

IRON RANGE (AU, AG, CU, FE, PB, ZN)

SUMMARY

The Iron Range property consists of 56,200 hectares located in the Goat River area 15km NE of Creston, BC. The claims are owned 100% by Eagle Plains Resources Ltd.

Iron Range Drilling



Eagle Plains has consolidated a large land package which includes all significant claims in the area, including lands suitable for mine infrastructure and tailings areas. The southern and northern parts of the property are road-accessible, and the southern part has been logged extensively. The

claims are situated along a high pressure gas pipeline and a high voltage hydro-electric line which follow the CPR mainline and Highway 3 South.

The Iron Range Fault Zone (IRFZ)

The Iron Range is a Middle Proterozoic regional scale linear fault structure known to host significant iron oxide mineralization. The Iron Range deposits were originally staked in 1897 and were covered by Crown Grants held by Cominco Ltd. and the Canadian Pacific Railway. When the grants were reverted in 1999, Eagle Plains Resources Ltd. staked the ground as the FeO and IR claims. Past work on the Iron Range deposits by Cominco Ltd. in 1957 was directed toward the considerable iron oxide resource and consisted of trenching and very shallow (20m depth) diamond drilling in the area along the Iron Range fault zone. Ongoing work by Eagle Plains Resources Ltd. focused on exploring the potential of the Iron Range fault zone and surrounding area as a conduit and host for both Iron oxide-Cu-Au (IOCG) mineralization and sedimentary exhalative (SEDEX) Ag-Pb-Zn mineralization.

Exploration 2008

In 2008 Eagle Plains Resources Ltd carried out a diamond drilling program focusing on the Union Jack, O-Ray, Keepsake, Rhodesia and Unnamed mineral occurrences located within the northern portion of the Iron Mountain Fault Zone. The two primary objectives of the drill program were to test for IOCG mineralization and define a near surface iron

resource. Near surface high-grade Au mineralization was intersected at the O-Ray Minfile occurrence.

Exploration 2009

The 2009 exploration program was completed in two phases:

Phase I accommodated ongoing academic studies, and explored in detail through mapping, trench and soil sampling the O-Ray showing area.

Phase II consisted of diamond drilling to exploit and expand the near surface high grade gold drill results from the 2008 program.

Through a joint collaboration of industry and university known as the MITACS Accelerate Program, Masters student Michael Galicki continued field work for his thesis titled: 'Geochronology and Petrology of Iron Oxide Mineralization, Creston, B.C'. and 'Paleomagnetism of the Iron Range Iron Oxide Deposits'. Eagle Plains Resources Ltd. funded 50% of the work. Results of the 2009 summer field work are described in the 2009 Exploration Results section.

Bootleg Exploration Inc. conducted a systematic trench and soil sampling program over a series of three east-west oriented trenches on the Iron Range iron oxide structure within the historic O-Ray showing area. This showing yielded near surface high-grade drill results in 2008 which prompted geological mapping and continuous one metre channel and chip sampling to determine if the gold mineralization continued to surface. Excavation of these historic Cominco trenches encompassed an area approximately eighty metres north-south by 25 m east-west. In addition, close spaced soil samples were taken from nine soil lines over the area of trenching.

Results of the program indicated structural controls on the gold mineralization at depth. A joint venture agreement with Swift Resources Ltd. in the latter part of 2009 resulted in a seven hole diamond drill program. A total of 579.17 metres of NQ2 size core were drilled in proximity to the ORay showing, with the vast majority of drill holes vectored at intersecting the gold mineralization from the 2008 program.

INTRODUCTION

Location and Access

The central portion of the Iron Range Property is located 15 km northeast of Creston, B.C. between the Goat River and Arrow Creek drainages. The southern property boundary is near the eastern edge of the town of Creston. Access to the southern property is via a network of forestry roads (FSRs) which include the Arrow Creek and Crackerjack Creek FSRs. The northern and central portions can be accessed from the junction of Highway 3 and the hamlet of Kitchener. The northern and eastern part of the property is accessed via the Iron Mountain and Hall Lake FSRs. The latter leads to the Iron Mountain FSR and is accessed west off of the main Goat River Forest Service Road just north of the 11.5 km marker. The property is bisected lengthwise by a historic Cominco exploration trail which runs roughly parallel to the main Iron Range Fault structure and is easily accessed using an ATV from the south and 4WD vehicle from the north.

The Six Mile and Crackerjack Creek areas have been extensively logged, and the southern part of the property is partially within the Arrow Creek Community Forest License.

A well developed transportation and power corridor lie at the southern end of the Iron Range claims, where a new high pressure gas pipeline and a high voltage hydro-electric line follow the CPR mainline and Highway 3 south. The rail line provides efficient access to the Cominco Ltd. smelter in Trail, B.C.

The claims cover alpine to sub-alpine terrain within the Iron Range of the southern Purcell Mountains. Elevations range from 800 to 1900 meters, with moderate to very steep topography. Vegetation at the lower elevations consists of lodgepole pine, balsam fir, with lesser birch, aspen, cedar, and hemlock flanking drainage and riparian zones. The mid to upper elevations contain sparse populations of white pine, local cedar, and a progressive increase in hemlock and balsam fir, the latter dominating at the height of land.

Outcrop exposure is good on ridges but generally poor at lower elevations. The central part of the property is a broad N-S oriented ridge which is bisected by the main Iron Range Fault structure.

History and Previous Work

The Iron Range prospect was discovered and staked in 1897 along an extensive belt of iron oxide showings. Initial work included several small shafts, adits, and trenches, as well as limited diamond drilling to a maximum depth of 20 meters. Many of the original claims on the Iron Range were established as Crown Grants. In 1939, The Consolidated Mining and Smelting Company of Canada Ltd., along with its parent company Canadian Pacific Railroad (CPR), acquired the main claim block on the northern part of Iron Range Mountain. The claims were evaluated by CM&S (later Cominco Ltd., then Teck Cominco Ltd, and now Teck Ltd.), to assess the potential for a large iron resource.

As part of this evaluation, Cominco Ltd. completed an extensive trenching program in 1957, exposing the Iron Range structure and mineralization over more than 4 kilometers strike length. In the 1980's Cominco Ltd. completed regional-scale work through the area as part of its Sullivan SEDEX search program. This included reconnaissance-scale mapping, contour soil geochemistry, and UTEM surveys. Most of the Iron Range Crown Grants were held by Cominco – CPR until 1999 when they were reverted. Eagle Plains Resources Limited re-staked the original Crown Grants as the FeO and IR claims on the day the historic grants lapsed. These claims cover the main part of the Iron Range structure worked by Cominco including the historic Union Jack crown grant in the north and the Rhodesia crown grant in the south. Eagle Plains subsequently staked the TCK claims in the area of Thompson Creek to cover the historic Great War crown grants.

The May Bee MinFile showing has seen historical (pre-1950s) exploration with two levels developed on the south end of the current holdings. This is different

mineralization, proximal to the Iron Range fault system, with chalcopyrite and associated gold and silver values in a 0.3m to 1.5m wide quartz vein hosted by a gabbro sill. The Virginia MinFile occurrence also saw some historic small scale development with two levels developed approximately 40 meters apart on a galena bearing quartz vein. The showing area was also tested by diamond drilling and electromagnetic surveying in the early 1950's.

2001 fieldwork by Eagle Plains consisted of grid and contour soil geochemical sampling along the trace of the Iron Range fault system. Results from the work program indicate that the Iron Range structure has a geochemical signature consistent with other Fe Oxide Cu-Au-U-REE deposits.

In 2002 Eagle Plains Resources retained Dr. Lucas Marshall to undertake a compilation study on the Iron Range area and to oversee the 2002 fieldwork. Mr. Marshall has a PhD from James Cook University in Queensland Australia with a doctoral thesis on Olympic Dam type deposits. 2002 fieldwork included geological mapping with an emphasis on structural and alteration mapping at a scale of 1:20 000. Grid and contour soil geochemical sampling aimed at constraining soil anomalies established in 2001 were also conducted. A limited rock geochemical sampling program was undertaken in order to assess the geochemical character of the Iron Range metasomatic ironstones and associated alteration.

Results and conclusions from the 2002 work included:

- Iron Range metasomatic ironstones are marked by significant enrichment in Fe₂O₃, Au, V, Co, Cr, Ni, SiO₂ and Sc
- Geochemical targets along and adjacent to the Iron Range fault zone exhibit enrichment in multiple IOCG indicator elements including Cu, Co, Ba, La and P
- Identification of SEDEX style geochemical anomalies within a narrow stratigraphic interval near the contact between the Middle Aldridge and Ramparts facies. This stratigraphic interval is likely the time equivalent to the Lower-Middle Aldridge contact (LMC) where the Sullivan Ag-Pb-Zn deposit is located.

Mr. Marshall recommended more work on the project, including assessing both SEDEX and IOCG targets.

In 2003, Eagle Plains carried out soil geochemical surveying in areas of interest identified by previous work programs. A total of 624 samples were collected.

In spring 2004, GeoTech Ltd. flew a high resolution VTEM geophysical survey over the Iron Range property, centered roughly on the Iron Range Fault structure, with more detailed lines flown over the inferred LMC. A total of 695 line kilometers was flown, covering 58.2 km². The data was reprocessed and interpreted by Condor Geophysics who identified a number of AdTau conductivity and mag anomalies. During the summer of 2004, Eagle Plains collected 1062 soil geochemical samples and 8 silt samples targeting the area of the inferred LMC. Doug Anderson, P.Eng. was retained by Eagle Plains to

provide geological mapping in the area of the Lower Middle Aldridge (Sullivan Horizon).

Late in 2004, a diamond drill program was carried out to test the northern part of the main Iron Range structure in the area of the historic Cominco trenches. Three holes on two sites were completed for a total of 570.4 meters. The drill contractor was FB Drilling of Cranbrook, BC using a Longyear LF70 drill cutting NQ sized core. The drill was moved to the first site using an A Star helicopter provided by Bighorn Helicopters of Cranbrook, BC. The drill was mounted on an enclosed skid shack and moved using a D6 cat. Crews commuted to work from Creston via the Hall Lake FSR and the Iron Range exploration trail established by Cominco in the 1950s.

Work at the Iron Range continued in 2005. Geochemical coverage was expanded to cover the southwestern part of the property in an area of both geophysical AdTau enhancement and anomalous soil geochemistry. A total of 1870 soils, 15 silts, and 3 rock samples were collected by Bootleg Exploration field crews. Doug Anderson completed further geological mapping in the southwest area.

In late spring, Eagle Plains completed a four hole 1377 meter test of geological, geochemical and geophysical targets in the area of the Lower Middle Aldridge contact. Three different sites were tested using the FB Drilling Longyear LF 70 drill cutting NQ sized core. Drill moves and core haul were helicopter supported using Bighorn Helicopters. The lower drill site was road accessible, and the two upper sites were accessed via the CrackerJack Creek FSR and then by foot to the drill.

The 2008 diamond drilling exploration program focused the Union Jack, O-Ray, Keepsake, Rhodesia and Unnamed mineral occurrences located within the Iron Mountain Fault Zone (IMFZ).

The two primary objectives of the drill program were as follows;

- 1) To test the IMFZ for prospective IOCG mineralization and,
- 2) to define a near surface Iron resource.

High-grade Au mineralization was intersected adjacent to the IMFZ at the O-Ray Minfile occurrence. **Assay results of the high-grade zone are as follows:**

**51.52 g/t Au, 2.39 g/t Ag over 7.00 meters;
including 89.98 g/t Au, 4.17 g/t Ag over 4 meters;
also including 118.45 g/t Au, 5.56 g/t Ag over 3.0 meters (IR08006).**

The high-grade gold mineralization is hosted within a Chl-Alb-Mt-Hem-Lim metasomatic alteration halo flanking the western margin of the IMFZ. Qtz-Hem-Chl-Fl-Ms+/-Py+/-Au+/-Ag crackle veinlets occur as stockwork within the metasomatic alteration. Hydrothermal metasomatism and surficial weathering have altered the high-grade interval to friable albite-limonite gouge.

GEOLOGY

Regional Geology

Overview

The Iron Range property is located on the west flank of the Purcell Anticlinorium, a broad generally north-plunging structure in southeastern B.C. that is cored by Middle Proterozoic Purcell Supergroup rocks and flanked by Upper Proterozoic Windermere Group or Paleozoic sedimentary rocks. The Iron Range area is well to the west and in the hangingwall of the Moyie Fault, a major, regional right-lateral reverse fault which to the east becomes part of the Rocky Mountain fold and thrust belt event. The property does however straddle the Iron Mountain (Range) Fault (IMF) complex which consists of a number of north-striking faults which occur across an east-west extent of about 3 kilometers. The core fault zone is thought to link with the St.Mary-Hall Lake Fault systems about 30 kilometers to the north.

The IMF cuts the core of the Goat River anticline which is a major secondary fold on the west limb of the anticlinorium. The IMF continues south into the United States and along its entire length as a mappable structure it is marked by a linear magnetic anomaly on airborne surveys.

The rocks of the Goat River anticline are those of the Aldridge Formation which is the lowest part of the Purcell Supergroup. The Purcell Supergroup comprises an early synrift succession, the Aldridge Formation, and an overlying generally shallow water post-rift or rift fill sequence which includes the Creston and Kitchener Formations and younger Purcell rocks.

The Aldridge is the oldest formation of the Proterozoic Belt-Purcell Supergroup. The Supergroup is a thick sequence of terrigenous clastic, carbonate, and minor volcanic rocks of Middle Proterozoic age.

The basal Aldridge Formation, as exposed in Canada, consists of siliciclastic turbidites about 4000 meters thick. It is informally divided into the Lower, Middle, and Upper members. To the north and east in the basin, the Lower Aldridge (LA), the base of which is not exposed, is about 1500 meters of rusty weathering (due to pyrrhotite), thin to medium bedded argillite, wacke and quartzitic wacke generally interpreted as distal turbidites. The Sullivan ore body occurs at the top of this division. To the south and west in the basin in Canada, the upper part of the Lower Aldridge is dominated by grey weathering, medium to thick bedded quartz wackes considered to be proximal turbidites.

The Lower Aldridge is commonly host to a proliferation of Moyie intrusions, principally as sills. The Middle Aldridge (MA) is about 2500 meters of grey to rusty weathering, dominantly medium bedded quartzitic wacke turbidites with periodic inter-turbidite intervals of thin bedded, rusty weathering argillites some of which form finely laminated marker beds (time stratigraphic units correlated over great distances within the Aldridge/Prichard basin). There are several Moyie intrusions as sills within the Middle Aldridge including two of the most consistent, laterally extensive sills. The Upper Aldridge is about 300 meters of thin bedded to laminated, rusty weathering, dark argillite and grey siltite often in couplet style beds.

Intrusive Rocks

Gabbros and diorites of the Moyie Intrusions are present as sills in the Ramparts facies and the Middle Aldridge with individual widths up to approximately 100m. These sills can be divided into a lower series in the Ramparts facies and lowermost Middle Aldridge, and an upper series in the uppermost Middle Aldridge. Individual sills vary substantially in grain size, color and magnetic character rendering correlation based on these characteristics problematic. Most of the sills are non-to weaklymagnetic, and rarely attract a hand magnet. Adjacent to some sill contacts, Aldridge Formation sedimentary rocks record soft-sediment deformation features consistent with the interpretation that the sills were emplaced into wet sediments. Gabbro is also found as pods within the Iron Range fault zone, suggesting that gabbro was emplaced as a dyke along at least part of this structure (see below).

While granitoid intrusions are not found within the Iron Range map area, the exposed margin to the Cretaceous Bayonne batholith crops out approximately 10km to the northwest.

A polymictic lamprophyre breccia dyke with biotite phenocrysts up to 2cm is noted at one locale to be emplaced along the Iron Range fault zone. The matrix to the lamprophyre breccia is non-foliated suggesting it was emplaced late in the fault history. Current studies by Mike Galicki, M. Sc., student of Simon Fraser University, are investigating the presence of apatite-phlogopite-magnetite alkaline carbonatite intrusives found within and adjacent to the Iron Mountain (Range) Fault Zone. Additionally, a number of samples of iron oxide were collected to infer an age date (s) for the Iron Range structure based on paleomagnetism.

Structure

The Iron Range fault zone is exposed on the west limb of the Goat River anticline, a regional scale gently north-northwest plunging fold. The trace of the fault trends approximately north, such that at the northern end of the map area, the fault lies approximately 5km from the axial trace of the Goat River anticline, while at the southern end of the property, the two are approximately coincident. As a consequence, bedding in the northern half of the map area most commonly dips moderately to the westnorthwest, with subordinate beds on the eastern limbs of parasitic anticlines dipping to the eastsoutheast.

The southern half of the map area is approximately coincident with the axial trace of the Goat River anticline, and bedding is nearly flat lying. Although east-dipping fold limbs are poorly represented in the map area, an approximately 90° spread in the orientation of east- and west-dipping fold limbs indicates that the Goat River anticline and associated parasitic folds are open folds. The calculated orientation of the axial plane to regional folds is 195/83 (west-northwest-dipping).

Fold axes to mesoscale folds exhibit shallow to moderate plunges to the north-northwest, that are consistent with the calculated η axis orientation of 07/015. The approximately 30° spread in both the plunge of measured and calculated fold axes and the spread in bedding measurements reflect a noncylindrical component to the regional fold hinges.

A regional foliation is best developed in fine grained siltstones and silty shales, most common in the northern half of the map area. The mean orientation to this regional foliation is 196/61 (west-northwestdipping). Except where measured along the axial plane of mesoscale parasitic folds, this foliation has a more shallow dip than the calculated axial plane to the Goat River anticline (195/83). This difference can be explained by the common observation that the moderate-dipping regional foliation in fine grained lithologies refracts across coarser grained lithologies to form a sub-vertical fracture cleavage. Thus while the regional foliation is not typically axial planar to regional folds it is a product of the folding event.

Property Geology

Overview

The Iron Range deposits are located along the Iron Mountain (Range) Fault system, a regional structural feature which has a strike length of at least 90 kilometers. The fault zone forms a continuous deformation corridor stretching from the southern to northern ends of the property. Stinson and Brown (1995) note that a southern continuation of the fault is exposed 1.5km southeast of Mt Thompson, where it forms an anastomosing set of faults. To the north of the map area the Iron Range fault is cut by the Arrow Creek thrust system (Reesor, 1981).

Within the claim block the Iron Range Fault Zone (IMFZ) is defined by several north-striking faults which cut all three stratigraphic divisions of the Aldridge Formation. The trace of the fault trends approximately north, such that at the northern end of the map area, the fault lies approximately 5km from the axial trace of the Goat River anticline, while at the southern end of the property, the two are approximately coincident. The northern part of the property was mapped by Marshall in 2001. Here, the Iron Range fault zone ranges in width from <50m to approximately 150m. Net displacement is difficult to constrain due to the lack of distinct stratigraphic horizons, but appears to be minor, based on the apparent offset of a sill in the central portion of the 2001map area. The fault zone is characterized by a combination of brittle and ductile features, including a central mylonite zone with localized cataclastic breccias. This grades outwards in both the footwall and hangingwall into zones of crackle brecciation, veining and localized shearing. The structural features preserved in the fault indicate at least one period of deformation after the sediments were lithified, and after crystallization of the Moyie Intrusions. Further, crackle breccias in the fault zone are not overprinted by the regional foliation, suggesting that at least some deformation along the Iron range fault zone occurred late- to post-folding and regional foliation development. The range of preserved deformation styles suggests deformation occurred near the elasto-frictional to quasi-plastic transition described by Sibson (1977), which typically occurs at a depth between 10 and 15 km.

The shear fabric developed within the fault zone has a mean orientation of 178/77 (west-dipping) and variation in strike of individual measurements between approximately 160° and 200° reflects anastomosing of the shear fabric within the fault zone. Given the correlation between the mean orientation of the measured shear fabric, and the mapped

orientation of the fault, the mean shear fabric is taken as a good approximation of the fault orientation. In the northern half of the map area, the shear fabric has a mean orientation of 181/76 (west dipping) while in the southern half the mean orientation is 168/85 (west dipping).

Drag folding of both sediments and gabbroic sills is noted in both the footwall and hangingwall to the fault. Bedding measurements on both sides of the fault exhibit a consistent shift towards more steeply west-dipping orientations as the fault is approached. This suggests predominantly normal displacement on the fault during at least one ductile (or brittle-ductile) slip event. The occurrence of rare pull-apart structures within banded hematite-quartz mylonite also suggests normal displacement.

2004 - 2005 mapping focused on a 40 square kilometer area on the southern end of the Iron Range north of Highway 3/95 between the Goat River on the east and Arrow Creek on the west. Mapping was done at a scale of 1:10 000 with a generally low percentage of outcrops encountered. The 2004 - 2005 mapping area covers the core of the Goat River anticline reaching significant portions of the limbs on the east and west. Mapping defined the most significant features as the north-trending, numerous faults and the features associated with them. The core of the anticline corresponds to the core of the Iron Range fault complex as well. Here at least three parallel faults occur across 1250 metres east-west. The faults exhibit moderate displacement of the Sullivan Horizon. They have also influenced the emplacement of Moyie intrusions as dykes and sills, focused iron oxide mineralization as hematite and magnetite with associated alteration as albite and chlorite with tectonic brecciation, localized sedimentary fragmental formation and influenced the development of the Sullivan Horizon and bounding sedimentation.

These growth faults, active during the early Proterozoic are also re-activated structures (probably at several different times) until approximately middle of Middle Aldridge (MA) time. There are several other north-striking faults on the map-sheet. One fault on the east side of the property also appears to control features such as sill and dyke emplacement, albite/chlorite alteration and sedimentary fragmental formation. It appears to cut close to the axis of an anticlinal fold on the east limb of the Goat River structure. On the west side, a NNE-trending fault influenced the same type of developments as for other faults. The west side of this structure is not well defined because of a lack of outcrop.

This complex of structure has impacted the Aldridge Formation host rocks and the included Moyie intrusions. The oldest sedimentary rocks are Lower Aldridge encountered at the very base of outcrop along the north flank of the Goat River. The thickness of rusty weathering, thin bedded, argillaceous, distal turbidites is limited, quickly becoming dominated by thick bedded quartzites of the Ramparts Facies (RF) up section. Ramparts Facies is a Lower Aldridge-equivalent section of about 650 metres thickness which defines upper Lower Aldridge in the southwest part of the Canadian portion of the Purcell basin. Ramparts Facies is represented by grey weathering, thick to very thick bedded, fine to medium grained quartz wacke to quartzitic wacke. There are interbedded argillaceous units which approximate 5 to 15% of the section. These are

current impacted, often dark colored, biotitic wacke to argillite. Ramparts Facies are proximal turbidites, rapidly deposited in a high energy environment.

Intruding the Lower Aldridge and Ramparts Facies are numerous Moyie intrusions as sills and dykes of variably crystalline gabbro to quartz diorite. On the east side, granofels was noted in the lower sill intruding Rampart Facies rocks.

Above the Ramparts Facies are Middle Aldridge sediments exemplified by moderately rusty weathering, interbedded AE or ACE Bouma facies turbidites which are dominantly medium bedded quartzwacke with intervals of thin bedded to laminated argillaceous wackes. Stratigraphic marker horizons exist within this portion of the Middle Aldridge and one such marker was located on the northeast portion of the map-sheet. This provides some measure of stratigraphic control on the entire section of MA through RF to LA. Moyie intrusions are present as dykes and sills as relatively minor units but major, regionally extensive sills occur higher in the MA, north of the map area.

The Lower/Middle Aldridge Contact (LMC) or Sullivan Time is present on the property and occurs at the interface between Ramparts Facies and the Middle Aldridge. Outcrop is not complete enough to view Sullivan Horizon so a definitive, measurable section of Sullivan Time has not been located but its character would make it naturally recessive.

In 2005, emphasis was given to field examination of the west side along the NNE-trending fault zone as further modeling of the airborne geophysics data indicates an EM conductor occurs at a shallow depth. This west-facing slope into Arrow Creek has little exposure but outcrops in the area suggest some variations from the normal MA rock sequence. Black argillites and quartzites in the area of the anomaly suggest an anoxic sub-basin may be present. As well, tourmaline is ubiquitous as minor disseminations in the sediments. Some float over the north-central part of the anomaly is black, quartzrich rock matrix to charcoal grey carbonaceous clasts as fragmental. The NNE fault appears to project through and impact the shape of the EM response.

Mineralization in the map area is represented primarily by the hematite-magnetite zones within the core fault complex of the Iron Range. They are cross-cutting, often breccia zones within the gabbro dominated section. The main focus of the mapping was to evaluate the possibility of base-metal, sulphide mineralization occurring at Sullivan Time. Presently known sulphide showings are crosscutting copper, lead, and zinc localized within Moyie intrusions. There is also the upper sill on the east side which contains quite abundant pyrrhotite locally, some of which is nickeliferous. No additional (new) sulphide occurrences were located as a consequence of the mapping.

Early fault history

In the northern half of the map area, the Iron Range fault lies predominantly on the west-dipping limb of the Goat River anticline, which has a mean orientation of approximately 210/30. By unfolding this limb to horizontal about the regional fold axis, the original orientation of the Iron Range fault in the northern half of the map area is shown to have been approximately 170/50 (west-dipping). In the southern half of the map area the fault

cuts near flat-lying stratigraphy, and as such the current orientation of the fault of approximately 170/85 (west-dipping) is close to the original orientation.

Other fault zones

A broad zone of weak crackle brecciation and albitization striking approximately 035° with a near vertical dip marks the Black Bear fault (Figure 5). The fault zone is poorly exposed, and timing, sense and magnitude of displacement remain unconstrained. The projected intersection between the Black Bear fault and the Iron Range was the target for DDH IR04-003.

An inferred fault marks the apparent 1100m stratigraphic offset of a sill to the east of the Iron Range fault in the northern half of the map area, and is here named the Alder fault. The Alder fault is not exposed, and it remains uncertain as to whether the apparent offset is a result of the intrusion cutting upsection during emplacement along a growth fault, tectonic displacement, or a combination of the two. The projected intersection of the Alder fault and the Iron Range fault zone was the target for DDH IR04-001 and 002.

The Crackerjack fault is described by Stinson and Brown (1995) as a narrow fault zone trending approximately parallel to and east of the Iron Range fault. The Crackerjack fault is marked by a zone approximately 10m wide of crackle to mosaic brecciation within Middle Aldridge quartzite. It remains uncertain if and where the Crackerjack and Iron Range faults intersect.

Moyie Sills

The nature of the gabbroic Moyie sills within and adjacent to the IMFZ remains enigmatic. Pods of gabbro occur along the Iron Range fault zone at stratigraphic positions where sills are absent in regions of the Belt-Purcell Supergroup of similar age. In addition sills placed in structural juxtaposition across the fault zone are not stratigraphically coincident. Furthermore gabbros are anomalously thick and abundant in the vicinity of the Iron Range fault. The Moyie intrusives are widely accepted as having been emplaced into unconsolidated sediments deposited during syn-rifting tectonism.

Alteration

The following descriptions serve to place order to the complex mosaic of hydrothermal and regional metamorphic alteration within and adjacent to the IMFZ. Alteration terms adopted from L. Corriveau, P. Williams, H. Mumin, 2008.

Chlorite1 – Occurs as regional metamorphic alteration within Middle Aldridge Sediments, observed distal to the IMFZ.

Chlorite2 – Occurs with albite and magnetite as psuedo-igneous intrusions enveloping the IMFZ ((Ca(Na)Fe) or Chlorite + Albite Zone). The Chlorite + Albite zone is found at the margins of the IMFZ in the “Crackle Breccia Zone”

Chlorite3 – Occurs as clots and wisps with in IMFZ breccias.

Chlorite4 – Pervasive chloritization of carbonatite matrix.

Silical – Silicification of quartz rich sediments and the chlorite+albite zone in proximity to the IMFZ.

Silica2 – Hydrothermal silica flooding of the IMFZ as primary cement within IMFZ breccias, and as crackle veins flanking the IMFZ proper.

Albite1 – Pervasive albitization of metasediments flanking the IMFZ, original rock type and textures obliterated ((Na(Ca)) or albite zone). Sugary white to brown in color.

Albite2 – Framework clasts within tectonic breccia. Clasts are often nucleation sites for pyrite mineralization. White to rose in color.

Albite3 – Occurs with chlorite and magnetite as psuedo-igneous intrusions enveloping the IMFZ ((Ca(Na)Fe) or Chlorite + Albite Zone). The Chlorite + Albite zone is found at the margins of the IMFZ in the “Crackle Breccia Zone”.

Hematite1 – Specular hematite as fine grained disseminations and fracture fill crackle veins within the Na(Ca) and Ca(Na)Fe zones. Dusty gray to black in color.

Hematite2 – Semi-massive growth of hematite within the IMFZ breccias. Occurs as breccia matrix. Often inter grown with pyrite. Blood red to black in color.

Hematite3 – Fracture fill veinlets associated with sericite alteration. Red to purple in color.

Magnetite1 – Semi-massive to massive growth as primary cement within IMFZ breccias. Often overprinted by pyrite mineralization. Near surface mineralization is vuggy, primarily black in color.

Magnetite2 – Euhedral crystals ranging in size from 2 – 10 mm, within carbonatite intrusions.

Sericite1 – Occurs as regional metamorphic alteration within Middle Aldridge Sediments, observed distal to the IMFZ.

Sericite2 – Overprinting of chlorite within the Ca(Na)Fe zone. Sericite mottles psuedo-igneous envelope. Coupled with red hematite veinlets, quartz veinlets and pyrite mineralization. Milky white to yellow in color.

Carbonate1 – Ankerite occurs as fracture fill crackle veins which cross-cut the IMFZ breccias.

Carbonate2 – Carbonate matrix – carbonatite intrusions.

Argillic-Clay – Intense alteration of Middle Aldridge Sediments within and flanking the IMFZ. Orange-yellow in color, hardness < 2.

Breccia Styles

The IMFZ is characterized by a combination of brittle and ductile features, including a central mylonite zone with localized cataclastic breccias. This grades outwards in both the footwall and hangingwall into zones of crackle brecciation, veining and localized shearing. The following breccia descriptions highlight the textural variations.

Crackle Breccia – Albite-chlorite-sericite-hematite mottled, sub-angular to angular framework clasts suspended in a matrix of quartz+/-hematite+/-magnetite+/-pyrite crackle veins. Crackle breccias are found peripheral to the IMFZ core complex. Framework clasts are strongly altered and may be whiteorange- greenish-yellow in color. Hematite is disseminated through the framework clasts.

Jigsaw Breccia – Albite framework clasts containing disseminated pyrite within a matrix of Fe-Oxide (specular hematite > magnetite) and quartz. Classified as a tectonic crackle breccia, often displaying cataclastic fabrics. Located in the core of the IMFZ complex. The name “jigsaw breccia” is derived from the angular nature of the framework clasts. Framework clasts are white-pink in color.

Tectonic Breccia – Hematite+/-Magnetite+/-Pyrite+/-Albite+/-Quartz+/-Chlorite+/-Cb breccia. Fe- Oxide and quartz are the primary cement, with chlorite and carbonate as secondary phases. Tectonic breccias were classified upon the presence of heterolithic framework clasts in conjunction with a pronounced cataclastic-mylonitic fabric.

Late-stage Breccia – Cross-cutting tectonic features characterized by sub-angular to rounded Fe-oxidepy- chlorite-albite framework clasts in a silica matrix. These features are prominent at the Rhodesia Minfile occurrence.

Mineralization

Mineralization is represented primarily by hematite-magnetite-pyrite-quartz-albite breccias within the core fault complex of the Iron Range. The following text will provide insight into the nature of the breccias observed during the 2008 drill program.

Oxide Zone Breccia – Generated from meteoric groundwater interaction or hydrothermal processes. Feoxides occur as jet black,semi-massive-massive, vuggy magnetite mottled with reddish-brown specular hematite. Pyrite mineralization is leached from the interval. The leaching process has produced subangular to sub-rounded vugs ranging in size from 2 – 30 mm. In some instances the weathered vugs are enveloped by a chlorite-magnetite matrix. Wall rock in contact with the leached Fe-Oxides displays strong limonitic alteration, and in some instances is reduced to an argillic clay gouge.

Hematite+/-Magnetite+/-Pyrite+/-Quartz+/-Albite+/-Chlorite+/-Cb+/-Ccp Breccia – Characterized by semi-massive to massive hematite (specularite to blood red amorphous variety) +/- pyrite replacing magnetite. Quartz occurs as the primary cement, with ankerite, sericite, chlorite, and muscovite as secondary accessory phases. Framework clasts consist of albitized meta-sediments, silica, chlorite, and ankerite nodules. Albite framework clasts are commonly found at the margins of the tectonic breccias and/or within siliceous bands of breccia matrix. Pyrite mineralization is common along the IMFZ, and occurs disseminated through albite framework clasts, and Fe-oxide-silica matrix.

Mineralization of Economic Importance

Copper and/or gold, and/or silver and/or lead and/or zinc mineralization have been discovered in at least seven locations adjacent to, and within the Iron Mountain Fault Zone over a distance of 11.60 km.

Moving from south to north seven of these zones are as follows: May-Bee (Au-Ag-Cu), DDH IR05003 (Au-Ag-Pb-Zn), Rhodesia (Ag), Keepsake (Ag), O-Ray (Au-Ag), Union Jack (Cu), Mike-Kennedy (Cu-Au-Ag). The principle mineral containing copper is chalcopyrite (CuFeS₂). Chalcopyrite (Ccp) occurs as macroscopic grains and nodules within quartz and ankerite veins. The relationship between the Cu+/-Au+/-Ag quartz veins and the Fe-oxide breccias of the IMFZ is still unclear. Of significance is the 2008 discovery of Cpy as fine disseminations within Fe-oxide breccia style mineralization 200 meters below the Union Jack occurrence. The blood red amorphous hematite is intimately associated with sericite alteration observed within the IMFZ in DDH IR08018. Chalcopyrite mineralization in DDH IR08018 occurs within a Hematite-Magnetite-Pyrite-Quartz-Albite-Chlorite-Carbonate breccia adjacent to the sericite alteration zone described above. Chalcopyrite mineralization is disseminated through out the Fe-oxide

mineralization at the foot wall contact and within ankerite crackle veins crosscutting the interval.

Native gold (Au) within drill hole IR08-006 at the O-Ray showing occurs in quartz as coarse flakes > 140 microns, with a lesser fraction of fine gold < 140 microns. Gold particle size was determined by a 250g screen metallic assay method, performed by EcoTech labs of Kamloops, B.C. The principle mineral containing silver (Ag) mineralization is undetermined at the present time. The high grade Au-Ag intercept occurs in a strongly altered shear zone found adjacent to the IMFZ Fe-oxide breccias.

The shear zone is sub-vertical and occurs as a series of quartz stockwork veins within friable albite, chlorite, and limonite altered meta-sediments. Fluorite, pyrite, hematite, magnetite, and chlorite were observed within quartz recovered from the high grade gold zone. The high grade Ag intercept found in the hanging wall of the Keepsake zone is of similar width, orientation, and displays alteration characteristic of the O-Ray Au-Ag zone. Although no Au results were obtained from the Keepsake zone, the anomalous Ag values indicate the presence of mineralized fluids within the system. The relationship between Au-Ag mineralization is still unclear, however it is apparent that both of the metals can occur together as observed at the May-Bee, IR05003, O-Ray and M-Kennedy zones. Anomalous Ag mineralization found at the Rhodesia zone occurs within quartz-magnetite-hematite-pyrite crackle veins hosted by chlorite-albite-carbonate-hematite metasomatic alteration. Cu-Au-Ag-Pb-Zn mineralization observed in the Mike-Kennedy, IR05003, and the May-Bee zones occurs as polymetallic quartz veins within diorite-gabbro sills or dykes. These veins range in size from 0.3 meters to 2.0 meters in width.

Of interest is the reported observation of a lamprophyre dyke adjacent to the mineralized veins of the May-Bee zone. Field reconnaissance is necessary to confirm the observation.

2009 EXPLORATION PROGRAM

The 2009 exploration program conducted by Bootleg Exploration Inc. on behalf of Eagle Plains Resources Ltd. and Swift Resources Ltd. consisted of a two phase program. Activities were conducted in proximity to the O-Ray showing, directly as a result of the high grade Au mineralization intersected in drill hole IR08-006 during the 2008 exploration program.

Phase I

Trench Mapping and Sampling

The summer phase conducted in June was a systematic trench and soil sampling program done within, and in proximity to three historic trenches. For trenching, a central trench was exposed at the O-Ray showing with second and third trenches located approximately 50 metres north and 30 metres south of the central trench. Termed the North, Main, and South O-Ray trenches, these trenches were originally excavated by Cominco in 1957 and subsequently refurbished to expose fresh bedrock. Terry Pighin of Pighin Welding Ltd., Cranbrook, B.C. provided contractor services using a Caterpillar 235 excavator.

Geologist Michael McCuaig, B.Sc. Geol, designed and supervised the soil and trenching program; overseeing the excavation, layout, sampling, and mapping of trenches. GIS

Technician Brad Robison, Masters student Michael Galicki and field assistant Lara Loughrey supported the field program.

Trench sampling was done on a continuous basis with sample size varying from .10-1.50m intervals, generally as a function of alteration, lithology, structure and vein intensity. A total of 250 samples were collected utilizing chip and channel sampling methodology. Figures 5a-5c detail the rock sample locations and illustrate the trench layouts. Geochemical results for Au, Pb, Zn, Cu, are accounted for in figures 7a-7c, corresponding to trenches North O-Ray, Main O-Ray, and South O-Ray, respectively.

Grid Soil Sampling

Nine east-west oriented soil lines were placed near the O-Ray area and neighbouring trenches. Each soil line was 150 metres in length spaced 30 to 50 metres apart, with spacing dictated in part by the trench positions. Brad Robison and Michael Galicki collected soil samples at 10 metre station intervals.

A total of 144 samples were taken from the B horizon. Upon completion, the start and end points of all lines were located using a GPS for correct spatial orientation. Figures 5d and 6d respectively, provide soil sample locations and Au element geochemistry results.

All samples for both programs were shipped out by June 29, 2009 to Eco-Tech Labs Ltd. Of Kamloops, B.C. Analytical technique consisted of aqua regia digestion followed by ICP-MS multi element finish. Appendices 3.1 and 3.2 outline field sampling techniques and analytical procedures.

Thesis Project

Masters student Michael Galicki and field assistant Lara Loughery collected approximately 100 samples from 14 locations along the Iron Range Fault for the purpose of paleomagnetic age dating. The results and interpretations of this study are found within the report "Paleomagnetic Investigations of the Iron Range Iron-oxide Deposit". That report is a continuum of studies preceded by an earlier thesis report titled "Iron Range Magnetite EM-Data" which was completed in 2009 from additional information gathered during the 2009 field season. Both reports are located under Appendix VIII- M. Galicki Thesis Papers.

Accommodations for the field crew consisted of a trailer and tents located at recreation sites along the Goat River FSR, approximately a twenty minute drive from the O-Ray site.

Phase II

Diamond Drilling

As a result of flow-through funding incentives, Swift Resources Ltd. elected in November of 2009 to fund the 2009 Iron Range exploration program. This included both the Phase I and Phase II programs, the latter of which was designed in accordance with financial objectives pursuant to a joint venture agreement with Eagle Plains Resources Ltd.

A winter drill program was conducted in late 2009 from November 27- December 22, resulting in the completion of seven drill holes within and peripheral to the O-Ray showing. The drill program was designed to test for gold mineralization spatially located at the intercept zone encountered in IR08-006, and additionally outboard of this area. The array of drill holes testing this horizon were in general directed from the west, north, east and south. During the course of drilling two additional iron oxide zones were intersected that do not manifest on surface.

Terry Pighin Welding Ltd. of Cranbrook, B.C. employed a D6 Caterpillar for snow plowing and drill pad excavation. A trailer mounted 3500 gallon heated water tank was provided for drilling.

Rob Duthie Trucking Ltd. of Cranbrook, B.C. utilized a Kenworth tandem axle rig mounted 1000 gallon water tank for water hauling. Water was obtained at a lower elevation from a tributary to Hall Creek. R. Duthie provided on-site accommodations.

F.B. Drilling Ltd. of Cranbrook, B.C. was contracted for drilling services utilizing a skid mounted FL50 diamond drill producing NQ2 size drill core. Drill moves were done with the contractors TD15 cat.

Drilling methods employed a 5 foot core barrel length, reduced from the standard 10 foot run lengths to optimize core recovery. Drilling was conducted on a 24 hour basis with two crews.

Meals and accommodation for the crew were based out of Creston, approximately a one hour drive from the drill site area.

The logistical, budgetary, and drilling supervision aspects of the program were conducted by James Ryley, BA Geol., senior Geologist with Bootleg Exploration Inc.

Bronwyn Wallace, M Sc Geol., digitally logged the diamond drill core and supervised the core sampling.

Michael McCuaig, B.Sc. Geol, was contracted to assist in the design of the drill program.

Core logging was performed at Eagle Plains Resources Ltd. secured core facility in Cranbrook. The the core is stored at this locale, 2026 - 13th Street South. Core splitting was done by technicians Kc Fedun and Wes Kelch on an intermittent 24 hour basis.

Byers Transport Ltd., Purolator Inc., and Greyhound Ltd. were chosen to ship the samples.

Geochemical sampling was provided by EcoTech Laboratories Ltd., Stewart Allen Group, of Kamloops, B.C. All of the drill core was sampled and analyzed using the ICP-AES 28 element analytical method (BICP-11). Sample analysis for gold consisted of 250 gram coarse metallic screen assay (BAUFM-45), and 30gm FA-AA finish on IR09-025

for samples IR09025-078 to 158)BAUFA- 32). Significant elevated gold value intercepts were re-sampled from a quarter duplicate obtained from the remaining one-half split from the original sampling.

2009 EXPLORATION RESULTS

Phase I

Geological Trench Mapping

As a result of extensive weathering of the bedrock from exposure to meteoric waters and the nature of alteration imparted to the country rock, lithological identification was compromised in part. The latter affected the sampling technique which varied depending on the competency of the lithology within the sample site.

Exposure to Middle Aldridge metasediments, alteration assemblages and the main Iron Oxide structure was excellent primarily as a function of weathering characteristics. Overburden consisted of a relatively thin veneer approximately 0.5-1.5 metres thick, and fresh bedrock was in the majority friable and easily removed. Prior to mapping and sampling the trenches were cleaned with a high pressure water pump.

The following summary is an account by McCuaig of this phase of the program:

“Main Trench - Area encompassing DDH IR08-006

Trenching activities focused on exposing bedrock over a 25.0 metre x 25.0 metre area overlying DDH IR08006. The primary goal was to determine if the high-grade gold mineralization intercepted in IR08006 extended to the surface. Trenching was carried out on ground that had been previously disturbed during the set up of drill pads during the 2008 program. Overburden stripping varied in depth from approximately 0.5 metres - 1.5 metres, and reflected changes in topography across the trench. The bedrock/overburden interface was ambiguous due to the intensity of alteration and fracture density of the bedrock. Below a depth of 1.5 metres the bedrock became sufficiently competent for geologic mapping and geochemical sampling.

Subsidiary trenches - north and south of the main trench

Two subsidiary trenches were completed to determine if gold mineralization occurs along strike from the main trench zone described above. Pre-existing trenches from a program conducted by Cominco in the 1950's allowed for easy access with minimal ground disturbance. The two trenches were located approximately 30.0 metres north, and 50.0 metres south of the main trench respectively. The trenches were excavated to a depth of 1.0 metres, removing slumped in overburden and exposing fresh bedrock.

Bedrock mapping and geochemical sampling were conducted as described below.

Mapping and sampling methodology

Mapping and sampling of the bedrock was conducted across a vertical face exposed during trenching, and along the bottom of the trench where ground conditions permitted. Rock types were subdivided based upon the following criteria: changes in rock type, alteration, veining intensity, and structural features (faults, cleavage, tectonic contacts).

All mapping measurements were referenced to control points established with a DGPS. A three meter tape was used to measure individual intervals. All measurements were based off of the original control points established at the beginning of the trenching program. Structural measurements were obtained using a Silva compass, the degree of error for the compass is +/- 2 degrees. All measurements were taken using the right hand rule (RHR) method. An important note with regard to structural measurements. Due to the magnetic nature of the iron-oxide mineralization occurring within the Iron Range Fault Zone, a degree of uncertainty lies in the readings in close proximity to the magnetic structures. It is recommended that in the case of future structural mapping a solar compass be used to avoid misleading structural measurements.

Samples were collected from intervals ranging from 0.10 metres - 1.50 metres in thickness. The boundaries of the sample intervals were selected based upon the geological features listed above. A metal tag, and flagging tape both labelled with the sample number were attached to the beginning of each sample interval with concrete nails. A DGPS reading was taken at each sample station, and was recorded as the sample number. The position of each sample was also recorded on a hard copy map, to be used as a reference for future work in the trenches. Digital photographs for each sample interval were taken across the trench face. Photographs for individual samples can be queried from the Iron Range database. Samples were collected using rock hammers and a chisel. A composite chip sample was obtained from each sample interval. Sample material was collected from a "panel", opposed to one horizon across the interval. In doing so a more representative sample was obtained for each sample interval. A large poly bag (18 " x 24 ") of material was obtained for each sample, averaging 5 kg in size. Channel samples were taken from the iron-oxide lenses hosted by the Iron Range Fault Zone. A diamond blade rock saw was used to cut a 5 cm to 10 cm wide by 3 cm deep channel across the outcrop. A rock hammer and chisel were then used to break the rock out of the channel. All samples were catalogued electronically using an IPAC data capture system. All sample information has been subsequently integrated into the digital Iron Range database.

Soil Sampling

The geological sampling and mapping program was conducted within relatively flat lying to shallow dipping terrain near to the height of land, negating colluvial contribution to geochemical results. A significant portion of the mapped exposures could be classified as eluvium owing to loose debris weathered in place.

While efforts were made to position the soil lines as distal as possible from the trench areas there exists the potential for bias based on soil relocation from ground disturbance. The results for base and precious metal geochemistry however minimize this as a factor for consideration.

Phase II

Diamond Drilling

The orientation of the seven drill holes was designed in part to test the high grade gold intercept zone encountered in IR08-006 at the O-ray showing, and develop strike, depth, and lateral extensions of that zone.

Screen metallic assays performed on the core samples in 2008 showed the gold to lie within a fraction size of 140+microns and -140microns. Detection of this sizing and the free nature of the gold prompted an emphasis on core recovery, a facet of the 2008 drill program that was compromised. The increase in core size from NQ to NQ2 and a reduction in core barrel length resulted in excellent recovery.

All of the 2009 drill holes were sampled in entirety.

Holes IR09-021, IR09-022, and IR09-023 were drilled due east, with IR09-021 and IR09-022 terminated just beyond the eastern contact of the IMFZ and Middle Aldridge formation metasediments.

IR09-023 is a sub-vertical hole testing the alteration assemblage along the western contact of the IMFZ.

IR09-024 was collared within the IMFZ and drilled south to test the alteration assemblage along the western hanging wall contact.

The easternmost hole was IR09-025. The deepest hole of the 2009 program, it was designed to exploit gold and IOCG potential east of the IMFZ and at depth.

Drill holes IR09-026 and IR09-027 were collared from the same drill pad. IR09-026 was drilled to the northwest through the 2008 gold zone, while IR09-027 vectored west in an attempt to extend southern strike length.

The following figure shows the orientation of the drill holes along section line 4790N. Holes IR09-024,025, 026, and 027 are off section with the subsurface trace included onto section.

DDH Hole Summaries

IR09-021 Drilled at -55° approximately 9.6 metres west of IR08-006/IR08-007, this drill hole attempted to extend at depth the IR08-006 gold zone. IR09-021 was marginally elevated in Au within a strong altered clay gouge interval from 35.15-35.71m yielding 0.06 gm/t Au over a 0.56m drill width. Laterally this locale is approximately 5.0m from the IMFZ.

The assays infer a decrease in gold content with depth as reflected in the overlying drill hole IR08-007 which returned 0.18 gm/t Au over one metre near the IMFZ/alteration zone interface.

As anticipated there were no changes to major lithologies and the order of emplacement, but IR09-021 encountered the IMFZ much earlier than anticipated. This westerly shift of the IMFZ is on the order of ten metres and is in keeping with the structural geometry delineated to the north and the south by drill intercepts from the 2008 drill program.

Summary

Structure: Angle to core axis measurements on narrow, centimetre scale gouge sections are synthetic with bedding angles in the upper portion of the metasediments. There is a discordant shift in both gouge and brittle fracturing of 20-30 degrees within the IMFZ, with a resumption to bedding approximate angles at depth. Consistent with this are numerous similar scale gouge intervals throughout the gabbro.

Lithology: The upper half of this 71.0m drill hole consists in large part of a rhythmic succession of medium to locally thick bedded siltite and quartzite. The presence of two

narrow, sub-metre intervals of iron oxide at 27.95m marks the transition to the IMFZ. Primary lithologies give way to alteration products of albite and lesser silica flooding beginning at 33.4m which persists to the contact with altered gabbro at 42.0m. The iron oxide zone is extensive, forming a 13.3m drill section from 43.7- 57.0m. The lower contact is typically albitized over 1.8m, then underlain by siltite to the base of the hole.

Alteration: Regional grade metamorphism and proximity to the IMFZ has imparted sericite alteration to the succession of metasediments up to 30.0m. Albitization and lesser silica with localized clay gouge sections mark the influence of the iron range structure. The gabbro immediately overlying the iron oxide is chloritized with secondary silica, the latter a function of the dominant alteration feature in the underlying iron oxide. Hematite and lesser magnetite in a brecciated, silica bound framework typify this section. Albitized metasediments over 1.8m mark the transition to moderately altered siltite to the base of IR09-021.

IR09-022- This drill hole was positioned in an attempt to trace the azimuth and dip of IR08-006. Digitally corrected GPS coordinates of the drill collars show that both holes share the same easterly coordinate but IR08-006 is 2.40m to the south. Downhole surveys agree as to the hole angle at -45° yet differ with azimuth with IR08-006 drilled more southerly by 11 degrees. The difference translates to a downhole north-south separation of approximately 6.5 metres. This essentially designates IR08-006 and IR09-022 as separate drill holes.

As anticipated, IR09-022 yielded the highest gold values of the 2009 drill program. The highest gold value at 7.53 gm/t however was from 9.83-10.83m, not laterally adjacent to the high gold grade zone in IR08-006. This section, from 20.20-21.94m generated .078 gm/t over 1.74m. A lowermost interval from 32.45-33.55m yielded 2.05 gm/t. The tenor and positioning of the Au mineralization is discussed further in *Geochemistry*.

Summary

Structure: Bedding orientation displays a shift from near normal to core axis (TCA) at the upper portion of the hole to approximately 45 degrees TCA near the base. Basal bedding shift is in proximity to a gabbroic intrusive which may have had a proximal influence to bedding during syngenetic emplacement. Contributing to this is recent structural movement as noted by the gouge at the interface with the metasediments.

The intersection of the iron oxide is in keeping with the inferred sub-vertical habit of the IMFZ. *Lithology:* The hole is characterized by typical Middle Aldridge metasediments consisting of incomplete Bouma cycle turbidites. Siltite dominates the section with secondary quartzite. Iron oxide in the form of brecciated, variably albitized fragments occupies the upper, mid, and lower portions at 19.88-21.98m, 28.47-39.23m (6.77m massive and competent FeOx from 28.47-35.24m), and 39.47-40.01m. The mid and lower intervals are bound and cored by gabbro.

Alteration:

Sericitization and albitization dominate the alteration assemblages within IR09-022. Associated alteration members include chlorite and silica, respectfully. This is typical within the Iron Range structure and is noted here as albite and silica in association with

strongly altered quartzose and siltite metasediments. Peripheral to the alteration zone, sericite is primarily a function of regional metamorphic gradient. Chlorite is lesser and selective to altered gabbro.

IR09-023-This -85 degree angle hole was designed to parallel the hanging wall IMFZ alteration zone. The shortest of seven holes, IR09-023 displayed textures consistent with significant structural influence.

Gouge to brecciation characterized the section, affecting the Middle Aldridge siltites and quartzites with the latter occupying the lower portion of the hole. Nearly twenty percent of the hole is based by gabbro, representing 8.7m which marks the contact with the IMFZ, as intercepted in IR09-021. Given the subsurface occurrence of iron oxide proximally to the west and east in conjunction with an appreciable intercept of underlying gabbro in IR09-025, this basal gabbro is inferred to be a subvertical extension of a larger underlying body. The surface manifestation is unclear however, owing to the extensive texture destructive alteration.

IR09-023 exemplifies the sporadic nature of gold mineralization. With a weighted average of 0.30 gm/t over 4.07m from 15.33-19.4m, the tenor is biased by a lowermost one metre sample. Similarly, 0.39 gm/t was recorded from 35.22-36.22m followed by 0.07 gm/t from 37.22-38.20m.

Summary

*Structure:*The gabbro/fault gouge contact is in near alignment with the core axis which supports the inference that the intrusive may be subvertical in orientation. Bedding contacts approximate 70 degrees TCA which is in the order of bedding attitudes seen proximally, if not slightly steeper. The majority of the section is compromised in the form of brecciation to fractured intervals.

*Lithology:*Siltite exceeds the upper forty percent of the section with the remainder predominated by gabbro and iron oxide with lesser quartzite. The volume of gabbro is a function of proximity to the IFMZ in which metasediments are altered and replaced by what are deemed to be late stage intrusive activity and iron oxide emplacement.

*Alteration:*Sericite is specific to the siltite, primarily a regional attribute. Albitization has affected the quartzite which is cored by iron oxide, and secondarily by silica. Chlorite is a minor component but enhanced in relation to gabbro.

IR09-024 - This northernmost hole collared within the IMFZ. Drilled south, the section is dominated by iron oxide punctuated by intervals of brecciated metasediments within a silicic framework. Meteoric waters have imparted chemistry for abundant limonitic alteration and oxidation of minor sulphides rendering a vuggy texture in part. Alteration is considerable, typified by a narrow central portion of altered gabbro which consists of albitized fragments, silica, magnetite and hematite. Gold mineralization is lowermost in relation to the previous reported holes with a high of 0.10 gm/t Au over 1.0m from 41.90-

42.90m. The host is a brecciated, silica framework lower iron oxide unit that is comprised in part by chloritized clasts.

Near detection limits of .05 g/t Au were realized over 2.0m from 38.90-40.90m. The same was returned from 46.9-48.9m, with a marginally higher value of 0.06 g/t from 60.83-61.83.

Summary

Structure: Lithologic and iron oxide-lithology contacts disclose the crosscutting nature of the iron oxide breccias with a 15-25 degree discordance. The entire drill section is characterized by a brecciated fabric with minor intervals of massive iron oxide. The central portion of the hole intersected brecciated to locally massive iron oxide over 30 metres, exiting into a texture destructive alteration assemblage of albitized and chlorite altered metasediments and inferred remnant gabbro. The underlying metasediment contact disclose the westerly offset of the IMFZ at depth, as verified by IR09-021 whose lower iron oxide/metasediment contact is to the west approximately 5-7 metres.

Lithology: Collared in iron oxide, this lithology persisted to 7.5m punctuated by 2.3m of argillite followed by iron oxide to 10.5m. Brecciated Middle Aldridge siltstone and lesser quartzite underly this upper iron oxide zone to 28.1m. The metasediments display albitite and chlorite alteration in association with locally abundant iron oxide and oxidized sulphide vugs. The remainder of the hole is predominated by iron oxide, separated at 62.7m with a 4.3m brecciated siltite interval. The upper contact of the siltite marks the base of a 3.8m section of massive iron oxide which is inferred as the core of a mylonitic zone framed by localized cataclastic breccias. The basal 4.5m is comprised of chloritic wisps and random quartzite clasts within a brown to green cataclastic fabric whose parent material may have been gabbro.

Alteration: Hematite with secondary magnetite and net textured silica characterizes the iron oxide interval. Albitization of the metasediments is abundant to locally pervasive with secondary silica and lesser chlorite. Sericite is typically overprinted with exception to a minor interval from 27-28m.

IR09-025 - The longest drill hole of the 2009 program at 159.7m, IR09-025 was designed to test for gold mineralization on the eastern flank of the IMFZ and IOCG potential at depth. The screen metallic analysis returned one uppermost gold value of 0.11 gm/t from 143.5-144.5m in sample IR09025-144.

This locale is central to upper and lower bounding gabbroic contacts at 140.5m and 148.4m, respectively. The auriferous sample area is contained within a brecciated interval consisting of albitized siltite and quartzite clasts, iron oxide fragments, variably semi-massive, with local strong limonite-goethite alteration. This 8.0m interval is viewed as being a sub-vertical expression of the IMFZ. Atypical however are significant thicknesses of gabbro, with a known drill width of approximately 27 metres overlying the alteration zone and an indeterminate thickness below as the hole was terminated in gabbro.

Iron oxide occurs at a position much higher than anticipated, as explained in the following Hole Summary.

Summary

Structure: IR09-025 only intersected iron oxide to the east of the main IMFZ, at a depth inconsistent with a sub-vertical projection. Brecciated iron oxide of less than a metre at 69.25m, underlain by 7.0m of lamprophyre followed by 6.5m of iron oxide brecciation translates to a 20 metre easterly shift of the iron oxide, or a separate sub-vertical body. The former is favoured since the iron oxide does not manifest on surface, and opposing bedding measurements occur proximally above the iron oxide and 10 metres below. The lower bedding shift immediately precedes an 11 metre section consisting of brecciated to fractured quartzite and siltite punctuated with abundant gouge containing clasts.

Lithology: From below casing siltite with minor interbedded quartzite comprises approximately half of the section, with narrow 1.5-3.0m gabbroic intrusives occurring in the upper third. The recognition of lamprophyre from 70.2-77.3m is in part a function of distance from the texture destructive IMFZ. A significant 9.0m band of quartzite with lesser siltite at 97.0m overlies a lesser section of siltite. These metasediments are underlain by a thick gabbro unit. The upper gabbro intrusives may be sills as there appears to be a lateral correlation through to IR09-021, 022, 023, and 024. This lower unit which is separated from the basal gabbro by 8.0m of albitized brecciation of metasediments lacks additional drill hole intersection for dyke or sill inference.

Alteration: Regional metamorphic grade has imparted sericite alteration independent of tectonic influence to the Middle Aldridge metasediments from collar to approximately 47.0m. The inclusion of synsedimentary gabbro intrusives has a local albitization effect. Alteration in the form of fractured to cataclastic textures consisting of albite with lesser chlorite occurs in relation to the iron oxide, as noted from 70.0-83.0m. Sericite is the major alteration product beyond this with secondary silica and or hematite/chlorite. The most significant section of alteration is from 140.5-148.5m in which a mélange of albitized metasediment clasts and iron oxide fragments, variably semi-massive, with local strong limonite-goethite alteration are replete with silica veinlets. This is the inferred sub-vertical projection of the IMFZ.

IR09-026 - Drilled from the same pad location as IR09-027, this northwest directed drill hole is the southernmost hole drilled into the O-ray zone, which lies approximately 30 metres to the north. Similar to IR09-025, the section consists of an iron oxide zone that does not manifest on surface and in this case to the west of the IMFZ. The order of offset is less, with an estimated 15 metres with the surface expression of the IMFZ. Screen metallic assay results were marginally above detection limit within a 3.95m interval from 63.90-67.85m. A weighted average of 0.06 gm/t Au was realized from four sample intervals, as follows: 63.9-64.85m consists of a brecciated siltite and quartzite clasts within a silicic and chloritized framework which is in contact with brecciated iron oxide consisting of 10-15% quartz. The remaining 3.0m of sample interval consists of this iron oxide.

Summary

Structure: Bedding attitudes reflect the influence of the IMFZ with a 20 degree shift from top of the hole to eastern flank of the IMFZ. This shift is accompanied by a 7.0 metre section of gouge from 23.7-30.7m. Where the drill hole transects the O-Ray zone on section, approximately 9.0 metres of gabbro occurs in place of where the iron oxide is inferred to be. The iron oxide is offset, occurring at the lower contact of the gabbro over 14.0 metres of drill length. The offset appears to be sinistral and on the order of approximately 10 metres. The lower iron oxide contact is characterized by 9.0 metres of brecciated metasediments with 5-15% magnetite and lesser hematite clasts within a healed quartz vein matrix. This is underlain by iron oxide of a similar thickness, with a shared offset of approximately 10 metres. The underlying gabbro displays considerable sections of gouge.

Lithology: Middle Aldridge quartzite with lesser siltite comprises the upper 28.0 metres of the section. A transitional hybrid of syngenetic gabbro forms the lower contact within a seven metre section of gouge in which the transition to gabbro is unclear owing to tectonic and dynamothermal influence of the IMFZ. A ten metre section of gabbro follows which forms the upper contact to an extensive, fourteen metre section of iron oxide. The estimated true thickness of the iron oxide providing a subvertical geometry exists is approximately ten metres. The most extensive section of brecciation within siltite and quartzite forms an eleven metre interval to the next iron oxide section. Gabbro bounds the lower contact over eleven metres followed by quartzite to the base of the hole.

Alteration: Sericitic and chlorite alteration dominates the Middle Aldridge metasediments proximal to the IMFZ, but is overprinted within the zone by albite and lesser silica. The latter is prominent within the iron oxide breccia zones. Chloritization accompanies alteration of the gabbro. Gouge sections are distinctly brown-yellow owing to limonite-goethite development and the oxidation of sulphides in part assisted by meteoric waters.

IR09-027- Drilled west at 275 degrees, IR09-027 was positioned to develop a southern strike extent of the O-Ray gold zone and further delineate the geometry of the iron oxide structure. The drill hole intercepted the projected strike extent of the O-Ray zone approximately 30 metres to the south and at 20 metres total vertical depth yet failed to intersect the IMFZ. Iron oxide was intersected east of the IMFZ at an elevation approximately 12 metres higher than anticipated. This may represent a subparallel iron oxide zone. A zone similar in thickness occurs in IR09-025, the lateral continuity of which is N-NE from IR09-027 and consistent with a sub-vertical expression. This orientation and angle approximates that of the regional trend of the IMFZ.

Geochemical analysis failed to detect gold values above the detection limit of 0.03 gm/t with the exception of sample IR09027-026. This 1.0m sample from 31.1-32.1m generated 0.07 gm/t Au. The sample area is near the base of the iron oxide zone and consists of a brecciated, heterolithic siltite and hematitic iron oxide with quartz veining, lesser albite, and chlorite alteration.

Summary

Structure: Gouge within four .5-1.0m sections typify the section to 28.0m. Generally, bedding is compromised along basal contacts. The angle TCA is consistent with the shallow bedding attitudes outboard of the IMFZ implying bedding slip accommodation.

Brittle fractures are noted within the iron oxide zone at 39.5m and 44.6m which are discordant to bedding. Beyond this narrow cm-scale gouge sections are noted at attitudes in keeping with bedding angles. Notably, these are at the iron oxide/mPma contact and within the lowermost gabbro.

Lithology: Thin to medium bedded siltite and quartzite form the upper twenty-one metres underlain by five metres of strongly altered gabbro and lesser gouge. Consistent with adjoining lithologies, this alteration of gabbro precedes an extensive section of iron oxide just under fifteen metres thick to 35.4m. A similar thickness of beige to green breccia consisting of albite, chlorite, siltstone, and quartzite forms the lower contact. Iron oxide comprises less than 10% of the interval, typically as veins and veinlets. Textural and alteration changes follow with an increase in the size of iron oxide veins and the percentage of albite in a six metre interval of brittle fracturing. The effects of the IMFZ diminish with depth as Middle Aldridge quartzite and lesser siltite assume normal, competent, subplanar to planar bedding features. The base of the hole consists of 8.2m of unaltered equigranular, phaneritic gabbro.

Alteration: The typical alteration assemblages characterize IR09-027. Pervasive sericite and chlorite occurs in the upper twenty one metres within the metasediments, changing to iron staining and secondary chlorite through the transition from gouge to iron oxide. Silica and secondary albite with minor chlorite alteration dominate the iron oxide interval, followed by a shift to albitization with lesser silica, the latter in association with large iron oxide veins. The underlying change to quartzite is markedly fractured and healed with silica accompanied by lesser albite and minor chlorite. Siltite is affected by the transition to gabbro with chloritization and lesser sericite.

Geochemistry

Channel sampling

The 2009 channel sampling program yielded significant gold results in two of the three trenches.

The O-Ray Trench South yielded two continuous channel samples, MMIRR150 and MMIRR151, that generated 3.26gm/t Au and .21gm/t Au, respectively. Collectively this sample interval is 1.05 m in width from along the western edge of the IMFZ. The interval is characterized by a limonitic gouge with the upper value in part consisting of brecciated iron oxide with quartz stringers. Remnant albitization with minor chlorite forms the remainder within an indistinct lithological host.

This anomalous interval is positioned approximately due south of the subvertical projection of the high Au value from the 2009 drill program, 7.53 gm/t over 1.0m in IR09-022. The vertical and lateral projection is considered in relation to the strike and vertical orientation of the IMFZ.

The O-Ray Trench Main was similar in producing two significant, though not continuous, gold values.

Samples MMIRR056 and MMIRR059 generated .41 gm/t over 0.82m and .20 gm/t from a 0.32m channel sample, respectively. The host is a purple to black brecciated hematite-

magnetite-pyrite ironstone. This locale is considered as being within the IFMZ. The samples lie 1.5 m apart east to west.

Soil Sampling

Soil geochemistry produced four gold values of note. The upper anomalous values of 95 and 65 ppb are located on the inferred eastern flank of the IMFZ. Lesser values of 40 ppb in two samples occur to the west of the IMFZ, both near the end of their respective lines with one sharing the same line as the 65 ppb sample. These couplets fall within the mid to upper percentile range for the sample set. Although relatively low, the values serve to express gold ion mobility in relation to the IMFZ and somewhat distal to the O-Ray showing.

Diamond Drilling

Although the 2009 drill program failed to produce the bonanza style gold grades of the 2008 program, plots of elevated to significant Au values define a subvertical area lying within, and adjacent to the high grade gold zone of IR08-006.

The uppermost portion of IR09-022 produced the highest gold value at 7.53 gm/t from 9.83-10.83 m.

Atypically, this 1.0m interval is immediately underlain by 0.07 gm/t Au over 2.0m and overlain by a weighted average of 0.04 gm/t over 2.78 m. These anomalous values are exceeded greater than 100 times by the central 7.53 gm/t that represents just over 17 percent of the entire sample interval, a scenario which may be attributable to a nugget effect.

The significant assay intervals from IR09-022 and IR09-023 were re-sampled with a one-quarter split of the intervals sent in and analyzed utilizing screen metallic analytical technique. The original value of 7.53 gm/t from 9.83-10.83 m returned 22.5 gm/t Au on the duplicate analysis, consistent with the inference of a nugget effect.

As anticipated the interval laterally adjacent to the IR08-006 gold zone (20.0-27.0 m; 51.52 gm/t Au over 7.00 m) returned elevated gold. The analysis however yielded significant but only anomalous gold with a weighted average of .08 gm/t over 1.74m from 20.20-21.94 m. Reanalysis of this interval resulted in a weighted average of 0.08 gm/t Au over 1.40m from 20.20-21.60 m.

Texturally the corresponding intervals are similar with pervasive gouge, brecciation, and texture destructive alteration. The IR08-006 gold zone encompasses strongly altered albitized gabbro underlain by brecciated iron oxide, the latter hosting the anomalous gold within IR09-022.

The lowermost Au interval in IR09-022 is from 32.45-33.55 m, containing 2.05 gm/t Au. This is the second highest value returned from the 2009 drill program. The interval is within the inferred central portion of the IMFZ. The pronounced nugget effect is exemplified here when reanalysis resulted in less than detection limit over the 1.1m section.

Drill hole IR09-023 contains the widest, weighted average of 0.30 gm/t Au over 4.07 m. This interval lies approximately five metres to the west of the lowermost Au value in IR09-022. Reanalysis reduced the interval to 1.1m at 0.47 gm/t from 18.4-19.4 m.

CONCLUSIONS AND RECOMMENDATIONS

The 2009 Phase I and II exploration programs resulted in expansion of gold-bearing zones in the O-Ray showing area. Ongoing academic studies have outlined an age constraint which may have an affinity to felsic intrusives. Analogues to this association worldwide include significant economic deposits, as discussed below.

Channel samples from the O-Ray South returned significant values of 3.26gm/t Au and 0.21gm/t Au over a 1.05 m contiguous sample interval. The sample area is 35 metres south of the 2008 drill hole gold intercept. Drill hole IR09-022 intersected 7.53 gm/t Au over 1.0m (22.5 m gm/t on re-analysis) approximately 6.5 m south of 2008 intercept. These sections represent the first plausible correlation of significant gold grades on the Iron Range property. Both sections occur within the western flank of the IMFZ. Additionally, The O-Ray Main channel sampling generated values of .41 gm/t Au and .20 gm/t Au approximately 10 metres to the north. The 1.10 m intercept of 2.05 gm/t Au in the lower portion of IR09-022 extends the vertical extent of gold mineralization from approximately 20 to 30 metres.

As demonstrated by the reanalysis of the IR08-006 drill core, gold mineralization is erratic which renders correlation difficult, and/or inconclusive. Microscopic analysis of the gold shows that it is bound with quartz within a limonitic gouge. The level of emplacement is subject to meteoric waters and mechanical weathering which further affects stability. These conditions warrant high density definition drilling to a degree that equilibrates the statistical variation of the nugget effect.

An initial phase one drilling program utilizing NQ2 core is proposed. The phase one portion would occur simultaneously with a broad based field program designed to develop and investigate new and past recommended drill targets. A third phase of drilling in the O-Ray area would ensue should results of the phase one program warrant.

Phase I

Phase I includes a series of four close spaced drill holes over a 100 m strike length along the western flank of the IMFZ. The majority of the holes would be angled at 45 degrees on a 090 azimuth to maximize section coverage. Hole depth would average 50 m or a length sufficient to exit the eastern edge of the IMFZ. Drill pad spacing would be dictated in part by utilizing historic trenches which are on the order of 50m apart. The first drill hole would test the interval between the O-Ray Main and South trenches. This hole would serve to define the geometry of the IMFZ as it was not intersected as expected in IR09-027. A second hole will test the potential subsurface extent of the channel sample gold section in the O-Ray South trench. A third hole would move approximately 15 m south to define a potential southern strike extension. A fourth hole would be setup to the

north of the O-Ray Main near the collar of IR09-024 and drilled west to test the northern strike extension of the IR08-006 gold zone.

The drilling phase would be continued in like fashion to develop a strike length to the mineralization should results warrant. The following proposed drill holes would utilize the time necessary to assay the drill core from the Phase I program.

Phase II

This phase incorporates data and recommendations from previous exploration programs and academic studies. M. Galicki in his oxygen isotope thermometry studies of the Iron Range derived a temperature range of 345-490 Celsius and a pressure range of 1.7-4.5kbar, indicative of moderate depths. This initial work offered the nearby Mt. Skelly Pluton or Bayonne suite of felsic intrusives as possible heat sources within the IMFZ. Additionally, the Goat River and Iron Mountain carbonatite were included as possible heat sources as well. It should be mentioned that in the discussion of deformation episodes of the IMFZ by Brown and Stinson, cataclastic breccias and mylonitic textures are indicative of this deformation occurring at several kilometres depth.

Galicki's recent paleomagnetic age dating from 100 samples taken at 14 different locations along the IMFZ indicates a recent Cretaceous age date event.

The inference of moderate depths, and Cretaceous age dating defines a boundary well beyond the Proterozoic emplacement and deformation period of the IMFZ. The recent event is considered as a genetic origin for gold mineralization.

Felsic intrusives in proximity to or in contact with major iron oxide fault zones are known to generate significant copper-gold silver deposits. One example is the Candelaria deposit (470 Mt of 0.95% Cu, 0.22 gm/t Au, 3.1 gm/t Ag) in the Punta del Cobre District of Chile. Radiometric argon age dating for hydrothermal alteration points to a Cu-Au mineralization event which is coeval with batholithic granitoid intrusions and regional uplift. Here, NW faults and a major NE trending ductile shear zone control portions of the ore deposit. At shallower levels ore occurs in zones of biotite-k feldspar, or albite-chlorite +/- calcite alteration. The texture of the ores occur as veins, breccia, and stringer bodies.

In a discussion of paragenetic relationships at the Iron Range, Brown and Stinson detail the crosscutting relationships and order of mineral development. Quartz shear veins and lesser extensional veins cross-cut all other lithologies, and are multiphase as they cross earlier well developed silicified rocks (La Grande area). A note was made that these vein textures resemble the vein associations in mesothermal, shear hosted gold deposits and may have formed in similar conditions (Roberts, 1987). A comparison of similar deposit types show that copper, gold, silver, U, and REE at the Olympic Dam deposit were deposited late in the evolution of the breccias, after iron metasomatism and enriched by supergene processes.

The hydrothermal association, in conjunction with the structural and alteration features underpins the need for further gold exploration. It is recommended that the north central and northern portions of the claim area are the focus of a mapping, geochemical, and drilling program for gold mineralization.

The main focus of the program would be the recognition of major and minor structural features and trends which would interact with the IMFZ. Past work by Marshall, recommended the drill testing of a number of structural intersections. These included the junctures of the Black Bear, and Alder faults with the IMFZ, along with parallel silicic breccia zones such as the Crackle Breccia. Orthographic maps disclose a N-NE topographic grain which correlates with the trend of the Black Bear and Alder faults. Historic soil sampling by Eagle Plains Resources Ltd. has outlined a 1.0 km NW-SE oriented anomalous Au trend approximately 1500 m north of the O-Ray zone. This trend is analogous to the O-Ray in that it lies in part along the projected trace of a major splay, the Black Bear Fault. The locale is roughly 700 m east of the Iron Range structure, with the Golden Cap albite-silica breccia occurrence lying midpoint between the two. Drilling is proposed near the eastern edge of the Black Bear Fault to test the western end of the Au soil anomaly. Should visual alteration and structural features warrant, drilling would extend eastward to test the subsurface expression of the Golden Cap occurrence.

Drill hole IR04-003 attempted to drill the Black Bear/IMFZ juncture but failed to intersect it. It was felt that the hole was collared too far north of the intersection. Both the Black Bear and Alder faults are major N-NE splays off of the north trending regional scale Arrow fault, approximately 2 km to the west of the Iron Range fault. The projection of the Alder fault courses through immediately north of the O-Ray zone. The offset observed in the 2009 drill holes may reflect the influence of the Alder fault.

Occupying the wedge formed by the Alder/IMFZ intersection is a conspicuous aeromagnetic low with a coincident potassium high. Both features are consistent with moderate to intense sericite-albite-chlorite-calcite alteration, common on the western flank of the O-Ray showing. This elongate geophysical low lies to the west of the Maple Leaf occurrence and between the 2008 drillholes 008-011, inclusive. Stinson and Brown noted four parallel structures 5-40 m apart at the Maple Leaf area, enhancing the potential for fault-contact Au development. Structural mapping, a soil geochemical program, and scintillometer and magnetometer surveys should be employed in this area. The latter may aid to delineate any additional structural features that have undergone sericitic-biotitic alteration.

The Crackerjack breccia fault, a narrow crackle breccia parallel to and east of the IMFZ should be located as recommended in the 2005 Eagle Plains report (Downie) Structural and alteration mapping of major and lesser splays would utilize soil geochemistry to vector drill holes.

An additional 25 km² of ground to the north of the 2008 tenure boundary has recently been added. This prospective area encompasses the northern extension of the IMFZ, past placer workings, and mineral occurrences. These new holdings are in closer proximity to

felsic intrusives such as the Mt. Skelly pluton to the west and lesser stocks to the northeast. Due to the previous tenure boundary, this northern sector has not received detailed exploration in the past, from either ground or airborne studies.

Drill testing for gold mineralization would be comprised of approximately 4 relatively shallow (50-100m) NQ2 drill holes at the O-Ray zone, 2 similar length holes near the Maple Leaf to test the aeromagnetic low, and 1-2 holes west of the Golden Cap to test the Black Bear fault Au soil anomaly.

Should mapping and ground based geophysics delineate structures, the Black Bear/IMFZ would be considered for drill testing.

The southern portion of the property is prospective for precious and base metal SEDEX exploration. Reinterpretation of a 2004 VTEM survey by Condor Geophysics resulted in the delineation of a near surface, ovoid, relatively shallow west dipping conductor 1200m x 1600m in size. The southern edge of the conductor lies at the Lower-Middle Aldridge Formation contact (LMC), formally known as the Sullivan Horizon. The centre of this conductor lies 1.5 km west of the nearest drillhole (IR05-003), which returned visible galena, sphalerite, and arsenopyrite within a 25 metre interval. Gold assays returned 3.82 gm/t Au over 2m. The conductor should be drill tested and is consistent with further work recommendations from the 2005 report. Anticipated drill hole length for this target is 50-350m.

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