

PRELIMINARY GEOLOGICAL REPORT

On

IRON DUKE PROSPECT

2.51581

PROGRAMME OF THE ST. ANTHONY PROPERTY

PATRICIA MINING DIVISION, ONTARIO

In the Squash Lake Area (G-3140)

NTS 52J/02SE

UTM NAD 83, ZONE 15

5544091mN, 665801mE

For

PACIFIC IRON ORE CORPORATION

Suite 1 – 1546 Pine Portage Road

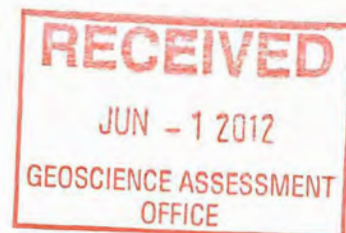
Kenora, Ontario P9N 2K2

By

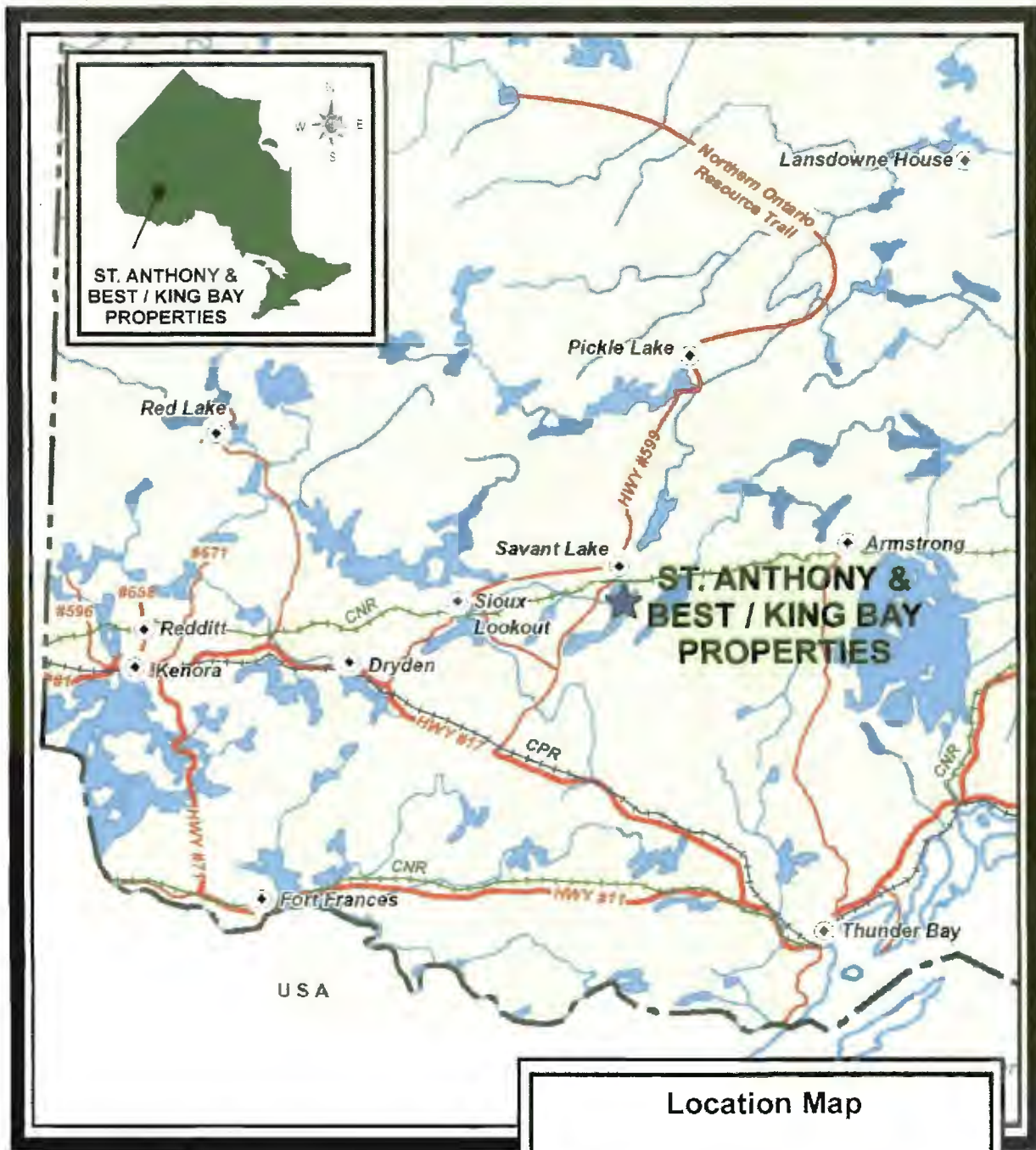
Alasdair J.M. Mowat, C.E.T.

Technical Mining Engineer

April 18, 2011



50000N, 665000E.



Location Map
PACIFIC IRON ORE CORPORATION
Fig. # 1
St. Anthony & Best / King Bay Properties

1-INTRODUCTION

Pacific Iron Ore Corporation, by amalgamation in 2008 with Emerald Fields, has acquired the largest past producing goldmine in the Kenora–Patricia Mining District of Ontario. The original mine and property was acquired by option in 2002 and is known as the St. Anthony property. The *St. Anthony Mine* is located in the Sturgeon Lake Greenstone geological Belt and produced 63,310 oz. gold from 332,720 tons with an average recovered grade of 0.191 ounce gold per ton.

The property lies along the eastern shore of the North Arm of Sturgeon Lake extending south and west to the King Bay area. This contiguous group of claims is located southeast of the community of Savant and south of the CNR railine. While infrastructure is generally quite good exploration has been subdued since the 1980's in part due to lack of road access.

This large property covers a majority of an extensive gold camp known as the Sturgeon Lake gold belt. The properties contain at least 22 documented gold occurrences that typically individually consist of a number of prospects. Gold exploration has been conducted intermittently since the late 1800's on numerous conventional high grade Au in quartz vein prospects which are present across much of the length of the St. Anthony property. These occurrences are hosted in several rocktypes within late structural zones and are commonly associated with QFP dykes and occasional stocks which the author believes maybe causative intrusions. The area has been largely explored for the traditional high grade quartz vein target (this camp has gold values typically ranging in the 0.5-2.0 opt Au range). A prospecting and trenching program was conducted in the fall of 2011 to locate a number of these historic showings and assess initial economic potential of these targets. Details of work are included in the prospecting and trenching sections.

2-LOCATION, PHYSIOGRAPHY AND ACCESS

The St. Anthony property covers much of a peninsula separating the North arm of Sturgeon Lake from the Northeast arm of Sturgeon Lake. This area has low rolling relief with a maximum elevation change of only 60 meters from a base elevation of approximately 400 meters. Cover is typical northern Ontario bush with pine and fir and cedar conifer forest cover with aspen and birch margins to numerous bogs and swamps.

The St. Anthony property can be accessed by floatplane while the lake is open from Sturgeon or Savant lake bases or from any nearby communities such as Ignace, Sioux Lookout or Dryden. The property can also be accessed by boat much of the year or by snowmobile in the winter months from lodges on the west side of Sturgeon Lake. An old mine road connecting St. Anthony mine to roads from Savant Lake has now been reactivated by POC offering a more cost effective safer

year around access. This road travels down the western side of the peninsula to the St. Anthony mine area.

The climate is typical for northwestern Ontario, where temperatures range from 10 to 25 degrees C from June through October. Temperatures during the winter months of November through May range from 0 to -40 degrees C. Lakes freeze during winter months allowing snowmobile access but lake access is restricted during the annual freeze and thaw periods.

There are several fishing/hunting lodges along Hwy 599 in the Sturgeon Lake area as well as a hotel in Savant Lake that offer rooms and meals and the local community of Savant and the local native reserve offer a population of several hundred people that have workers and equipment available for exploration work. Infrastructure in the area includes the paved Hwy 599 along the West side of Sturgeon Lake which has numerous logging and mining roads accessing much of the lake on both sides. A gravel air strip located only 2 km's north of the northern end of the property can be used by smaller aircraft up to twin otter in size. The main CNR railway crosses the area only a five kilometres north of the property. Larger communities of Ignace (90 km's by road), Sioux Lookout (80 km's by road) and Dryden (155 km's by road) provide larger local populations and services that aid the project.

REGIONAL GEOLOGY

The Sturgeon Lake regional geology has been studied by a number of groups from the OGS and GSC particularly for genesis of Neoproterozoic VMS systems and calderas (includes Morton, Trowell, Sanborn Barrie, Percival, Franklin and others). The regional geology in the area is a large NE trending synclinal greenstone belt of the Wabigoon belt rocks known as the Sturgeon Lake greenstone belt. This belt is connected to the Savant belt to the northeast and is bounded to the north by the Lewis Creek Batholith and bounded to the south and east by the Central Granitoid complex. This belt is bracketed by English River flysch sediments and Winnipeg River late metamorphic rocks and S type intrusive complexes along large scale fault systems.

The Sturgeon Lake greenstone belt has been subdivided in a series of assemblages which from the oldest basal sequence to youngest includes: the Fourbay Lake Assemblage (2775 Ma) a 1-2Km thick sequence of tholeiitic basalts commonly pillowed but including massive and tuffaceous sections and occasional thin dacite lapilli tuffs.

This is conformably overlain by the Handy Lake Assemblage (2745Ma) which again is dominated by tholeiitic basalt flows which grades upwards into intermediate to felsic pyroclastic sequences interbedded with basalt flows. In turn this is overlain by the main South Sturgeon Assemblage (2735Ma). This caldera sequence hosts the Sturgeon Lake VMS systems in complex intermediate to felsic sequences and is contemporaneous with large intrusive complexes such as the Lewis Lake batholiths.

The Sturgeon Lake Caldera is a large extinct caldera complex in Kenora District of Northwestern Ontario, Canada. It is one of the world's best preserved mineralized Neoproterozoic caldera complexes, containing well-preserved mafic-intermediate pillow lavas, pillow breccias, hyaloclastite and peperites, submarine lava domes and dome-associated breccia deposits.

The Sturgeon Lake Caldera contains a well preserved north facing homoclinal chain of greenschist facies metamorphosed intrusive, volcanic, and sedimentary layers. This piecemeal caldera complex includes nearly 3,000 m of major subaqueously deposited intracaldera fill. Episodes of subaerial and subaqueous explosive felsic volcanism created rhyodacitic to rhyolitic tuffs and lapilli tuffs.

The Sturgeon Lake Caldera contains volcanic units that outcrop over 30 kilometers from east to west with up to five separate, major ash flow tuff units with thickness ranging from 100 m (328 ft) to 1,200 m (3,937 ft). The Mattabi pyroclastic flow, with a thickness in excess of 800 m (2,625 ft) and a strike length of at least 30 km (19 mi), is the third and most voluminous eruptive event associated with the Sturgeon Lake Caldera. It hosts the 12-Mt Mattabi

massive sulfide deposit which is interpreted to have formed on and below the seafloor, the latter through the processes of pore-space filling and replacement.

A younger assemblage consisting of sediments is known as the Quest Lake assemblage (2718-2735Ma). This sequence of wackes, siltstones, argillites and conglomerates is believed to be a volcanic hiatus which culminates with the Central Sturgeon assemblage (2720Ma). This assemblage is bimodal with tholeiitic basalt flows with calc-alkaline basalts and felsics.

Unconformably overlying the volcanics are clastic rocks of the Warclub assemblage (2698-2704Ma). This assemblage defines a belt scale tectonic basin environment consisting of conglomerates, wackes and extensive Fe Formations. Material is believed to have sourced from several directions in this post D1-D2 tectonic setting.

Intrusive rocks in the region are dominated by the large Lewis Lake batholith consisting of hornblende-biotite tonalite with granodiorite and diorite phases (2735Ma). Other intrusive complexes include the Beidelman Bay pluton, and younger deformed complexes including the Jutten Batholith in the Savant area. Late post tectonic alkali potassic intrusives include the Squaw Lake and Sturgeon narrows complexes of Sanukitoid affinity. Numerous small post tectonic plutons exist in the region of granitic composition including Grebe Lake, Vista and possibly St. Anthony Pluton.

Deformation in the region consists of two penetrative deformation events (D1 and D2). Post 2704Ma D1 deformation in the northern Sturgeon Lake area is dominated by north striking steep dipping fabrics and reflects early continental collision and deformation. This deformation is typically axial planar with moderate north plunging folds. The D2 event are similar to the Savant area but are generally only locally developed as 050-070 trending axial planar structures accompanied by steeply plunging folds and localized shear zones.

Property Geology-

The St. Anthony and Best/King properties cover a portion of the northern end of the Sturgeon Lake greenstone belt. The oldest rock sequences on the St. Anthony and Best/King properties is the Fourbay Lake assemblage (2775Ma) which is dominated by pillowed tholeiitic basalts generally with tops directions where recorded to the east. Rare felsic and mafic tuff horizons are interbedded with the pillow flows and offer favourable stratigraphy for D1 & D2 deformation zones. Near the Lewis Lake batholith the rocks are commonly metamorphosed to amphibolites due to proximal contact metamorphism. Regionally the rocks are of mid-upper greenschist regional metamorphism.

The eastern portion of the St. Anthony property and the northern portion of the King/Best property are underlain by tholeiitic basalts of the Handy Lake assemblage (2745Ma). These pillowed tholeiitic basalts generally have tops evidence facing to the east on the St. Anthony property and to the south on the King/Best property. The upper portion of the Handy Lake assemblage have a higher proportion of calc-alkaline intermediate and felsic volcanics which have been observed in the King Bay area and the southeastern portions of the St. Anthony property. This sequence includes felsic tuffs and tuffaceous sediments as well as minor siltstones, sandstones and argillaceous sediments.

Numerous dykes and small stocks of gabbros, QFP felsic intrusive and FP dykes of intermediate composition are present within volcanics of both properties. While some of these maybe related to the Lewis Lake batholith many maybe related to late D2 intrusive activity contemporaneous with the Sturgeon Narrows intrusive alkalic activity (2696-2685Ma). These late tectonic intrusive complexes are significant because they maybe directly related to the gold event and in some cases maybe the causative intrusions for mineralization. Deformation on the property comprise the two main structural events common throughout the area. D1 is attributed after 2704Ma and is believed to reflect regional continental collision. On the St. Anthony property much of the D1 structure is N-S ductile axial planar steeply dipping foliation with tight north plunging folding. On the St. Anthony property the contact of the large Lewis Lake batholiths with mafic volcanics has provided a locus for structures with strong competency contrast. D2 deformation is more localized but likely occupies the King Bay area and the southeastern portion of the St. Anthony property where structures are along 050-070 strikes with penetrative foliation and steeply plunging folds also other localized portions of the St. Anthony property also display this D2 deformation which in some cases may superimpose D1 deformation.

Deposit Types –

The St. Anthony and Best/King Bay properties cover a substantial portion of the historic Sturgeon Lake gold belt. This area is a fairly traditional Archean orogenic lode-gold belt formed along major and minor structures in greenstone belts and associated plutons during regional deformation between 2.71 and 2.68 Ga. This report is recommending the testing of larger lower grade bulk tonnage gold targets while in conjunction also testing higher grade gold mineralization. The properties have little to no VMS potential for which the Sturgeon Lake area has become best known for.

Sturgeon Lake has had a long history of exploration reaching back at least to 1896. For the first 73 years the exploration target was almost exclusively gold. In early 1969, a major discovery of massive sulphides was made by Mattagami Lake Exploration Inc. near the south end of Sturgeon Lake. Eventually three major properties, two of which consisted of a number of zones, were developed to production. The companies which held these VMS deposits were Mattabi Mines Ltd., Corporation Falconbridge Copper and the Lyon Lake Division of Noranda Mines Ltd. By 1991, all three companies had ceased mining and were involved in shutting down and rehabilitating the mine working areas.

Numerous conventional high grade Au in quartz vein prospects are present across much of the length of the St. Anthony and Best/King properties. These occurrences are hosted in several rocktypes within structural zones and are commonly associated with QFP dykes and occasional stocks which have been noted since work by Moore since 1911. The area has been largely explored for the traditional high grade quartz vein target which while still an attractive target is not the priority for this report. Traditional work concentrated on high grade targets due to small scale mining techniques and economic requirements of the time. The area has seen little active exploration since bulk tonnage gold targets have become viable economic targets and the properties warrant work to assess this potential. At present the St. Anthony mine area offers the most tangible target area but other targets maybe present on the St. Anthony and Best/King properties and early stage work will be required to assess the potential.

A number of bulk tonnage intrusive hosted gold systems have been recognized in the Superior province that have similarities to St. Anthony and Best/King properties and these include Hammond Reef, Moss Lake, and portions of the Timmins camp (Pearl Porphyry) and portions of the Kirkland Lake camp and the Young Davidson property in the Matachewan area. At St. Anthony widespread sericite alteration with variable densities of quartz stockwork and quartz vein structures cover wide portions of the possibly causative St. Anthony QFP porphyry. Peripheral to the QFP stocks high grade gold bearing quartz veins are also hosted in Tholeiitic basalts, tuffaceous units, minor sediments and occasionally within felsic volcanic. These occurrences are commonly structurally controlled and display selvage sericite, and chlorite alteration with carbonate or ankeritic alteration halo's.

Mineralization –

The properties contain a large number of historic gold occurrences associated with quartz veins and peripheral disseminated gold mineralization. Wallrock composition varies quite widely, but wallrock alteration is common within structural zones providing a uniform theme. Another feature that is very prevalent is the presence of QFP or FP dykes or stocks again suggesting a close spatial association and perhaps identifying these as causative intrusions for gold mineralization. The following sections briefly describe the mineralized showings for the St. Anthony and Best/King Bay properties.

9.1-St. Anthony Property Mineralization

The St. Anthony property has at least thirteen known gold occurrences with a number of individual zones comprising each occurrence, the St. Anthony mine area has the largest production from this camp and indeed the Patricia district. The following is a summary of the main occurrences.

9.1a- St. Anthony Mine

ALTERNATE NAMES: 1) Jack Lake Gold Mining Co. Ltd. 2) St. Anthony Gold Mining Co. Ltd.
3) St. Anthony Development Co. Ltd.

UTM ZONE: 15 NORTHING: 5552672 EASTING: 666596

Both Moore (1911) and Graham (1930) wrote descriptions of the geology of the St. Anthony Mine. Graham had the advantage of a developed mine to study and his description is more complete. The following is taken from his report.

"The St. Anthony mine, one of the earliest and most important discoveries in this region, is situated on claims B.G.151 and 152 between the North arm and Couture Lake. The mine has been operated at intervals by different owners since 1901.

The main ore body is a north-south fissure vein at the contact between Keewatin pillow lavas and a small dome of granodiorite, which is an offshoot from the granodiorite boss in the North Arm. A coarse grained quartz porphyry stock has intruded along the same contact and has caused the alteration of the granodiorite to a protogine granite consisting almost entirely of quartz and sericite. The quartz veins that accompanied the intrusion of the porphyry stock have caused alteration along their walls. The northern portion of the main vein in the granite branches and reunites to form a stockwork. The wall rock has been altered to sericite schist. The southern portion of the vein in the greenstone tends to follow the rock cleavage. The wall rock has been altered to a banded carbonate sericite schist. The veins dip slightly to the west and the ore bodies rake to the southwest following the quartz porphyry stock."

The gangue minerals are quartz, carbonate, and ankerite. The sulphides are pyrite, with lesser amounts of chalcopyrite, galena, and sphalerite. Both galena and sphalerite are historic indicators of gold ore which was confirmed during the site visit. The pyrite carries historic low gold values but generally in the range of 0.2-2.0 g/t Au. In both the QFP and

Iron Duke Prospect

The purpose of this preliminary field review was to familiarize myself with the area; such as, access, in this case boat and the economic geological setting of the area. Excluding travel days, 3.5 days were spent on the ground doing reconnaissance geology covering about 6.5km.

The Iron Duke prospect is located in claim number 4251430, Squash Lake Area (G-3140), Patricia Mining Division, Ontario. The map UTM co-ordinates are 5544091mN, 665801mE (Zone 15, NAD 83). The alternate name is East Bay Iron Formation. This is one of numerous prospects lying within Pacific Iron Ore Corporation's property known as the St. Anthony/Best gold project.

The known historical history dates back to 1934 when Richelieu Gold Mines acquired 8 claims known as the Iron Duke Group.

In 1970, Selco Exploration Company Ltd conducted an EM survey over the claims which indicated a strong east trending conductor crossing over the audit and extending east and west under the lake.

In 1984, C. J. Kuryliw mapped the geology of the Iron Duke and surrounding staked area.

Mistango Consolidated Resources Ltd in 1986 drilled several holes on the Iron Duke showing. Drill holes M-86-4 and -5 intersected interbedded felsic volcanics and graphitic sediments cut by gabbro dykes. No gold values over trace were reported.

No further work has been reported.

The geology of the Iron Duke showing is located over a strong east trending fault in East Bay. This fault predates the intrusion of the south-east nose of the Lewis Lake Batholith and is exposed in an audit on the Iron Duke showing. The fault is marked by a fault breccia on the hanging wall to the south and a 20 foot thick white quartz vein on the footwall. The quartz vein reportedly contains disseminated pyrite, chalcopyrite and minor magnetite. Alteration within the fault zone is reported as widespread limonite and hematite. This property is part of a conductive geophysical anomaly which has attracted a considerable amount of interest and exploration over the last 50 years. A number of programs have tested this east trending zone under East Bay of Sturgeon Lake. The only mineralization that in any way could be termed economic are two gold assays which approached 1 ppm gold (0.03 ounce per tonne). Several grab samples and assays of drill core have returned values in the 0.01 to 0.03 ounces gold per ton over significant widths.

The mineralization occurs in a sheared quartz-sulphide vein. The associated rock types are metabasalt, graphitic sediments, feldspar porphyrocrystic metabasalt and magnetite-pyrite iron formation. As noted the minerals are pyrite, magnetite, chalcopyrite and gold with alteration minerals of limonite and hematite.

As noted in the field, the east-west fault is obvious in the audit. The white quartz vein contains 10-20% massive pyrite. Cherty felsic sediments lying south of the fault strike about +/- 80 degrees south. The fault strikes easterly and dips approximately 60 degrees south. North of the fault, the sediments is

contorted forming an "S" fold structure with the audit being the fulcrum pivot point. As reported, the noted quartz vein appears to predate the gold bearing blue-grey quartz which is similar to the Best occurrence located to the west in King Bay.

The follow-up 2011 exploration program was prospecting and detail sampling. Due to the late start-up and lateness of the year, this is carried over to 2012. The proposed budget for this immediate area is \$30,000.

Prepared by: Alasdair J.M. Mowat, C.E.T.

Dated: April 19, 2012

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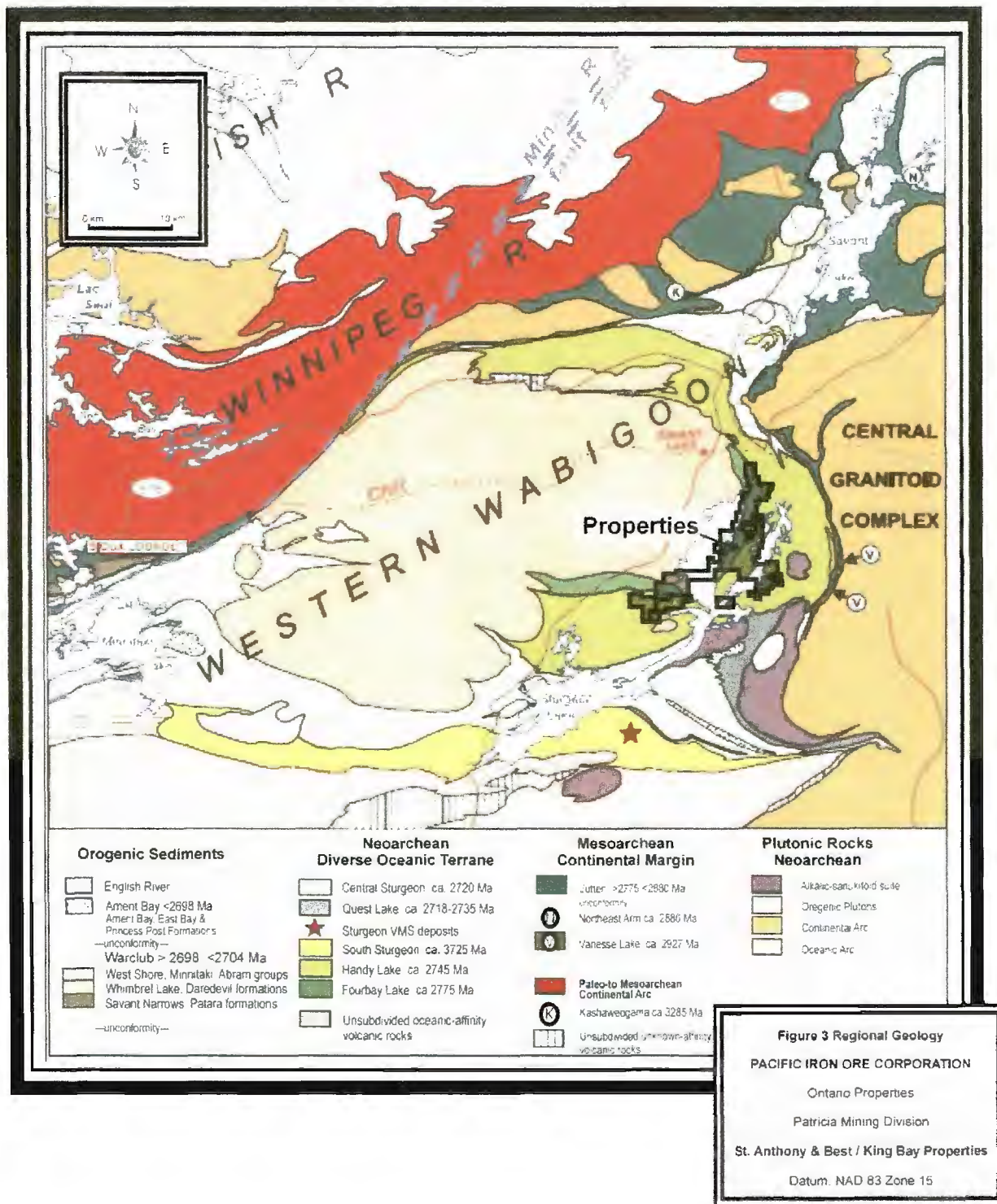
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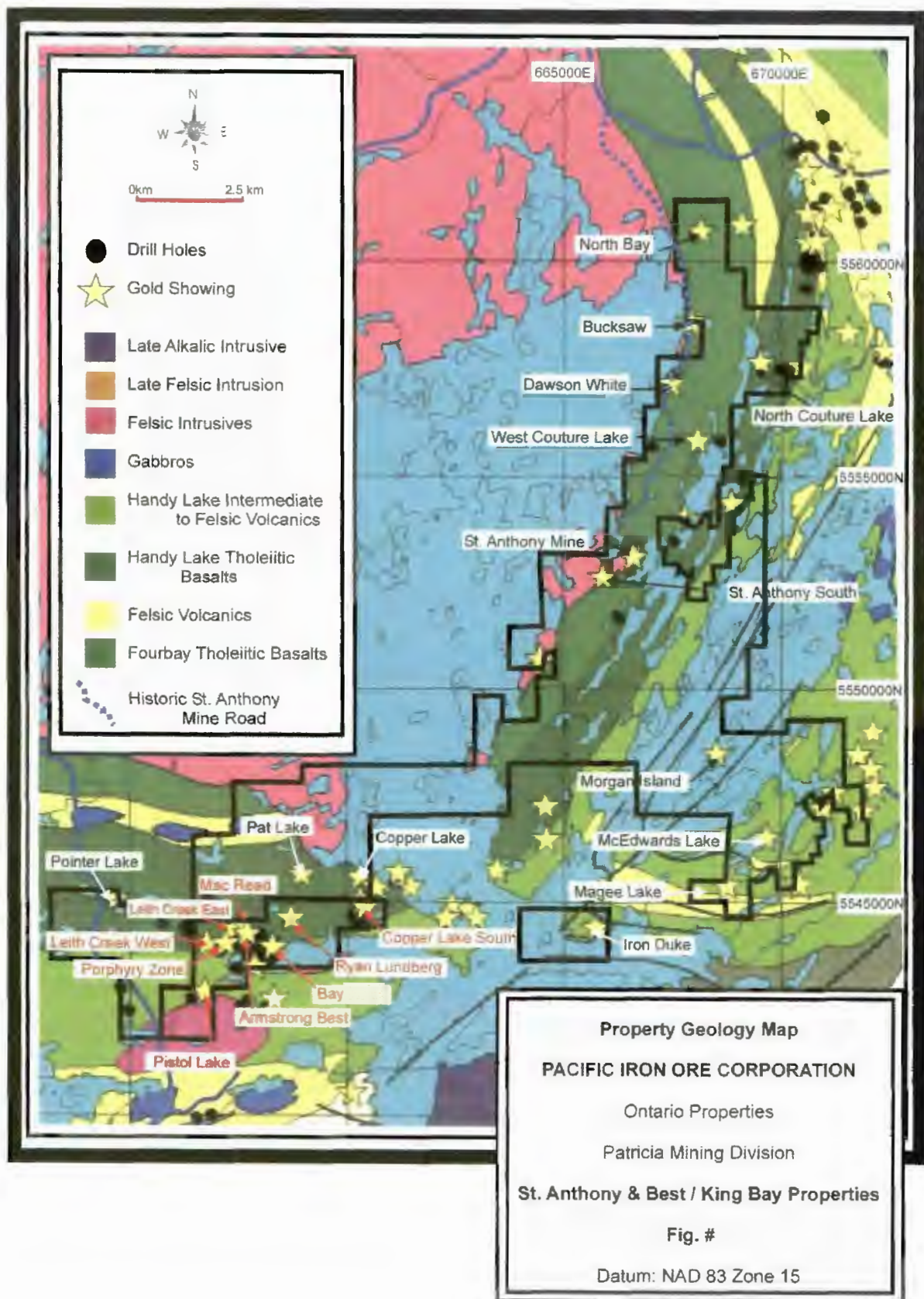
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



665000E

666000E



LEGEND

-  outcrop
-  Strike & Dip
-  traverse

025

4251430

4244356

570

170

4251428

Claim Boundary

Claim Boundary

SQUASH LAKE AREA

Patricia

4251430

Granitic / Syenitic Dyke

+ Gabbro

Escarpment

Cherty sediments

Cherty Sediments

Sturgeon Lake

Cherty Sediments

qtz. vein

Pi po. cp

Fault Breccia

Iron Duke Audit & muck Pile

4224460

Cherty Sediments

Scale 0 250 m

IRON DUKE PROSPECT
Pacific Iron Ore Corporation
MAP # 1

5544000N

85

665000E

666000E

UTM Zone 15
1000m grid

AJMMOWAT

April 18, 2012

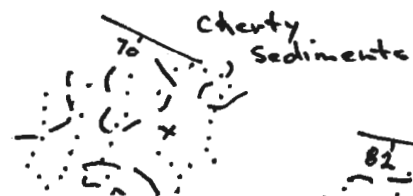


LEGEND

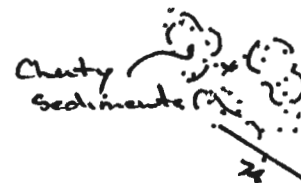
outcrop

strike & Dip
70

traverse



4224460



4224480



Claim Boundary

0 Scale 250 m

4247001

CLAIM 4224460
Pacific Iron Ore Corporation
MAP #2

Claim Boundary

TABLE 1 LITHOLOGIC UNITS FOR THE SQUAW LAKE—STURGEON LAKE AREA.

CENOZOIC

QUATERNARY

PLEISTOCENE AND RECENT

Swamp accumulations; sand and gravel.

Unconformity

EARLY PRECAMBRIAN (ARCHEAN)

INTERMEDIATE AND ALKALIC INTRUSIVE ROCKS

SQUAW LAKE ALKALIC COMPLEX

Alkali feldspar syenite; foid and/or zeolite syenite and monzosyenite; pegmatoid syenite; lamprophyre; inclusion syenite; monzonite, monzosyenite.

STURGEON NARROWS ALKALIC COMPLEX

Biotite-pyroxene, pyroxene syenite; biotite, biotite-pyroxene nepheline syenite; garnet-nepheline syenite, nepheline-garnet syenite; leucocratic nepheline syenite; muscovite leucosyenite; lamprophyre; perthite porphyry; xenolithic alkalic syenite; syenodiorite, syenogabbro; xenolithic syenodiorite and syenogabbro; syenite, syenodiorite.

Intrusive Contact

FELSIC INTRUSIVE ROCKS

VISTA LAKE, FLINDT RIVER, VANESSA LAKE INTRUSIONS

Porphyritic hornblende, biotite-hornblende granodiorite; hornblende, biotite-hornblende granodiorite; quartz monzonite, monzonite; pegmatite; leucocratic granodiorite, monzonite; aplite, feldspathic mobilizates.

Intrusive Contact

GRANITIC COMPLEXES

Quartz lenticule, biotite, hornblende-biotite, biotite-hornblende, hornblende granodiorite, trondhjemite; porphyritic (porphyroblastic) granodiorite, trondhjemite; massive trondhjemite, granodiorite; xenolithic granodiorite and trondhjemite; pegmatite; feldspathic mobilizates.

Intrusive Contact

METAMORPHOSED MAFIC INTRUSIVE ROCKS

Gabbro, diorite; feldspar-porphyritic gabbro, diorite; amphibole-porphyritic gabbro; feldspar-porphyritic anorthositic gabbro, diorite.

Intrusive Contact

METAVOLCANICS AND METASEDIMENTS

METASEDIMENTS

Wacke, arenite; siltstone, argillite; conglomerate; ferruginous metasediments; metasedimentary schists and gneisses; chert; paramphibolite; knotted metasediments; migmatitic metasediments; fenitized metasediments.

METAVOLCANICS

CARBONATE BRECCIA UNIT

Mixed breccia subunit; layered breccia subunit, isolated breccia subunit.
























FELSIC TO INTERMEDIATE METAVOLCANICS

Flows, porphyritic flows, tuffs; crystal, lithic-crystal tuff; autoclastic breccia; chert; tuff; lapilli-tuff, lapillistone; tuff-breccia; pyroclastic breccia; quartz-feldspar porphyry, feldspar-quartz porphyry; felsite; spherulitic flows; schists, phyllites.

MAFIC TO INTERMEDIATE METAVOLCANICS

Flows; porphyritic flows; tuff, lapilli-tuff, lapillistone; autoclastic breccia; hyaloclastites; pillowed flows; amygdaloidal flows, vesicular flows; amphibolite; migmatitic metavolcanics; sulphide iron formation; schist, gneiss.

SYMBOLS

	Glacial striae.
	Esker.
	Small bedrock outcrop.
	Area of bedrock outcrop.
	Bedding, top unknown; (inclined, vertical).
	Bedding, top indicated by arrow; (inclined, vertical, overturned).
	Bedding, top (arrow) from grain gradation; (inclined, vertical, overturned).
	Lava flow; top (arrow) from pillows shape and packing.
	Schistosity; (horizontal, inclined, vertical).
	Gneissosity; (horizontal, inclined, vertical).
	Foliation; (horizontal, inclined, vertical).
	Lineation with plunge.
	Geological boundary, observed.
	Geological boundary, position interpreted.
	Geological boundary, deduced from geophysics.
	Fault; (observed, assumed). Spot indicates down throw side, arrows indicate horizontal movement.
	Lineament.
	Drag folds with plunge.
	Drill hole; (vertical, inclined).
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	Magnetic attraction.
	Swamp.
	Building.
	Trail, portage, winter road.