overall, the magnetics content for the combined fractions was 63.1%. The Fe grades of the magnetic products varied from 58.1% in the +6 mesh fraction to 68.6% in the -200 mesh fraction and overall was 60%. Examination of the Fe grades of the Nonmagnetic products shows that the fractions coarser than 16 mesh had relatively high Fe grades (greater than about 40%) which dropped sharply below 40 mesh (to less than about 14%). These results indicate an improvement in magnetite liberation below 16 to 30 mesh. As a consequence, the average Fe recoveries for fractions finer than 16 mesh exceed 95%. This result implies that the material should be crushed to below this size to maximize grade and yield of an iron concentrate.

The Fe grade of the combined magnetics product was only 60%. Removing the +30 mesh fractions would increase the Fe grade to greater than 63%. Therefore a process involving comminution to reduce particle size to below 30 mesh followed by magnetic separation should recover greater than 95% of the iron in a product graded greater than 63% Fe. The multi-element ICP results show that the product is quite clean with no significant levels of potential contaminants (Ti, P, S).

Table 3. Magnetic Separation Results Coarse Feed Sample

Mesh	Feed	Magnetics		Nonmagnetics		Recovery
	Fe%	Wt%	Fe%	Wt%	Fe%	Fe%
6	49.9	45.5	58.1	54.5	43.0	53.1
16	51.9	61.9	60.0	38.1	38.6	71.6
30	52.6	85.1	58.5	14.9	18.9	94.7
50	59.3	92.4	63.1	7.6	13.4	98.3
100	53.7	87.8	59.5	12.2	12.5	97.2
150	54.6	82.8	63.3	17.2	12.8	96.0
200	54.4	78.3	65.8	21.7	13.4	94.6
-200	51.4	69.3	68.6	30.7	12.5	92.6
Total	51.9	63.1	60.0	36.9	38.1	72.7

The High Grade Fines sample had a smaller particle size range than the crushed coarse feed. As a results the magnetics contents was significantly higher at 75.5% overall. Also the Fe grades of the magnetic products were higher averaging 65%. Examination of the Fe grade of the Nonmagnetics reveals the same trend observed in the crushed Coarse Feed. For fractions coarser than 30 mesh, Fe grades exceeded 40% and for finer fractions they were less than about 15%. The corresponding Fe recoveries the size fractions were also much high below 30 mesh, exceeding about 95% on average.

Table 4. Magnetic Separation Results for High Grade Fines Sample

Mesh	Feed	Magnetics		Nonmagnetics		Recovery
	Fe%	Wt%	Fe%	Wt%	Fe%	Fe%
6	58.2	73.6	64.6	26.4	40.2	81.7
16	59.4	70.4	65.0	29.6	46.1	77.0
30	59.2	56.4	65.3	43.6	51.3	62.2
50	54.6	93.8	57.3	6.2	13.7	98.5
100	60.9	91.8	65.2	8.2	14.1	98.1
150	59.6	85.9	67.0	14.1	14.7	96.5
200	59.5	83.8	68.3	16.2	14.3	96.1
-200	56.7	77.0	69.4	23.0	14.2	94.2
Total	58.6	75.5	65.0	24.5	38.8	83.7

3. Conclusions

Overall, the process-ability of the Coarse Feed and High Grade Fines are similar. Results suggest that these materials should be crushed to -30 mesh, which will allow upgrading by magnetic separation to marketable grades exceeding 63% Fe and high Fe recoveries exceeding 95%. ICP results show that the magnetic products are clean with low levels of potential contaminants. These conclusions need to be confirmed by testing the proposed process on a representative sample. The test program would also serve to refine the magnetic separation process, aid with the selection of process equipment and produce concentrate for market studies.

Appendix I – ICP and Fe Assay Results for Coarse Feed Sample Magnetic Products

Sample	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg
Mesh	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%
6	<0.2	0.22	125	<10	<10	0.5	14	0.86	<0.5	24	6	39	58.14	<10	1	0.02	<10	0.11
16	<0.2	0.22	20	<10	<10	<0.5	13	0.86	<0.5	25	4	30	60.04	<10	1	0.02	<10	0.11
30	<0.2	0.26	11	<10	<10	<0.5	11	0.96	<0.5	25	7	38	58.48	<10	1	0.02	<10	0.13
50	<0.2	0.23	17	<10	<10	0.5	7	0.88	<0.5	26	1	17	63.12	<10	1	0.02	<10	0.1
100	<0.2	0.21	15	<10	<10	<0.5	7	0.67	<0.5	24	3	26	59.45	<10	1	0.02	<10	0.1
150	<0.2	0.19	9	<10	<10	<0.5	10	0.54	<0.5	25	5	38	63.26	<10	1	0.01	<10	0.08
200	<0.2	0.16	11	<10	<10	<0.5	10	0.4	<0.5	23	5	33	65.77	<10	1	0.01	<10	0.06
-200	<0.2	0.16	12	<10	<10	0.5	15	0.26	<0.5	26	35	220	68.64	<10	<1	0.01	<10	0.06
Sample	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn	
Mesh	ppm	Ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	
6	463	<1	0.03	67	250	13	0.03	<2	<1	4	<20	0.01	10	<10	22	70	532	
16	432	<1	0.03	59	270	10	0.03	<2	<1	5	<20	0.01	10	<10	23	70	51	
30	502	<1	0.04	61	270	13	0.02	<2	<1	5	<20	0.01	10	<10	26	60	39	
50	497	<1	0.04	54	140	13	0.02	<2	<1	5	<20	0.01	10	<10	22	40	36	
100	427	<1	0.03	51	210	18	0.04	<2	<1	3	<20	0.01	10	<10	25	50	35	
150	416	<1	0.03	53	200	14	0.04	<2	<1	2	<20	0.01	10	<10	27	50	35	
200	369	<1	0.03	53	170	21	0.03	<2	<1	1	<20	0.01	10	<10	28	50	31	
-200	417	<1	0.03	82	130	29	0.02	<2	<1	<1	<20	0.01	10	<10	37	60	68	

Appendix II - ICP and Fe Assay Results for Coarse Feed Sample Nonmagnetic Products

Sample	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg
Mesh	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%
6	<0.2	0.36	12	<10	<10	<0.5	4	1.66	<0.5	19	7	29	42.97	<10	1	0.02	<10	0.18
16	<0.2	0.41	9	<10	<10	<0.5	8	1.97	<0.5	18	6	25	38.62	<10	1	0.02	<10	0.2
30	<0.2	0.97	10	<10	<10	<0.5	<2	4.76	<0.5	33	19	57	18.88	<10	1	0.05	<10	0.41
50	0.2	1.16	39	<10	10	<0.5	<2	6.03	<0.5	81	4	280	13.41	<10	<1	0.04	<10	0.52
100	1.3	1.12	32	<10	10	<0.5	<2	5.8	<0.5	62	6	375	12.48	<10	<1	0.05	<10	0.58
150	0.3	1.07	27	<10	20	<0.5	<2	5.52	<0.5	44	4	289	12.83	<10	<1	0.06	<10	0.56
200	0.3	1.02	33	<10	20	<0.5	<2	5.24	0.5	43	4	318	13.44	10	1	0.05	<10	0.54
-200	0.5	0.99	35	<10	70	<0.5	<2	5.51	0.9	42	8	811	12.48	<10	<1	0.06	<10	0.52

Sample	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
Mesh	ppm	Ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
6	548	<1	0.04	52	430	8	0.02	<2	<1	12	<20	0.01	10	<10	21	50	26
16	591	<1	0.03	47	430	8	0.02	<2	<1	9	<20	0.01	10	<10	21	30	25
30	1175	<1	0.06	33	590	13	0.12	<2	1	23	<20	0.01	<10	<10	19	10	34
50	1445	<1	0.06	37	540	53	0.48	<2	1	32	<20	0.01	<10	<10	14	10	179
100	1355	<1	0.1	39	450	68	0.52	<2	1	43	<20	0.01	<10	<10	17	10	196
150	1290	<1	0.09	66	420	230	0.5	<2	1	39	<20	0.01	<10	<10	15	20	201
200	1245	1	0.1	47	450	176	0.45	<2	1	40	<20	0.01	<10	<10	14	<10	218
-200	1360	2	0.06	56	980	277	0.38	<2	1	36	<20	0.02	<10	<10	15	10	483

Appendix III - ICP and Fe Assay Results for High Grade Fines Sample Magnetic Products

Sample	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg
Mesh	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%
6	<0.2	0.22	125	<10	<10	0.5	14	0.86	<0.5	24	6	39	58.14	<10	1	0.02	<10	0.11
16	<0.2	0.22	20	<10	<10	<0.5	13	0.86	<0.5	25	4	30	60.04	<10	1	0.02	<10	0.11
30	<0.2	0.26	11	<10	<10	<0.5	11	0.96	<0.5	25	7	38	58.48	<10	1	0.02	<10	0.13
50	<0.2	0.23	17	<10	<10	0.5	7	0.88	<0.5	26	1	17	63.12	<10	1	0.02	<10	0.1
100	<0.2	0.21	15	<10	<10	<0.5	7	0.67	<0.5	24	3	26	59.45	<10	1	0.02	<10	0.1
150	<0.2	0.19	9	<10	<10	<0.5	10	0.54	<0.5	25	5	38	63.26	<10	1	0.01	<10	0.08
200	<0.2	0.16	11	<10	<10	<0.5	10	0.4	<0.5	23	5	33	65.77	<10	1	0.01	<10	0.06
-200	<0.2	0.16	12	<10	<10	0.5	15	0.26	<0.5	26	35	220	68.64	<10	<1	0.01	<10	0.06

Sample	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
Mesh	ppm	Ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
6	463	<1	0.03	67	250	13	0.03	<2	<1	4	<20	0.01	10	<10	22	70	532
16	432	<1	0.03	59	270	10	0.03	<2	<1	5	<20	0.01	10	<10	23	70	51
30	502	<1	0.04	61	270	13	0.02	<2	<1	5	<20	0.01	10	<10	26	60	39
50	497	<1	0.04	54	140	13	0.02	<2	<1	5	<20	0.01	10	<10	22	40	36
100	427	<1	0.03	51	210	18	0.04	<2	<1	3	<20	0.01	10	<10	25	50	35
150	416	<1	0.03	53	200	14	0.04	<2	<1	2	<20	0.01	10	<10	27	50	35
200	369	<1	0.03	53	170	21	0.03	<2	<1	1	<20	0.01	10	<10	28	50	31
-200	417	<1	0.03	82	130	29	0.02	<2	<1	<1	<20	0.01	10	<10	37	60	68

Appendix IV - ICP and Fe Assay Results for High Grade Fine Sample Nonmagnetic Products

Sample	Ag	Al	As	B	Ba	Be	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg
Mesh	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	%
6	<0.2	0.75	18	<10	10	0.5	10	4.22	<0.5	43	42	68	40.19	<10	1	0.07	<10	0.33
16	<0.2	0.77	12	<10	10	<0.5	10	2.48	<0.5	23	14	17	46.08	<10	1	0.07	<10	0.27
30	<0.2	0.58	20	<10	<10	<0.5	8	2.01	<0.5	29	11	19	51.33	<10	1	0.05	<10	0.22
50	<0.2	1.47	75	<10	30	<0.5	<2	5.34	0.8	61	15	138	13.74	10	<1	0.11	<10	0.65
100	<0.2	1.32	60	<10	30	<0.5	2	4.93	0.6	69	8	145	14.06	10	1	0.09	<10	0.66
150	<0.2	1.29	35	<10	20	<0.5	<2	5.43	0.7	51	6	113	14.72	10	1	0.08	<10	0.69
200	<0.2	1.22	58	<10	20	<0.5	<2	5.61	0.6	62	5	100	14.31	10	1	0.08	<10	0.68
-200	<0.2	1.54	54	<10	40	<0.5	<2	7.8	0.7	63	6	92	14.2	10	<1	0.11	<10	0.83

Sample	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	U	V	W	Zn
Mesh	ppm	Ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
6	1085	<1	0.08	108	280	12	0.38	<2	1	26	<20	0.02	<10	<10	24	10	41
16	766	<1	0.08	60	290	7	0.02	<2	1	16	<20	0.03	10	<10	28	30	33
30	686	<1	0.06	62	230	9	0.03	<2	1	12	<20	0.02	10	<10	27	30	32
50	1185	<1	0.12	47	550	30	0.14	<2	3	41	<20	0.03	<10	<10	30	<10	81
100	1275	<1	0.11	49	430	18	0.21	<2	2	38	<20	0.02	<10	<10	22	<10	76
150	1450	<1	0.1	50	400	22	0.19	<2	2	39	<20	0.02	<10	<10	19	<10	85
200	1430	1	0.11	57	350	31	0.21	<2	2	41	<20	0.02	<10	<10	17	<10	95
-200	1845	<1	0.13	57	650	28	0.16	<2	2	51	<20	0.02	<10	<10	21	<10	131

Appendix V – Size Analysis Results for Coarse Feed Sample

Mesh	Weight (g)	Wt Distrib. (%)	Cum (%) Retained	Cum (%) Passing	Magnetics (%)	Fe (%)	Distribution Mag (%)	Distribution Fe (%)
6	649.2	27.2	27.2	72.8	45.5	49.9	19.7	26.2
16	1125.2	47.2	74.5	25.5	61.9	51.9	46.3	47.2
30	229.5	9.6	84.1	15.9	85.1	52.6	13.0	9.8
50	128.7	5.4	89.5	10.5	92.4	59.3	7.9	6.2
100	84.1	3.5	93.0	7.0	87.8	53.7	4.9	3.6
150	38.9	1.6	94.6	5.4	82.8	54.6	2.1	1.7
200	28.3	1.2	95.8	4.2	78.3	54.4	1.5	1.2
-200	99.4	4.2	100.0	0.0	69.3	51.4	4.6	4.1
Total	2383.3	100.0			63.1	51.9	100.0	100.0

Appendix VI – Size Analysis Results for High Grade Fines Sample

Mesh	Weight (g)	Wt Distrib. (%)	Cum (%) Retained	Cum (%) Passing	Magnetics (%)	Fe (%)	Distribution	
							Mag (%)	Fe (%)
6	24.6	1.7	1.7	98.3	73.6	58.2	1.7	1.7
16	518.8	35.9	37.6	62.4	70.4	59.4	33.5	36.4
30	238.1	16.5	54.1	45.9	56.4	59.2	12.3	16.7
50	165.4	11.5	65.6	34.4	93.8	54.6	14.2	10.7
100	137.1	9.5	75.0	25.0	91.8	60.9	11.5	9.9
150	116.9	8.1	83.1	16.9	85.9	59.6	9.2	8.2
200	49.4	3.4	86.6	13.4	83.8	59.5	3.8	3.5
-200	194.1	13.4	100.0	0.0	77.0	56.7	13.7	13.0
Total	1444.4	100.0			75.5	58.6	100.0	100.0

Appendix VII Magnetic Separation on Coarse Feed Sample

Fraction +6 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	60.85	58.14	45.52	53.06
Nonmagnetics	72.84	42.97	54.48	46.94
Total	133.69	49.87	100.00	100.00

Fraction -6+16 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	182.60	60.04	61.86	71.60
Nonmagnetics	112.58	38.62	38.14	28.40
Total	295.18	51.87	100.00	100.00

Fraction -16+30 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	67.09	58.48	85.14	94.67
Nonmagnetics	11.71	18.88	14.86	5.33
Total	78.80	52.60	100.00	100.00

Fraction -30+50 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	53.53	63.12	92.37	98.28
Nonmagnetics	4.42	13.41	7.63	1.72
Total	57.95	59.33	100.00	100.00

Fraction -50+100 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	36.12	59.45	87.82	97.17
Nonmagnetics	5.01	12.48	12.18	2.83
Total	41.13	53.73	100.00	100.00

Fraction -100+150 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	32.12	63.26	82.85	95.97
Nonmagnetics	6.65	12.83	17.15	4.03
Total	38.77	54.61	100.00	100.00

Fraction -150+200 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	22.08	65.77	78.30	94.64
Nonmagnetics	6.12	13.44	21.70	5.36
Total	28.20	54.41	100.00	100.00

Fraction -200 Mesh — Distribution (%)

Sample	Weight	Fe (%)	Mass	Fe
Magnetics	38.31	68.64	69.33	92.55
Nonmagnetics	16.95	12.48	30.67	7.45
Total	55.26	51.41	100.00	100.00

Appendix VIII Magnetic Separation on High Grade Fines Sample

Fraction	+6 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	18.08	64.61	73.59	81.75
Nonmagnetics	6.49	40.19	26.41	18.25
Total	24.57	58.16	100.00	100.00

Fraction	-6+16 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	101.08	64.95	70.39	77.02
Nonmagnetics	42.51	46.08	29.61	22.98
Total	143.59	59.36	100.00	100.00

Fraction	-16+30 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	63.02	65.27	56.44	62.23
Nonmagnetics	48.63	51.33	43.56	37.77
Total	111.65	59.20	100.00	100.00

Fraction	-30+50 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	56.04	57.33	93.84	98.45
Nonmagnetics	3.68	13.74	6.16	1.55
Total	59.72	54.64	100.00	100.00

Fraction	-50+100 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	51.87	65.15	91.77	98.10
Nonmagnetics	4.65	14.06	8.23	1.90
Total	56.52	60.95	100.00	100.00

Fraction	-100+150 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	47.55	66.99	85.94	96.53
Nonmagnetics	7.78	14.72	14.06	3.47
Total	55.33	59.64	100.00	100.00

Fraction	-150+200 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	41.20	68.25	83.79	96.10
Nonmagnetics	7.97	14.31	16.21	3.90
Total	49.17	59.51	100.00	100.00

Fraction	-200 Mesh		Distribution (%)	
Sample	Weight	Fe (%)	Mass	Fe
Magnetics	44.87	69.40	77.02	94.25
Nonmagnetics	13.39	14.20	22.98	5.75
Total	58.26	56.71	100.00	100.00