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Technical Report: 2019 Exploration Program

ON THE KWAI PROPERTY

UTM ZONE 15, GCS: NAD 1983
454500, 5622000
NTS 52K/12-13

PREPARED BY: GORDEY, ERIN AND MACKAY, GORDON
REPORT COMPLETED DATE, 2020-08-15 (*Amended 2020-10-28*)

Table of Contents

INTRODUCTION.....	1
LOCATION AND ACCESS.....	1
CLAIMS AND OWNERSHIP	2
PREVIOUS WORK.....	9
REGIONAL GEOLOGY.....	10
PROPERTY GEOLOGY	12
CHAPTER 1: GRASS ROOTS PROSPECTING.....	14
Introduction	14
Work Program.....	14
Conclusions and Recommendations	17
CHAPTER 2: GEOPHYSICS GROUNDWORK PROGRAM.....	18

Figures

Figure 1: KWAI Property- Regional Map	1
Figure 2: KWAI Work Program- Claim and Cell View	7
Figure 3: KWAI Property Scale Map with Local Features	8
Figure 4: Historical Laurentian Goldfields Airborne Mag and VLF Survey.....	9
Figure 5: Laurentian Goldfields/Goldpines Interpreted Geology	11
Figure 6: Plan map of investigated access route to West Pakwash Fault and Magnetic Areas of Interest	15
Figure 7: Plan map of investigated access route to East Pakwash Fault and Magnetic Areas of Interest	16
Figure 8: KWAI 2019 Geophysics Ground Work Program- IP grids.....	18
Figure 9: KWAI 2019 Geophysics Ground Work Program: MAG VLF with Interpreted Fault	20

Tables

Table 1: KWAI Property Multi-cell Claims List.....	6
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Appendix A: Statement of Qualifications

Appendix B: Ground Geophysics Survey Report

INTRODUCTION

This report presents and summarizes the results of the 2019 work program on the Kwai property. As per the requirements of ENDM's 2018 Technical standard on Assessment work Reporting, there is a separate chapter for each type of eligible assessment work types, including *grassroots prospecting* and *ground geophysical work*. Also included is the over-arching introduction including location and access, previous work, regional geology, and, property geology. All work was conducted on the Kwai property, in the Cabin Bay and Dixie Lake areas of the Red Lake Mining District. Fieldwork was completed by Wayne Holmstead, P.Geo, Andreas Lichblau, P.Geo, and, Gordon MacKay, P.Geo,

LOCATION AND ACCESS

The Kwai property is in the Red Lake area, approximately 38 kilometres south of Red Lake and 30 kilometres west of Ear Falls, in the Red Lake Mining Division, NTS sheet 52K/12 and 52K/13. Access on to the property was by truck on the Dixie Lake Forest Road which crosses the northern portion of the property (see figure 4: Kwai Property Scale Map). Within the property, access is by truck and ATV on secondary and tertiary forest roads maintained by the Red Lake Forest Company working under the Algoma Forest Management Unit. The Dixie Lake Forest road crosses onto the Kwai property ~13km south of junction with Highway 105. The junction at highway 105 is ~35 kilometres northwest of Ear Falls.

KWAI Property- Regional Map

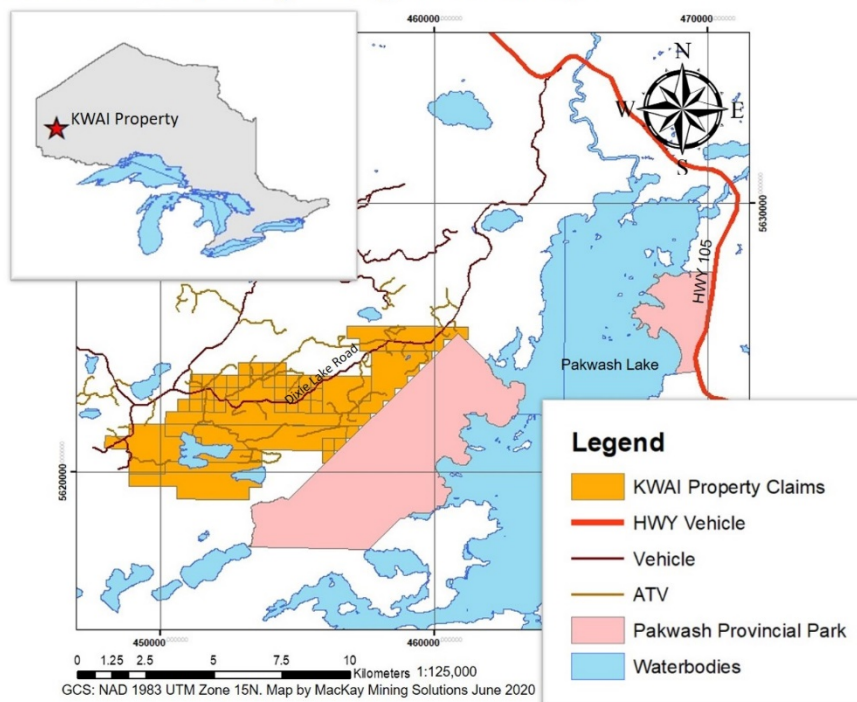


Figure 1: KWAI Property- Regional Map

CLAIMS AND OWNERSHIP

The Kwai property consists of 41 contiguous staked single and multi-cell claims (178 cells), comprising approximately 3,800 hectares (Figure 3). A multi-cell claims- list can be found in Table 1 below.

Property	Township/Area	Tenure ID	Cell Unit Key	Anniversary	Annual Work Required	Total Reserve
KWAI	Cabin Bay Area	530311	52K13B355	2020-08-29	\$400.00	\$0.00
			52K13B374		\$400.00	\$0.00
			52K13B375		\$400.00	\$0.00
			52K13B376		\$400.00	\$0.00
			52K13B393		\$400.00	\$0.00
			52K13B394		\$400.00	\$0.00
			52K13B395		\$400.00	\$0.00
			52K13B396		\$400.00	\$0.00
			52K12J008		\$400.00	\$0.00
			52K12J009		\$400.00	\$0.00
			52K12J010		\$400.00	\$0.00
			52K12J011		\$400.00	\$0.00
			52K12J012		\$400.00	\$0.00
			52K12J013		\$400.00	\$0.00
			52K12J014		\$400.00	\$0.00
			52K12J015		\$400.00	\$0.00
			52K12J016		\$400.00	\$0.00
			52K12J017		\$400.00	\$0.00
			52K12J018		\$400.00	\$0.00
			52K12J019		\$400.00	\$0.00
			52K12J020		\$400.00	\$0.00
52K12L001	\$400.00	\$0.00				
52K12L002	\$400.00	\$0.00				
52K12L003	\$400.00	\$0.00				
52K12L004	\$400.00	\$0.00				
KWAI	Cabin Bay Area	530312	52K12J028	2020-08-29	\$400.00	\$0.00
			52K12J029		\$400.00	\$0.00
			52K12J030		\$400.00	\$0.00
			52K12J031		\$400.00	\$0.00
			52K12J032		\$400.00	\$0.00
			52K12J033		\$400.00	\$0.00
			52K12J034		\$400.00	\$0.00
			52K12J035		\$400.00	\$0.00
			52K12J036		\$400.00	\$0.00
52K12J037	\$400.00	\$0.00				

			52K12J038		\$400.00	\$0.00
			52K12J039		\$400.00	\$0.00
			52K12J040		\$400.00	\$0.00
			52K12J051		\$400.00	\$0.00
			52K12J052		\$400.00	\$0.00
			52K12J053		\$400.00	\$0.00
			52K12J054		\$400.00	\$0.00
			52K12J055		\$400.00	\$0.00
			52K12J056		\$400.00	\$0.00
			52K12J057		\$400.00	\$0.00
			52K12J058		\$400.00	\$0.00
			52K12J059		\$400.00	\$0.00
			52K12J060		\$400.00	\$0.00
			52K12L021		\$400.00	\$0.00
			52K12L022		\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake Area	530903	52K13A263	2020-09-07	\$400.00	\$0.00
			52K13A264		\$400.00	\$0.00
			52K13A265		\$400.00	\$0.00
			52K13A266		\$400.00	\$0.00
			52K13A267		\$400.00	\$0.00
			52K13A268		\$400.00	\$0.00
			52K13A269		\$400.00	\$0.00
			52K13A270		\$400.00	\$0.00
			52K13A271		\$400.00	\$0.00
			52K13A272		\$400.00	\$0.00
			52K13A284		\$400.00	\$0.00
			52K13A285		\$400.00	\$0.00
			52K13A286		\$400.00	\$0.00
			52K13A287		\$400.00	\$0.00
			52K13A288		\$400.00	\$0.00
52K13A289	\$400.00	\$0.00				
52K13A290	\$400.00	\$0.00				
KWAI	Cabin Bay/Dixie Lake Area	530908	52K13A305	2020-09-07	\$400.00	\$0.00
			52K13A306		\$400.00	\$0.00
			52K13A307		\$400.00	\$0.00
			52K13A308		\$400.00	\$0.00
			52K13A309		\$400.00	\$0.00
			52K13A325		\$400.00	\$0.00
			52K13A326		\$400.00	\$0.00
			52K13A327		\$400.00	\$0.00
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			52K13A346		\$400.00	\$0.00

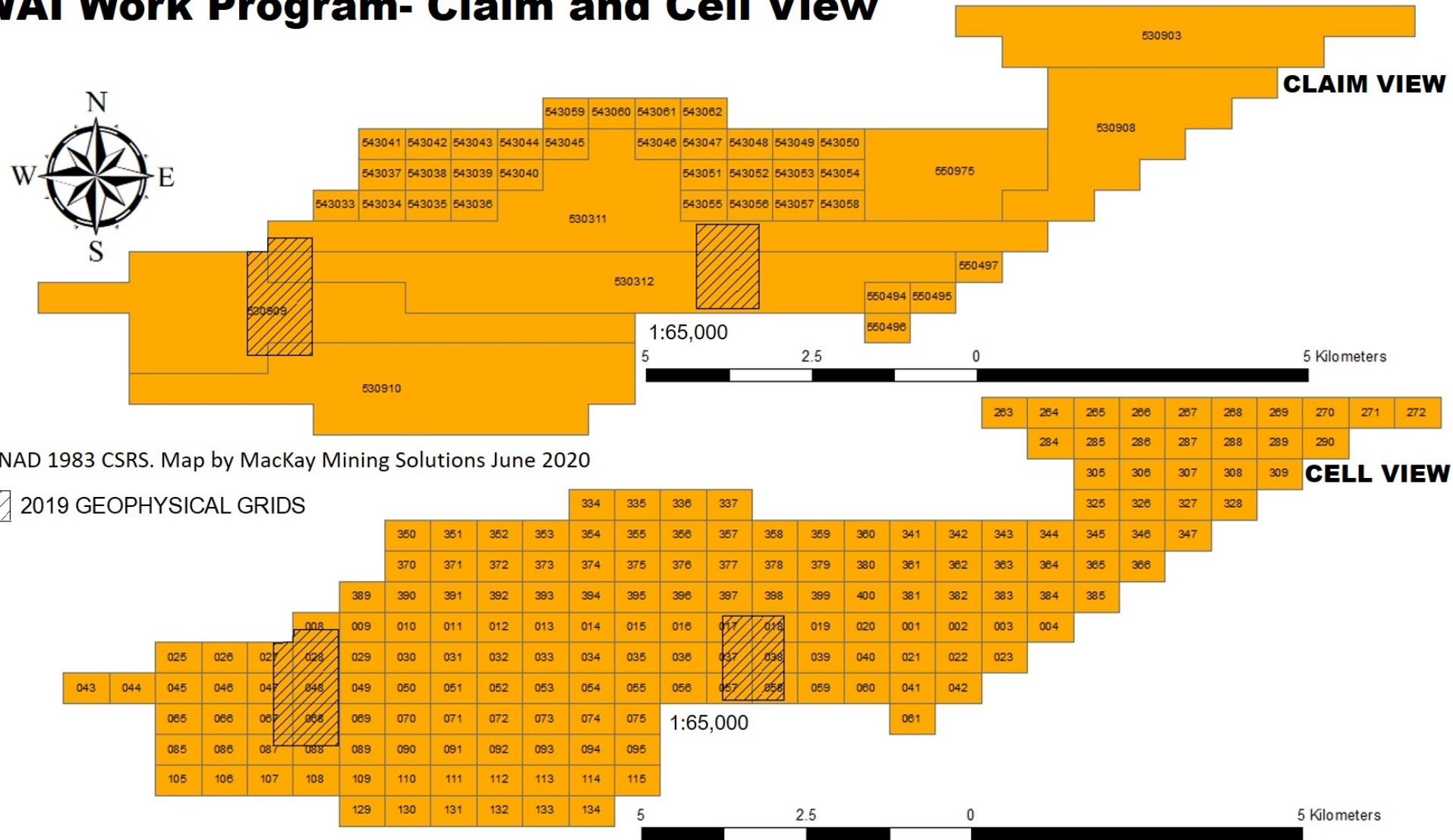
			52K13A347		\$400.00	\$0.00
			52K13A365		\$400.00	\$0.00
			52K13A366		\$400.00	\$0.00
			52K13A384		\$400.00	\$0.00
			52K13A385		\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake Area	530909	52K12J025	2020-09-07	\$400.00	\$0.00
			52K12J026		\$400.00	\$0.00
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			52K12J043		\$400.00	\$0.00
			52K12J044		\$400.00	\$0.00
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			52K12J046		\$400.00	\$0.00
			52K12J047		\$400.00	\$0.00
			52K12J048		\$400.00	\$0.00
			52K12J049		\$400.00	\$0.00
			52K12J050		\$400.00	\$0.00
			52K12J065		\$400.00	\$0.00
			52K12J066		\$400.00	\$0.00
			52K12J067		\$400.00	\$0.00
			52K12J068		\$400.00	\$0.00
			52K12J069		\$400.00	\$0.00
			52K12J070		\$400.00	\$0.00
			52K12J071		\$400.00	\$0.00
			52K12J072		\$400.00	\$0.00
			52K12J073		\$400.00	\$0.00
52K12J074	\$400.00	\$0.00				
52K12J075	\$400.00	\$0.00				
52K12J085	\$400.00	\$0.00				
52K12J086	\$400.00	\$0.00				
52K12J087	\$400.00	\$0.00				
KWAI	Cabin Bay/Dixie Lake Area	530910	52K12J088	2020-09-07	\$400.00	\$0.00
			52K12J089		\$400.00	\$0.00
			52K12J090		\$400.00	\$0.00
			52K12J091		\$400.00	\$0.00
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			52K12J107		\$400.00	\$0.00
			52K12J108		\$400.00	\$0.00
52K12J109	\$400.00	\$0.00				

			52K12J110		\$400.00	\$0.00
			52K12J111		\$400.00	\$0.00
			52K12J112		\$400.00	\$0.00
			52K12J113		\$400.00	\$0.00
			52K12J114		\$400.00	\$0.00
			52K12J115		\$400.00	\$0.00
			52K12J129		\$400.00	\$0.00
			52K12J130		\$400.00	\$0.00
			52K12J131		\$400.00	\$0.00
			52K12J132		\$400.00	\$0.00
			52K12J133		\$400.00	\$0.00
			52K12J134		\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543033	52K13B389	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543034	52K13B390	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543035	52K13B391	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543036	52K13B392	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543037	52K13B370	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543038	52K13B371	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543039	52K13B372	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543040	52K13B373	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543041	52K13B350	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543042	52K13B351	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543043	52K13B352	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543044	52K13B353	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543045	52K13B354	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543046	52K13B356	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543047	52K13B357	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543048	52K13B358	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543049	52K13B359	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543050	52K13B360	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543051	52K13B377	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543052	52K13B378	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543053	52K13B379	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543054	52K13B380	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543055	52K13B397	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543056	52K13B398	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543057	52K13B399	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543058	52K13B400	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543059	52K13B334	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543060	52K13B335	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543061	52K13B336	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	543062	52K13B337	2021-02-21	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	550494	52K12I041	2021-05-29	\$400.00	\$0.00

KWAI	Cabin Bay/Dixie Lake	550495	52K12I042	2021-05-29	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	550496	52K12I061	2021-05-29	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake	550497	52K12I023	2021-05-29	\$400.00	\$0.00
KWAI	Cabin Bay/Dixie Lake Area	550975	52K13A341	2021-05-29	\$400.00	\$0.00
			52K13A342		\$400.00	\$0.00
			52K13A343		\$400.00	\$0.00
			52K13A344		\$400.00	\$0.00
			52K13A361		\$400.00	\$0.00
			52K13A362		\$400.00	\$0.00
			52K13A363		\$400.00	\$0.00
			52K13A364		\$400.00	\$0.00
			52K13A381		\$400.00	\$0.00
			52K13A382		\$400.00	\$0.00
			52K13A383		\$400.00	\$0.00

Table 1: KWAI Property Multi-cell Claims List

KWAI Work Program- Claim and Cell View



GCS: NAD 1983 CSRS. Map by MacKay Mining Solutions June 2020

Figure 2: KWAI Work Program- Claim and Cell View

KWAI: PROPERTY SCALE MAP WITH LOCAL FEATURES

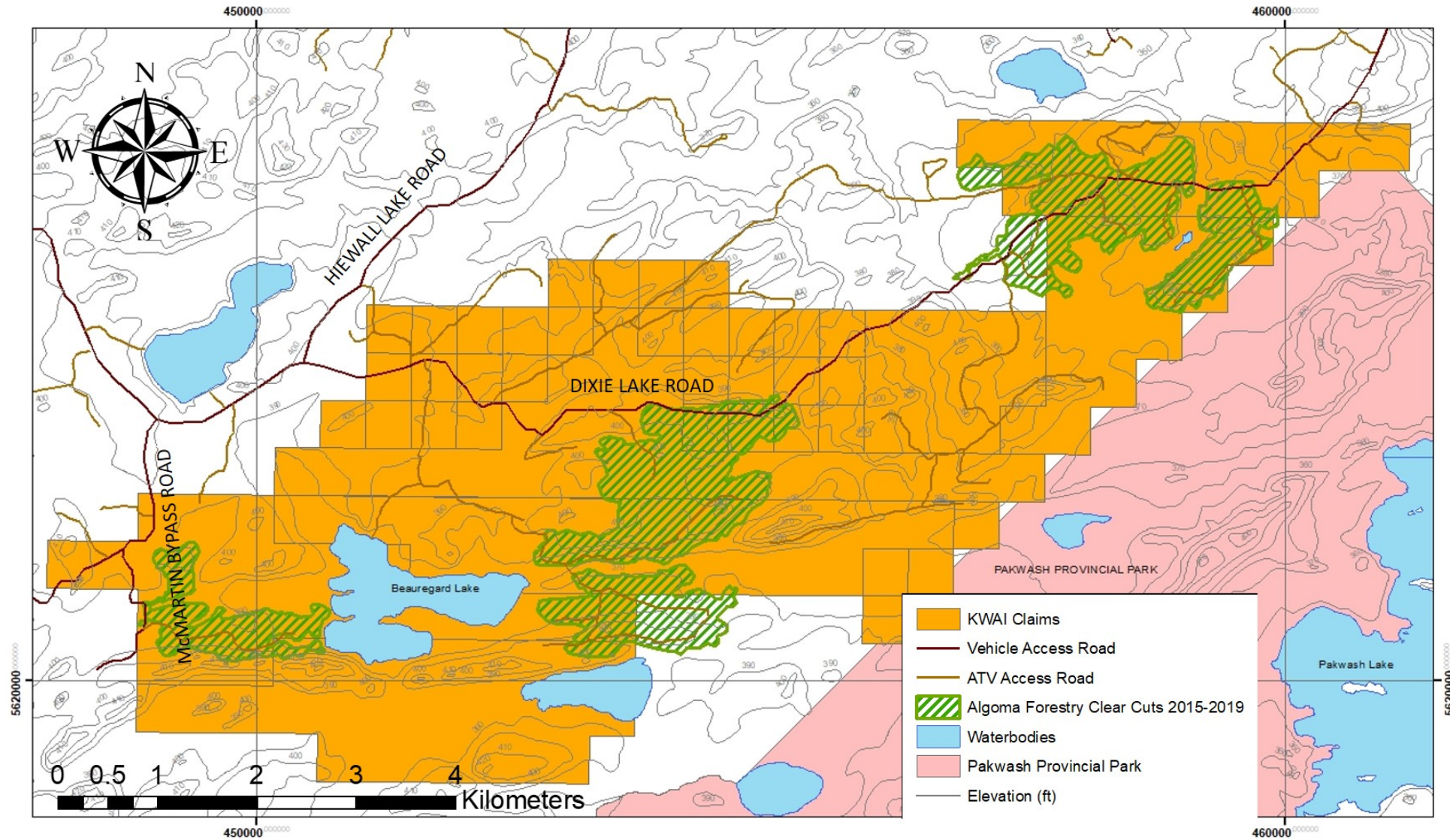


Figure 3: KWAI Property Scale Map with Local Features

PREVIOUS WORK

The Kwai Property has no documented exploration previous to the work by Laurentian Goldfields Ltd. described below, according to the data available in the assessment files archived with the Ontario Ministry of Energy, Northern Development and Mines on the MENDM website: (www.geologyontario.mndm.gov.on.ca/). Most of the previous work in the area has focused on the Dixie Zone area currently being explored by Great Bear Resources and BTU Metals, about 10 km to the north.

2010: Laurentian Goldfields Ltd. staked a large property (approximately 22,940 ha) in the area from December 2009 to January 2010 following the delineation of a large hydrogeochemical anomaly over Pakwash Lake. The property was several times the size of the current Property and most of it was not covered by the current Property.

Initial work on the property consisted of a high resolution, airborne magnetic and VLF-EM survey completed in March 2010. Phase 2 of the project included comprehensive soil and lake sediment sampling as well as a property-wide mapping and prospecting program, which systematically targeted structures and lithological contacts interpreted from magnetic susceptibility mapping.

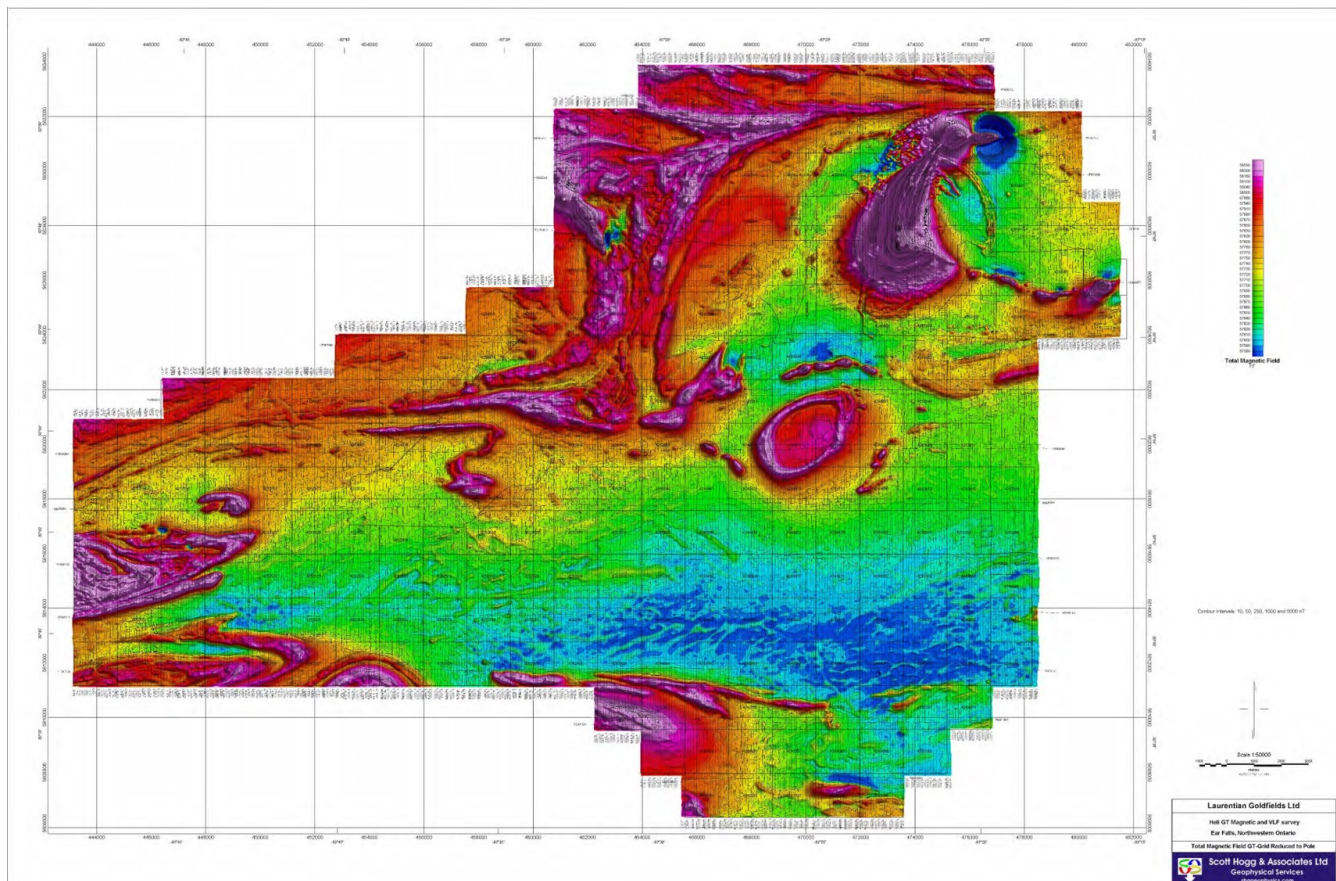


Figure 4: Historical Laurentian Goldfields Airborne Mag and VLF Survey

Prospecting in the western portion of the property recovered slightly anomalous Au samples from within the granodiorite pluton. A grab sample of a pyrite-bearing quartz vein occurring in the granodiorite contained 243ppb Au. Fifty six (56) channel samples were reportedly collected from the nearby Kwai trench on Golden Goliath's Property, (Render et al. 2010), however, the assays and certificates for these samples were not included in Laurentian's 2010 report, and therefore the authors cannot report on any of the results.. This area also reported "some of the most extensive high gold response ratio anomalies defined by the detailed MMI (mobile metal ion) soil sampling survey."¹

2011: In the winter of 2011, Laurentian drilled 9 holes on the ice on Pakwash Lake to test a large lake sediment gold and pathfinder element anomaly, however this part of their property is not covered by the current Property, and of 836 samples taken for assay, the high value was 40 ppb, with the rest averaging slightly above detection limit.²

The drill program was followed up by further MMI soil sampling and rock sampling over nine grids on their property, including over the Kwai area on Golden Goliath's Property. The purpose of this sampling was to better define the anomalies by sampling on tighter spacing in order to infill the wider spaced sampling done in 2010. The work was reported to have helped in further defining the gold mineralization in the Kwai area, although it was stated that further work was required to "validate these targets to drilling status."³

2012: In the fall of 2012 Laurentian conducted further soil and rock sampling utilizing three different analytical methods as provided by Acme Analytical Laboratories; an ultratrace method with aqua regia digestion, partial leaching with sodium pyrophosphate and leaching with distilled water. The work was reported to be successful in validating the occurrence of the gold anomaly in the Kwai area, and further mapping and surface sampling of the Kwai area to better define subsurface targets was recommended as well as trenching in areas of limited glacial cover (Chiang and Labrenz, 2013). They also recommended drill testing of selected targets with wide-spaced shallow holes to test for large-scale alteration and/or mineralization.

REGIONAL GEOLOGY

Derived from Render et al (2011)⁴.

The Kwai Property lies within the Superior Province, straddling the suture zone between the eastwest trending, Mesoproterozoic North Caribou and Winnipeg River Terranes to the north and south respectively.

¹ Render, M., Meade, S.R., Lengyel, J.W.P., 2011. Goldpines North Property Drilling Report, Ear Falls Area, Ontario, Canada; prepared for Laurentian Goldfields Ltd. AFRI 20011328.

² Render et al. (2011)

³ Chiang, M., and Rennie, C., 2013. Goldpines North Property Summer 2011 Exploration Report, Ear Falls Area, Ontario, Canada; prepared for Laurentian Goldfields Ltd. AFRI 20011980

⁴ Render et al. (2011)

More specifically, the property is underlain by rocks assigned to the Uchi subprovince of the North Caribou terrane in the north, and the English River subprovince in the south.

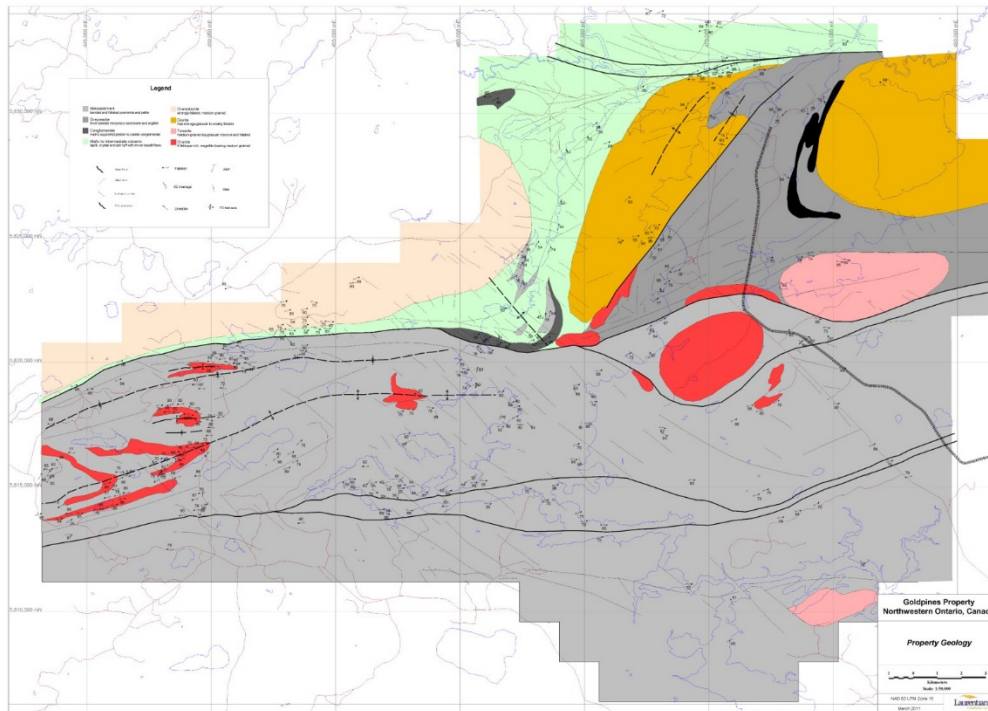


Figure 5: Laurentian Goldfields/Goldpines Interpreted Geology

The Uchi subprovince is a chain of greenstone belts characterized by strongly deformed successions of supracrustal rocks and intrusive complexes formed over protracted periods of rifting and arc magmatism. The Uchi subprovince is one of the more prolific mineral belts in the Superior Province, hosting several major deposits including the world-class Red Lake gold camp. The stratigraphy of the Uchi subprovince indicates that rifting began ca. 2.99 Ga, followed by juvenile and continental arc magmatism at 2.94-2.91, 2.90-2.89, 2.85 and 2.75-2.72 Ga (Percival, 2007). The youngest rocks in the belts are typically coarse clastic sediments that locally contain detrital zircons as young as 2.703 Ga. These strata may be facies equivalents of the marine greywacke successions of the English River subprovince to the south.⁵

Multiple regional deformation events have affected the greenstone belts in the Uchi subprovince, producing steep south-dipping composite fabrics. These are constrained by age dating as pre-2.74, 2.73, 2.72 and 2.70 Ga. Regionally, gold mineralization is found to be associated with structures formed prior to 2.712 Ga and with late-stage gold localization after 2.701 Ga.⁶

The North Caribou terrane is separated from the Winnipeg River terrane to the south by a narrow eastwest trending belt of metasedimentary rocks known as the English River subprovince. These rocks underlie the southern edge of the Kwai property. They are described regionally as migmatite and

⁵ Percival, J.A., 2007, Geology and metallogeny of the Superior Province, Canada, in Goodfellow, W.D., ed., Mineral Deposits of Canada: A Synthesis of Major Deposit Types, District Metallogeny, the Evolution of the Geological Provinces, and Exploration Methods; Geological Association of Canada, Mineral Deposits Division, Special Publication No. 5, p. 903-928.

⁶ Percival et al. (2007)

diatexite, since much of the belt has been subjected to middle amphibolite facies to low-pressure granulite facies (750-850°C at 0.6-0.7 MPa) metamorphism; however original sedimentary features are locally preserved. The sedimentary protoliths of the English River schists and migmatites are generally immature, turbiditic greywackes. The turbidites are interpreted to be syn-orogenic flysch successions that were deposited into a forearc basin and subsequently telescoped, forming an accretionary prism at the leading edge of the Winnipeg River terrane. Detrital zircon analysis indicates that the English River sediments were deposited between 2.705 Ga and 2.698 Ga, after cessation of volcanic activity in the adjacent arc terranes. Metamorphism of the sediments has been dated at 2.691 Ga, which was followed by intrusion of 2.65 Ga volatile-rich pegmatites.⁷

Structurally, the English River subprovince is characterized by a well-developed, east-west trending composite foliation fabric defined by migmatitic layering parallel to banding in the metasediment. The fabric is folded by a tight, upright, to weakly asymmetric, north-verging F2 fold system (Hrabi and Cruden, 2001). Macroscale F1 folds are locally identified by their interference with this regional fold system.

The English River subprovince is juxtaposed against the Uchi subprovince to the north by the Sydney Lake – Lake St. Joseph fault. This east-west trending brittle-ductile fault zone is up to 3km wide and is interpreted to be subvertical to steeply south-dipping. The fault is estimated to have a dextral transcurrent displacement of about 30km and a south-side-up vertical displacement of about 2.5 km.⁸ The timing of movement on the fault zone is constrained by an offset marker that is dated to 2.68 Ga.⁹ (Bethune et al., 2000).

PROPERTY GEOLOGY

As derived from Render et al.^{10,11}

Uchi Subprovince

Rock units assigned to the Uchi subprovince occurring in the Kwai Property include mafic to intermediate volcanic rocks and fine-grained, bedded volcanoclastic rocks. Clastic sedimentary rocks that lie north of the Pakwash Lake Fault zone are assigned to the Uchi subprovince because they are texturally different from the metasedimentary rocks of the adjacent English River subprovince to the south. These sedimentary successions are very similar in composition and may represent facies equivalents that have been juxtaposed during orogenesis.

⁷ Percival et al. (2007)

⁸ Stone, D., 1981, The Sydney Lake fault zone in Ontario and Manitoba, Canada. Ph.D. thesis: University of Toronto, Toronto Canada.

⁹ Bethune, K., Helmstaedt, H., and McNicoll, V.M., 2000, U-Pb geochronology bearing on the timing and nature of deformation along the Miniss River Fault; in Harrap, R.M., and H. Helmstaedt, H., eds., Western Superior Transect Seventh Annual Workshop: Lithoprobe Report 77, p 8-12.

¹⁰ Render, M., Meade, S.R., Lengyel, J.W.P., 2010. Goldpines North Property, Ear Falls Area, Ontario, Canada; prepared for Laurentian Goldfields Ltd. AFRI 20009807.

¹¹ Render, et al. (2011)

The sedimentary unit is dominated by gritty fine-grained sandstones and greywacke (containing up to 40% mica). In the north, the unit contains a thick succession of laminated argillite and interbedded argillite and greywacke. These strata host an ironstone succession that was exploited by the past producing

Griffith Iron Mine (Figure 5). A thin unit of cobble conglomerate occurs along the trace of the Pakwash Fault. The conglomerate contains rounded clasts of diorite to granodiorite that are supported in a fine-grained, thinly bedded, black matrix. Petrographic analysis of this unit indicates that the matrix may be volcaniclastic in origin. Interbedded volcanic and sedimentary rocks are observed locally suggesting that the two units were deposited contemporaneously. The sedimentary/volcanic succession is typically strongly foliated and contains metamorphic mineral assemblages including garnet, that are indicative of upper greenschist to lower amphibolite grade metamorphism. The supracrustal rocks are intruded by a granodiorite of undetermined age covering the majority of the north portion of the property.

English River Subprovince

Metasedimentary rocks of the English River subprovince underlie the southern part of the Kwai North property. This unit includes psammitic to pelitic rocks that are variably recrystallized, strongly foliated and banded. Mineralogically the unit is fairly homogeneous; its mineral assemblage consists dominantly of quartz and biotite with minor feldspar. Garnet commonly occurs as a porphyroblast phase indicating amphibolite facies metamorphism. The crystals range in size from 1mm to 3cm. The modal proportions of quartz and biotite are variable, which is attributed to the mud content of the original sedimentary rock. Although sedimentary layering is not preserved, compositional banding defined by biotite content occurs at the decimetre to metre-scale and is interpreted to reflect a protolith consisting of interbedded mudstone and muddy sandstone. This is consistent with regional interpretations of the English River as a flyshoid greywacke succession.

The metasediment is intruded by pegmatite dykes that are dominantly tonalitic in composition, consisting of plagioclase, quartz and biotite. Accessory phases locally noted include garnet, beryl, and tourmaline. Lesser granitic pegmatite occurs in some portions of the claim area. It contains K-feldspar, plagioclase, quartz, biotite and muscovite. The dykes range from cm-wide stringers to small plutons several metres in diameter. They are consistently parallel to the main foliation in the rock but the degree to which the dykes are transposed is variable. Throughout most of the claim area pegmatite dykes are demonstrably infolded with deformed metasediment, describing tight, weakly asymmetrical fold wave trains. In high strain zones, dykes are commonly dismembered and boudinaged with fabric in the surrounding metasediment wrapping around the deformed dyke. At some localities, highly transposed dykes form regular banding to the extent that these portions of the unit may be characterized as metatexite.

Structure

The English River and Uchi subprovinces in the Property area are separated by the Pakwash Lake Fault, a major east-west trending fault that is interpreted to splay from the Sydney Lake Fault zone, located south of the property.

The Pakwash Lake Fault is tightly constrained by mapping, but fault rocks are rarely exposed, suggesting that along much of its length it is a narrow zone of deformation. It is interpreted to be roughly parallel to the steeply south dipping foliation fabric expressed in sedimentary rocks adjacent to the fault zone.

Outcrops within the deformation zone show a combination of brittle and ductile deformation features suggesting the fault had a protracted history of movement. The fault rocks typically show well developed C-S fabrics that indicate apparent dextral shear sense. The ductile fabrics are locally overprinted by annealed, fabric-parallel brittle faults and thin horizons of fault breccia that similarly show right-lateral strike-slip movement.

CHAPTER 1: GRASS ROOTS PROSPECTING

Introduction

This chapter presents and summarizes the results of 12 man days of grass-roots prospecting work program, completed June 19th to 21st, 2019; and on August 14th to 16th, 2019, on the Kwai property in the Red Lake mining district. Fieldwork was completed by Gordon MacKay P.Geo. 4 days, Wayne Holmstead P.Geo. 4 days, Andreas Lichblau 3 days, and Paul Sorbara 1 day.

Work Program

The main goals of the grassroots prospecting program was to determine means of access to the property, observe and record outcrops or notable geological features, and to locate areas along the known Pakwash fault that could be accessed in a future ground geophysical survey program, including access described in Laurentian Goldfields 2011 Report. MacKay is based out of Sudbury Ontario but departed to the Kwai property from another project located near Sault Ste. Marie Ontario. Holmstead is based in Kingston Ontario but, like MacKay, also departed from the project near Sault Ste. Marie. Lichblau is based in Red Lake Ontario and travelled to Ear Falls/Kwai property everyday. He coordinated a private apartment rental for the crew, organized equipment, maps, and completed an initial scouting of the road access into the Kwai property from June 17-20th. (Initial scouting and consultation was also conducted in May 2019).

June 17th, 2019:

MacKay and Holmstead initiated mobilization from Sault Ste. Marie, Ontario. Travelled to Thunder Bay Ontario.

June 18th, 2019:

MacKay and Holmstead- travel to Earfalls, Ontario. Meeting with Andreas Lichblau to coordinate grassroots prospecting work program.

June 19th, 2019*:

On June 19th MacKay, Holmstead, and Lichblau tested known roads to find means to access the Kwai property. The major vehicle access road is locally known as the Dixie Lake Road, maintained by the Red Lake Forest Company (RLFC) and runs NE to SW through parts of the Kwai property. The road is accessed approximately 35 km along HWY 105 and traverses KWAI Claims:

530903, 550975, 543050, 543053, 543056, 543055, 530311, 543036, 543039, 543038, and, 543037

MacKay, Holmstead, and Lichblau used this road to make traverses into the claims on both sides of the Dixie Lake road to look for outcrops and other possible access trails. Much of the area has been logged under the 2010-2019 Algoma forest management plan and some access by foot or ATV was possible, however, initial findings were that the property contains few outcrops to allow for collecting assays without stripping or trenching.

Secondary forestry skidder road access was then researched to determine if any access intersecting the known area of the Pakwash fault could be found. Two points of access off of the Dixie Lake road where tested; an all-season forestry road bearing south off the Dixie Lake

road into claim 530909 known as the McMartin Bypass maintained by RLFC , and a winter seasonal RLFC skidder road (referred here as MU840_skidder) that bears south off the Dixie lake road at claim 543038 (see Fig 3. for property road access overview)

The McMartin Bypass has maintained water crossings for vehicle access and ATV accessible skidder roads that branch both west and east providing ATV access around water crossings providing initial access into 530909 and the NW corner of 530910. These access routes were used to traverse the area of the Pakwash fault that runs East West across part of the KWAI property.

The group travelled down the McMartin Bypass connector road to the south edge of the projected Pakwash fault structure. The south edge is marked by a sheared Gniessic unit that outcrops on the southern edge of the broad plain that is projected to be the fault structure. Recent clear-cut logging provides some ATV access but most of the traverse was on foot. No outcrop was observed within the fault structure which appears to be covered with an unknown depth of till material.

**KWAI Grass Roots Prospecting Program:
West Pakwash Fault Access Route with
2011 Laurentian Magnetic and VLF Data**

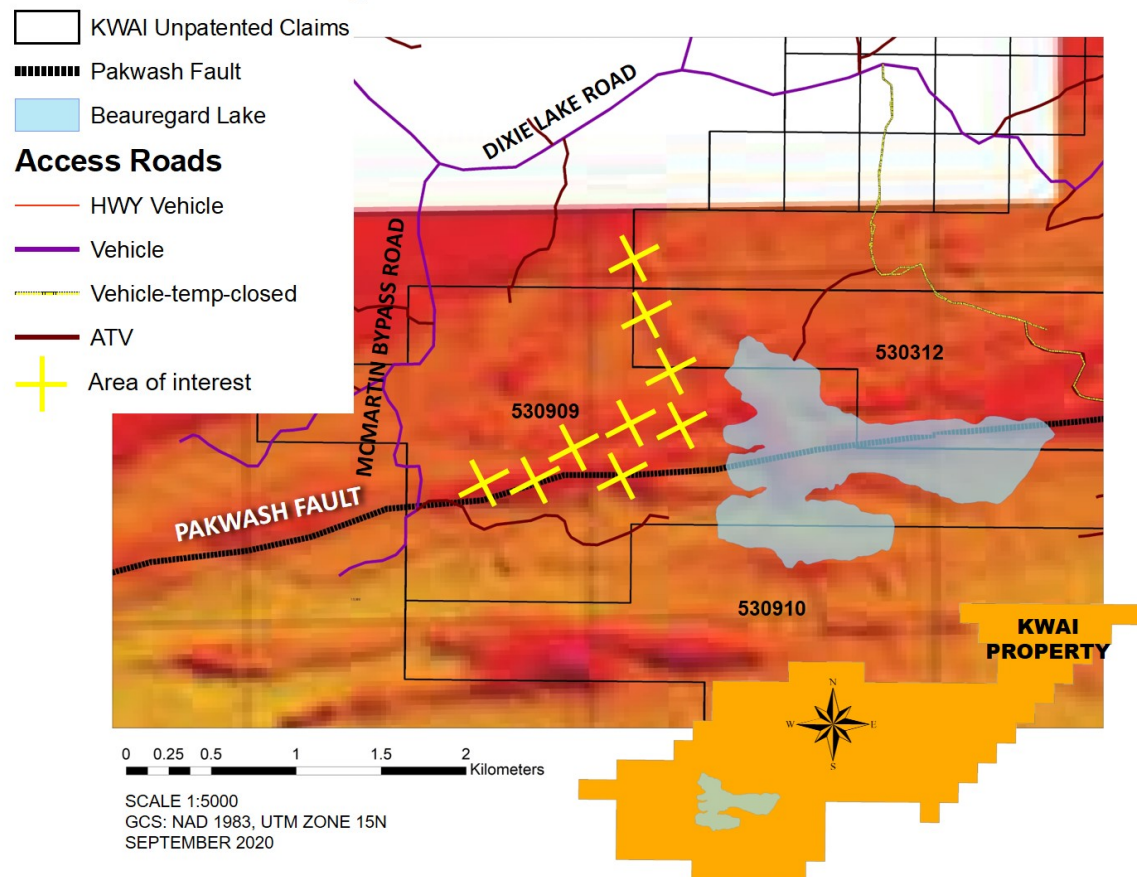


Figure 6: Plan map of investigated access route to West Pakwash Fault and Magnetic Areas of Interest

June 20th, 2019

On June 20th the MU840 skidder forestry road was tested for access. The road is partially accessible by ATV, and recent logging made it possible to traverse on foot. MacKay and Holmstead used the skidder access trails and traversed along the north edge of the fault structure east of Beaugard Lake. A contact between granite and mafic volcanics was identified and sample (6622904) of altered mafic volcanic with trace sulfides was collected (assay samples and expenses are not submitted as part of this report). While the trace of the fault structure was identified east of Beaugard Lake consistent with the regional magnetics, no outcrops were seen within the fault trace. Traversing the claims along the Dixie Lake road was continued by Lichblau on foot. Lichblau departed at the end of the day to return to his home base of Red Lake.

**KWAI Grass Roots Prospecting Program:
East Pakwash Fault Access Route with
2011 Laurentian Magnetic and VLF Data**

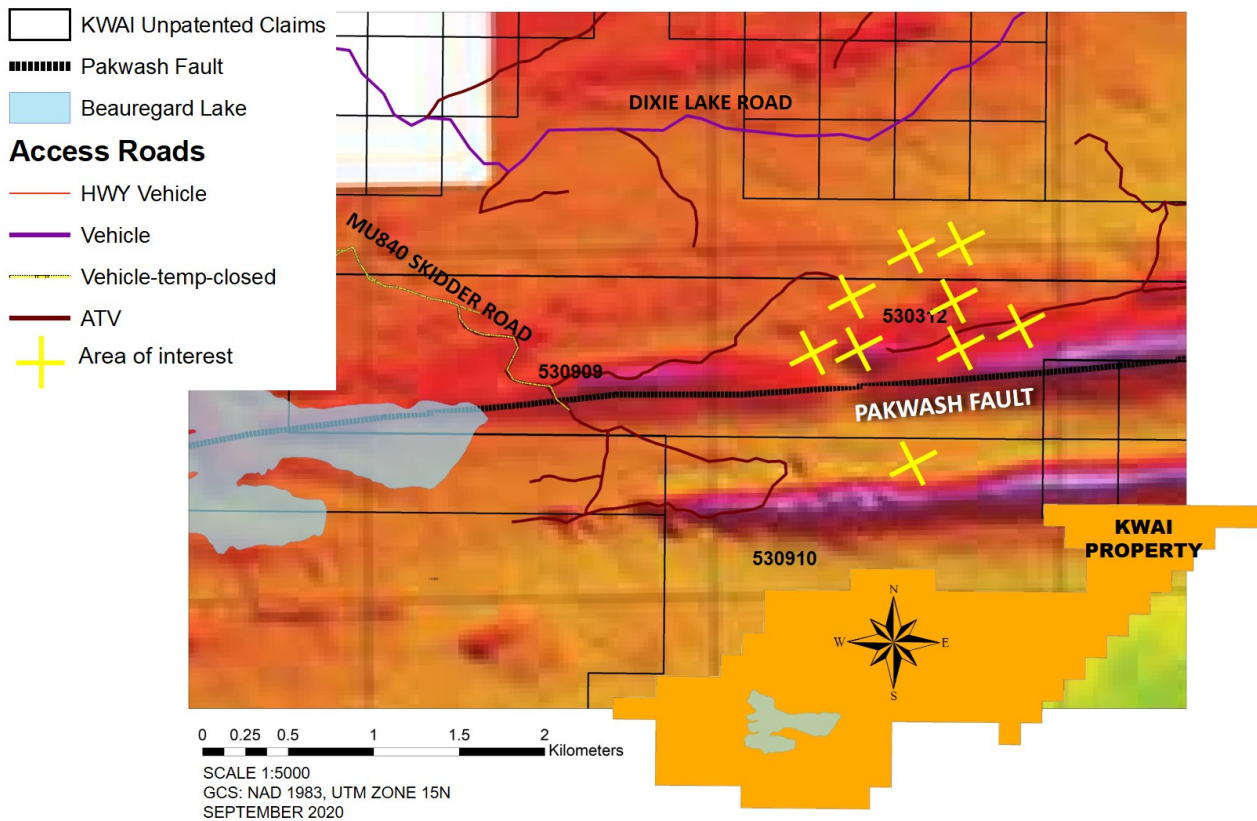


Figure 7: Plan map of investigated access route to East Pakwash Fault and Magnetic Areas of Interest

June 21st, 2019

MacKay and Holmstead departed Ear Falls and travelled to Thunder Bay Ontario.

June 22nd, 2019

MacKay and Holmstead departed Thunder Bay Ontario and travelled to Sudbury Ontario. Holmstead continued to Kingston Ontario.

Conclusions and Recommendations

In total 14 claims within the Kwai property were traversed by vehicle, ATV, or foot to look for geological outcrops or suitability for a future ground geophysics survey program:

530903, 530909, 530910, 550975, 543050, 543053, 543056, 543055, 530311, 530312, 543036, 543039, 543038, and 543037

Due to the lack of exposure and the limited results that Laurentian Goldfield were able to get from soil geochemistry it was determined the best exploration approach is to conduct geophysics across the fault structure at two locations where there appears to be a break in the regional magnetics. The access off of the McMartin bypass would be the point of entry into the Pakwash fault intersection of claims 530909, 530910, and 530312 (West Target). The access off of MU840 skidder would be the point of entry into the Pakwash fault intersection of claims 530311 and the east side of 530312 (East Target).

CHAPTER 2: GEOPHYSICS GROUNDWORK PROGRAM

Introduction

This chapter presents and summarizes the results of 34 man-days of a ground geophysical work program on the KWAI Property on claims 530311, 530312, 530909 and 530910. The KWAI property is in the Red Lake Mining District, Cabin Bay and Dixie Lake Areas. The area is identified as Crownland with no registered surface rights holders.

KWAI 2019 GEOPHYSICS GROUND WORK PROGRAM- IP GRIDS

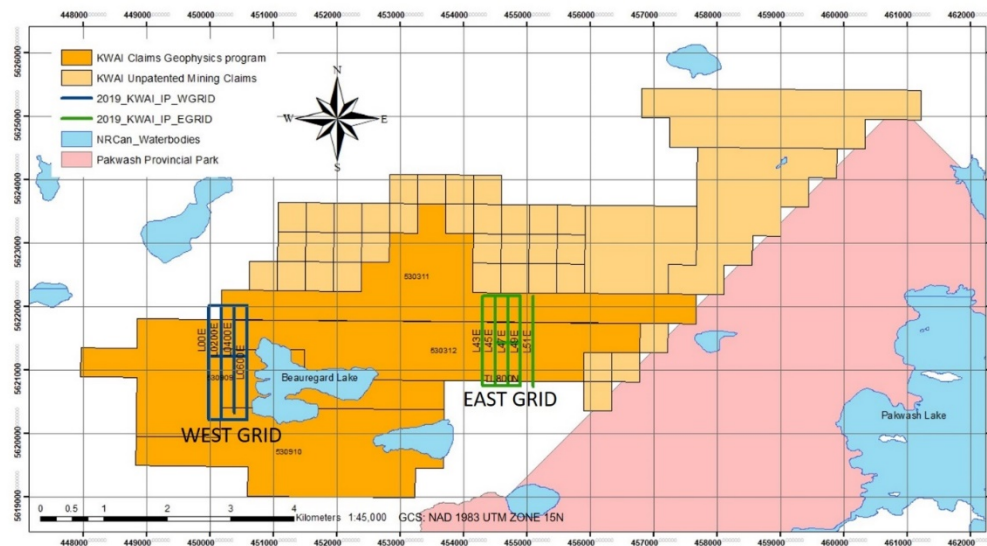


Figure 8: KWAI 2019 Geophysics Ground Work Program- IP grids

The field crew directly responsible for the collection of the raw field data were as follows:

- J. Francoeur, Senior IP operator, Timmins, Ontario
- D. Poirier, Senior IP operator, Timmins, Ontario
- S. Duhan field assistant, Timmins, Ontario
- G. Martin. Field assistant, Timmins, Ontario
- B. Pigeon Field assistant, Timmins, Ontario
- I. Dougar, Field assistant, Montreal, Quebec

The entire ground program was carried out under the direct supervision of J.C. Grant of Exsics Exploration Limited.

Ground Geophysical Survey Work Program (PL-19-000053-KWAI PROJECT)

The main geophysics program was carried out over two grids, named East and West. The East grid consists of 5 lines and the West grid consisted of 4 lines. Much of the area covered is within recent clear-cut logging. Where line cutting was required all lines were cut less than 1.5m width.

Lines on the grids were oriented north-south to cross the approximately east west trending geology and main Pakwash shear structure as well as to cross north west breaks in the regional magnetics.

Putting in the grid, linecutting, and the geophysics IP program was completed between June 26th and July 30th, 2019. Once the grid was completed, both of the grids were then covered by an Induced polarization, (IP), survey along with a total field magnetic survey and a VLF-EM survey. For each survey, a total of 15 line-kilometres of geophysics were completed.

The IP survey was completed using the Instrumentation GDD 8 channel receiver and 3.6 kilowatt transmitters. The total-field magnetic survey was also done in conjunction with a VLF-EM survey over the entire cut grid lines. The Terra Plus GSM 19 system was used for the survey and specifications for this unit can be found as Appendix C of this report. The following parameters were kept constant throughout the survey.

Calibration and Quality Control Methods used;

IP SURVEY:

- Base Station Location: NAD 1983, Zone 16T, 472815E, 5407128N
- Line spacing 100, 200 meters
- IP method Time Domain
- IP array Pole-Dipole array
- Receiver Instrumentation GDD 8 channel
- Transmitter Instrumentation GDD 3.6 Kilowatt
- Power supply Honda 5000-watt generator
- Electrode spacing 25 meters
- Electrode number 6 stainless steel electrodes
- Parameters measured Apparent Chargeability in millivolts/volt
- Sampling mode 20 time slices, M1-M20,
- Apparent Resistivity in ohms/meter
- Transmitter cycle; 2 seconds on, 2 seconds off

MAGNETIC AND VLF-EM SURVEY

- Line spacing 100, 200 meters
- Station spacing 25 meters
- Reading intervals 12.5 meters
- VLF transmitter Cutler, Maine 24.0 Khz
- Parameters measured In Phase and Quadrature components of the secondary field along with field strength and tilt angle.
- Parameters Plotted In Phase values
- Base station record interval 30 seconds
- Reference field 590000nT
- Datum subtracted 585000nT

Ground Geophysical Survey Summary and Recommendations

Summary

For data interpretations, methodology and modelling specifications, please refer to Appendix B: 2019 Ground Geophysics Report.

The IP survey was successful in outlining several areas of interest across the survey portion of the two grids. The main IP target areas on both grids appear to correlate to the suspected main fault zone, The Pakwash lake fault that is known to strike across the region from the west grid to the east grid. The fault represents the contact or suspected contact between the granitic and volcanic rocks to the north and the metasediments to the south. Both of the grids were designed to cross-cut the suspected fault location with the intent of testing the fault for anomalies that may be consistent with deposition of gold bearing materials.

The area does not offer much in the way of exposed outcroppings so potential areas of interest were not visible to enhance the grids.

Strong IP anomalies were identified on across both grids. What was the most definitive outcome was the nature of the chargeability responses. The main area of interest outlined on both grids was the chargeability negative response that was followed by a chargeability high unit. These responses would normally correlate to resistivity highs with flanking lows.

When comparing the results over the two grids it was suggested that the features may be representing two major shear zones that strike across the entire area. Shears are the main controlling structures for gold in the Red Lake mines as well as the newly discovered Great Bear Dixie Lake project directly to the north of the Golden Goliath property.

KWAI 2019 GEOPHYSICS GROUND WORK PROGRAM: MAG VLF WITH INTERPRETED PAKWASH FAULT STRUCTURE

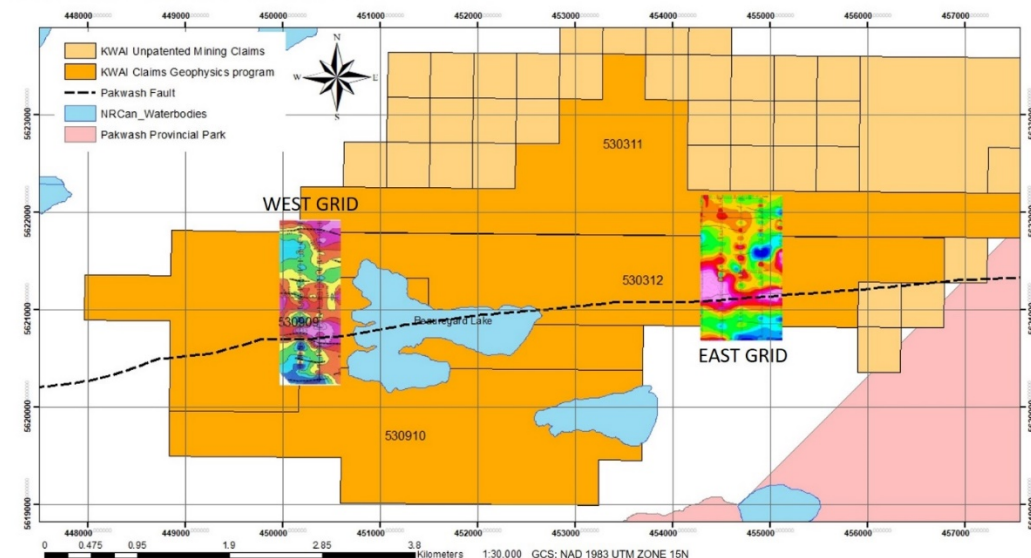


Figure 9: KWAI 2019 Geophysics Ground Work Program: MAG VLF with Interpreted Fault

The Geophysics company has also seen similar IP responses over the Bell Creek Mine which is an operating gold mine in the Timmins Gold camp:

“The most intriguing part of this initial ground program is that initially we did not know what to expect for results as there had been very little historical work programs done in the area. The fact that the initial results are so similar in nature to historical results in both the Red Lake and Timmins camp may suggest that the potential for similar structures may exist on the Golden Goliath Kwai Property which we have just started to expose.”

Recommendations:

The surveys were successful in locating and outlining several conductors and IP zones across both grid areas. The magnetics from both grids appear to have outlined a good magnetic high structure that generally strikes across the southern sections of both grids.

The data was able to identify several areas of interest and therefore, priorities for next years exploration program. The final report recommended further IP surveys connecting and expanding on the initial grids to establish targets for a future drill program.

STATEMENT OF QUALIFICATIONS

I, Gordon C. MacKay, of 299 Birch Street, Lively Ontario hereby certify that:

1. I am the author of this report.
2. I graduated from the University of British Columbia, in Vancouver, with a Bachelor of Science Degree in Geology (1988).
3. I possess an Ontario prospector's license and have been practising my profession in mineral exploration industry for the past 30 years.
4. I am a practising member of the Association of Professional Geoscientists of Ontario.

Sudbury, Ontario
Aug 15, 2020



Gordon C. MacKay P. Geo.
MacKay Mining Solutions

GEOPHYSICAL REPORT
FOR
GOLDEN GOLIATHE RESOURCES LTD.
ON THE
EAR FALLS PROJECT
(KWAI PROPERTY)
CABIN LAKE AND DIXIE LAKE AREAS
RED LAKE MINING DIVISION
NORTHWESTERN ONTARIO

JCGrant

Prepared by: J. C. Grant, CET, FGAC
October 2019

HISTORY AND PREVIOUS GROUND PROGRAMS

-The Kwai Property has no documented exploration previous to the work by Laurentian Goldfields Ltd.

Initial work on the property consisted of a high resolution, airborne magnetic and VLF- EM survey completed in March 2010. Phase 2 of the project included comprehensive soil and lake sediment sampling as well as a property-wide mapping and prospecting program, which systematically targeted structures and lithological contacts interpreted from magnetic susceptibility mapping. Prospecting in the western portion of the property recovered slightly anomalous Au samples from within the granodiorite pluton. A grab sample of a pyrite-bearing quartz vein occurring in the granodiorite contained 243ppb Au. Fifty six (56) channel samples were reportedly collected from the nearby Kwai trench on Golden Goliath's Property, (Render et al. 2010), however, the assays and certificates for these samples were not included in Laurentian's 2010 report, and the results have not been confirmed.

-This area also reported "some of the most extensive high gold response ratio anomalies defined by the detailed MMI (mobile metal ion) soil sampling survey". In 2011, further MMI soil sampling over the Kwai area on Golden Goliath's Property was completed. The purpose of this sampling was to better define the anomalies by sampling on tighter spacing in order to infill the wider spaced sampling done in 2010. This follow up work was reported to have helped in further defining the gold mineralization in the Kwai area, although it at the time of this program it was stated that further work was required to "validate these targets to drilling status".

-In the fall of 2012 Laurentian conducted further soil and rock sampling utilizing three different analytical methods as provided by Acme Analytical Laboratories; an ultratrace method with aqua regia digestion, partial leaching with sodium pyrophosphate and leaching with distilled water. The work was reported to be successful in validating the occurrence of the gold anomaly in the Kwai area, and further mapping and surface sampling of the Kwai area to better define subsurface targets was recommended as well as trenching in areas of limited glacial cover. They also recommended drill testing of selected targets with wide-spaced shallow holes to test for large-scale alteration and/or mineralization.

-No more recent record of Golden Goliath's Property being staked or any exploration work performed on it subsequent or prior to the work by Laurentian Goldfields described above. Perry English acquired the property by staking in September 2018.

The Dixie Project of Great Bear Resources is located approximately 10 km north of the Kwai Trench on Golden Goliath's Property, or about 8 km north of the northeast corner of the Property.

-In July 2017, the company entered into a purchase agreement with Newmont Mining to acquire Newmont's 33% stake in the project for \$80,000 in total cash payments over 4 years. In September 2017, the company acquired an additional 26 minerals claims and today the Dixie property covers 9,140 hectares. In November 2018 Great Bear completed the purchase of 100% royalty -free interest in the Dixie Gold Project, Red Lake Ontario.

-At the Dixie Project, gold mineralization is confirmed along a 2.3 km strike of a 10 km target. The system at Dixie has a high-grade gold zone that includes recent intervals of 16.35 metres of 26.91 g/t gold and 7.00 metres of 68.76 g/t gold and is open along strike and at depth.

Dixie is a typical Archean mesothermal gold vein system located approximately 20-25 km from significant mines that share the same geological and metallogenic characteristics (Red Lake, Madsen and Rahill-Bonanza). Dixie hosts a series of mafic-felsic sequences within the Red Lake Greenstone Belt. Significant folding and thinning of the greenstone lends itself to enriched zones of gold mineralization.

(Refer to the Technical Report On the Kwai Property Red Lake Mining Division Northwestern Ontario Prepared for Golden Goliath Resources Ltd. Prepared by: D. Cullen, P.Geo. J. Garry Clark, P.Geo. and R. Greenwood, P.Geo Clark Exploration Consulting Clark Exploration Consulting, March 1st, 2019)

INTRODUCTION:

The services of Exsics Exploration were retained by W. Holmstead on behalf of the company, Golden Goliath Resources Ltd. To complete a detailed line cutting, magnetic, VLF-EM and Induced Polarization, (IP), over a selected portion of the Kwai claim block with the intent of locating and outlining a geological environment that would be considered a good host for gold deposition

The previous work on the Kwai Property has indicated the presence of elevated, or anomalous, gold values within a foliated granodiorite with quartz veins and fractures, +/- pyrite mineralization, with the Kwai Showing being the main gold occurrence. Two channel samples from the south and north ends of the trench at the Kwai Showing contained anomalous gold values. This mineralization is located approximately 1.6 km north of the interpreted location of the Pakwash Lake Fault, a major east-west trending fault that is interpreted to splay from the Sydney Lake Fault zone, located south of the property.

The current ground program will concentrate on two grid areas along the east-west trending fault structure.

PROPERTY LOCATION AND ACCESS:

Golden Goliath's Kwai Property is located in the Dixie Lake and Cabin Bay Areas of the Red Lake Mining Division in northwestern Ontario, approximately 30 km south of the community of Red Lake approximately 565 km by road (430 km direct) northwest of Thunder Bay. Red Lake can be reached via Highway 105 from the Trans-Canada Highway 17. Red Lake is also serviced with daily flights from Thunder Bay and Winnipeg.

More specifically the property lies approximately 34 kilometers northwest of the Town of Ear Falls and 12 kilometers west of Pakwash Lake with the West grid lying to the immediate west of Beaugard Lake and the East grid lying about 2 kilometers to the east of the Lake. Figures 1 and 1A.

The Property itself can be accessed from the Dixie Lake Road off Highway 105 about 10 km south of Red Lake. The Dixie Lake Rd. crosses the Property approximately 600m south of the Kwai Trench. A series of good bush roads also run west to northwest just north of Ear Falls that provided good access to the grid areas. ATV units were also used to access each of the grid areas along over grown trails that were cleaned out for the survey program.

The line cutting and survey crews completed the program from accommodations at the Pakwash camp site located just off of Highway 105 and to the north of Ear Falls.

FIGURE 1 LOCATION MAP



© 2002. Her Majesty the Queen in Right of Canada, Natural Resources Canada. Sa Majesté la Reine du chef du Canada, Ressources naturelles Canada.

Figure 1, Location Map

FIGURE 1A, PROPERTY LOCATION MAP



CLAIM BLOCK:

The Kwai Property is comprised of total 6 claims that total 133 cells, all of which are located in the Cabin Lake and Dixie Lake Areas of the Red lake Mining Division.

The following is a list of the claims, cells and area.

530903	17 cells	Dixie Lake Area
530908	16 cells	Dixie Lake Area
530909	25 cells	Cabin Lake Area
530910	25 cells	Cabin Lake Area
530311	25 cells	Cabin Lake Area
<u>530312</u>	<u>25 cells</u>	Cabin Lake Area
Total: 6	133	

Refer to Figure 2, MNDM Plan Maps for the positioning of the claim blocks and grid lines within the Area.

FIGURE 2 CLAIM BLOCK/GRID MAP

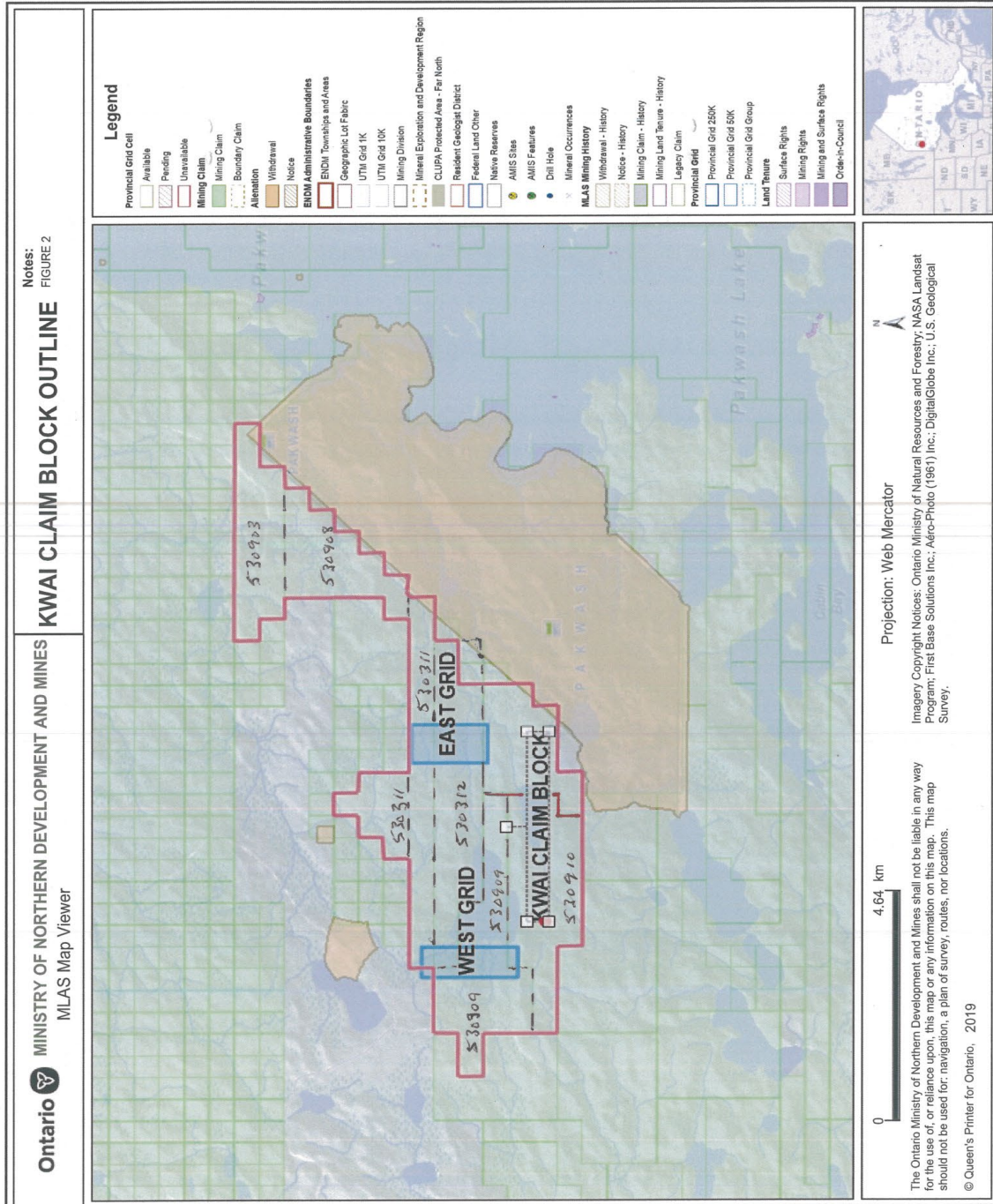


FIGURE 3 KAWI PROPERTY GRID LAYOUTS

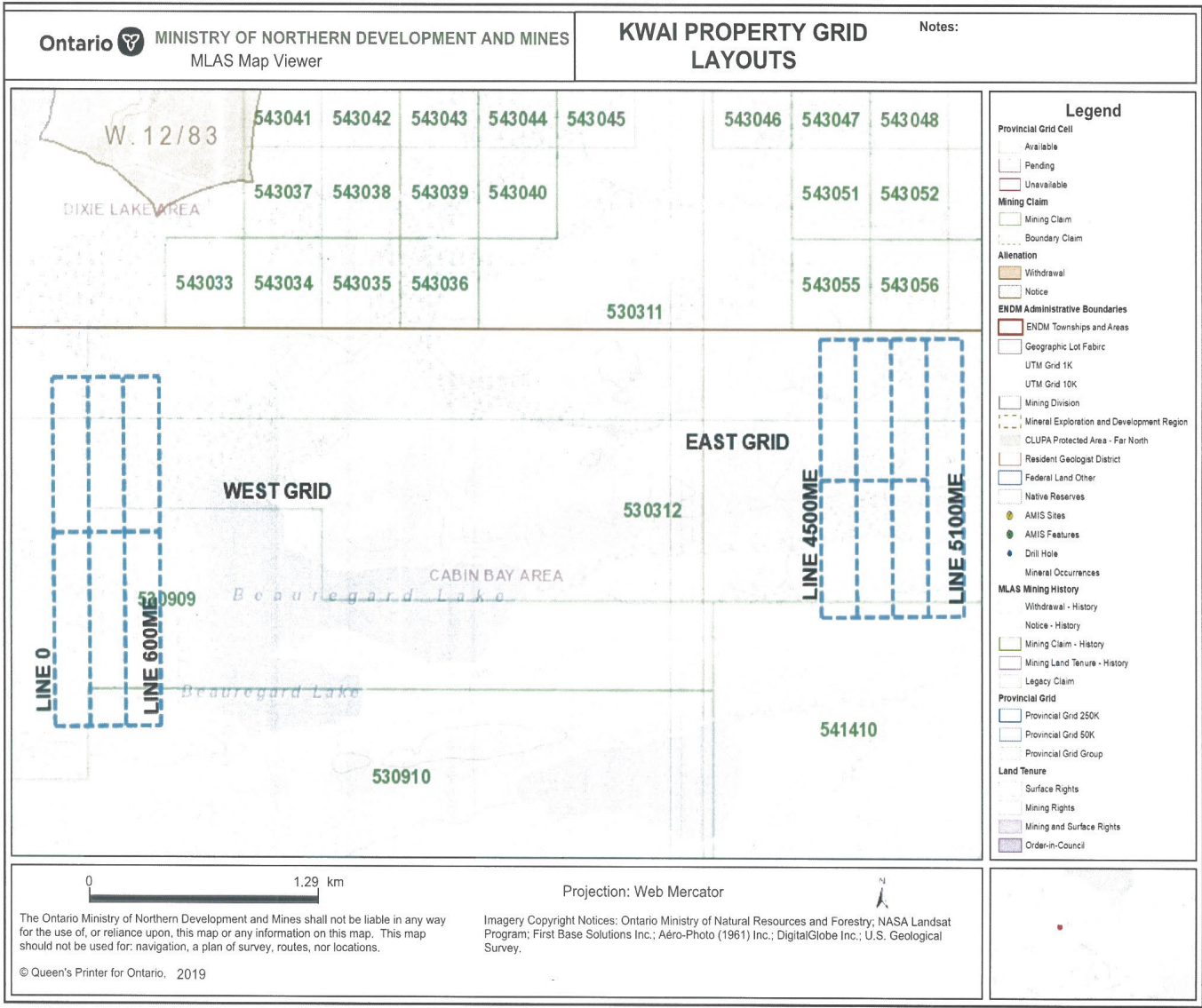


FIGURE 3A. WEST GRID LAYOUT

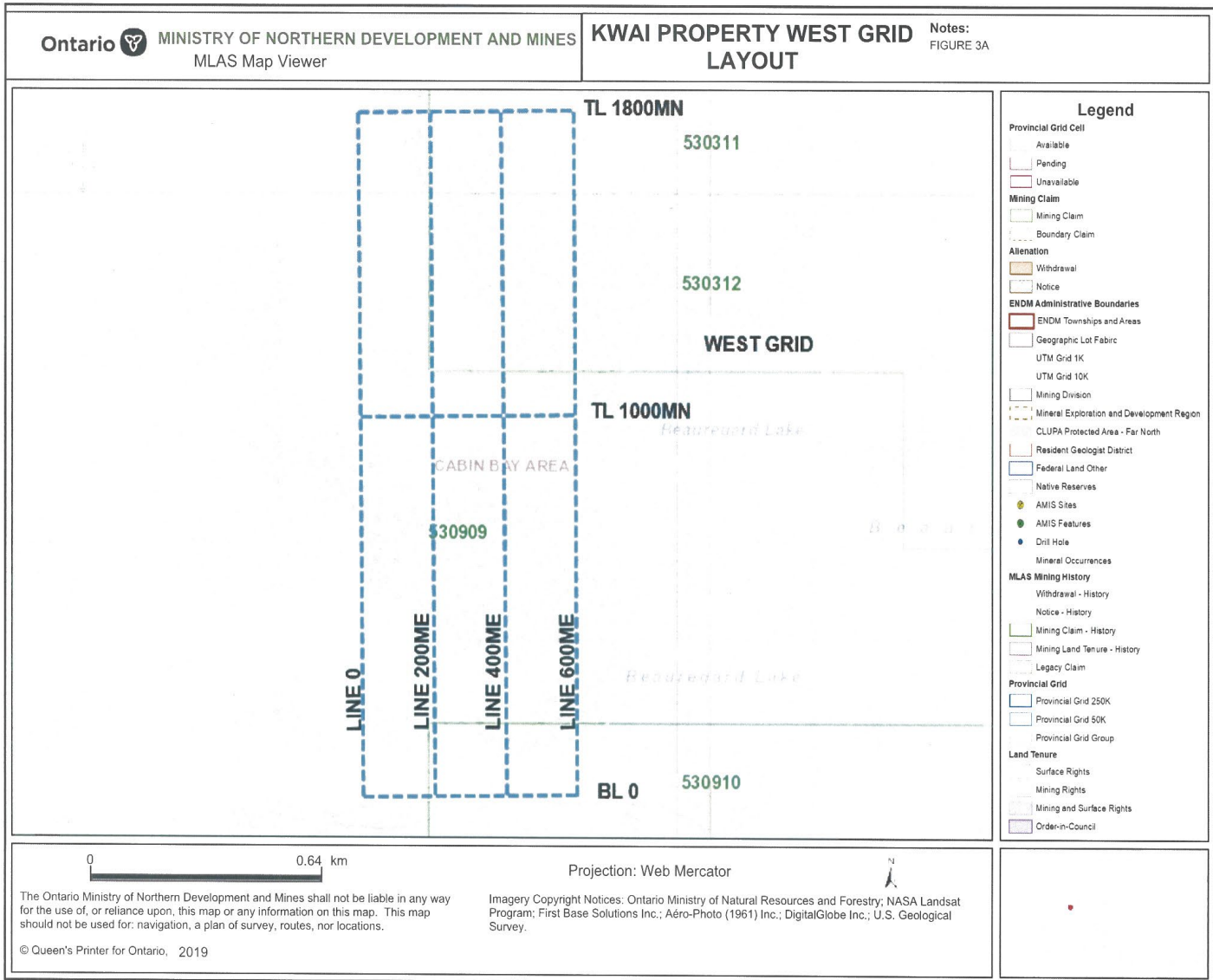
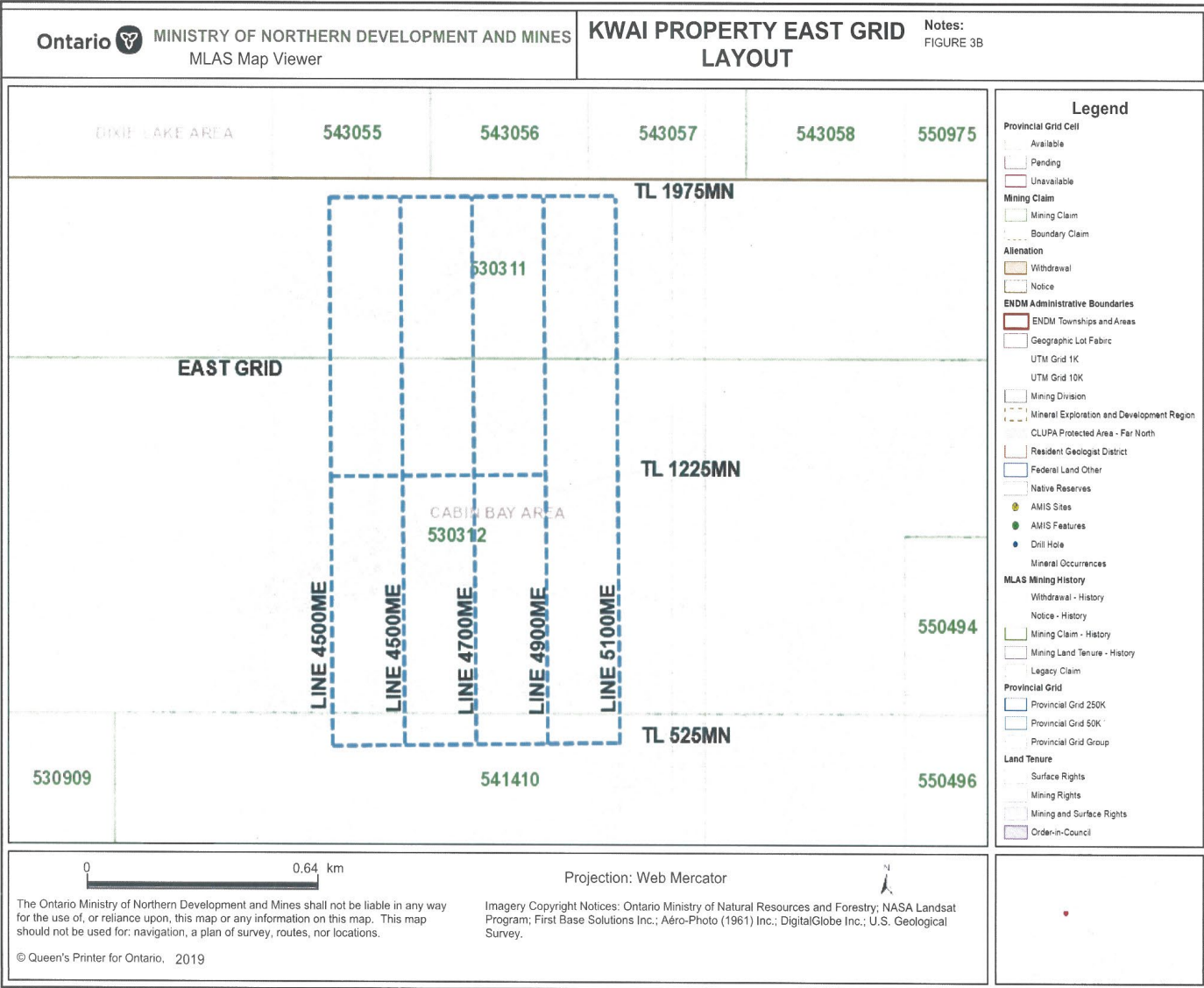


FIGURE 3B EAST GRID LAYOUT:



PROPERTY GEOLOGY:

The following discussion of the Property Geology is taken from Render et al. (2011). Copied from ***Technical Report On the Kwai Property Red Lake Mining Division Northwestern Ontario Prepared for Golden Goliath Resources Ltd. Prepared by: D. Cullen, P.Geo. J. Garry Clark, P.Geo. and R. Greenwood, P.Geo Clark Exploration Consulting Clark Exploration Consulting, March 1st, 2019***)

Uchi Subprovince

Rock units assigned to the Uchi subprovince occurring in the Kwai Property include mafic to intermediate volcanic rocks and fine-grained, bedded volcanoclastic rocks. Clastic sedimentary rocks that lie north of the Pakwash Lake Fault zone are assigned to the Uchi subprovince because they are texturally different from the metasedimentary rocks of the adjacent English River subprovince to the south. These sedimentary successions are very similar in composition and may represent facies equivalents that have been juxtaposed during orogenesis.

The sedimentary unit is dominated by gritty fine-grained sandstones and greywacke (containing up to 40% mica). In the north, the unit contains a thick succession of laminated argillite and interbedded argillite and greywacke. These strata host an ironstone succession that was exploited by the past producing Griffith Iron Mine (Figure 5). A thin unit of cobble conglomerate occurs along the trace of the Pakwash Fault. The conglomerate contains rounded clasts of diorite to granodiorite that are supported in a fine-grained, thinly bedded, black matrix. Petrographic analysis of this unit indicates that the matrix may be volcanoclastic in origin. Interbedded volcanic and sedimentary rocks are observed locally suggesting that the two units were deposited contemporaneously. The sedimentary/volcanic succession is typically strongly foliated and contains greenschist to lower amphibolite grade metamorphism. The supracrustal rocks are intruded by a granodiorite of undetermined age covering the majority of the north portion of the property.

English River Subprovince

Metasedimentary rocks of the English River subprovince underlie the southern part of the Kwai North property. This unit includes psammitic to pelitic rocks that are variably recrystallized, strongly foliated and banded. Mineralogically the unit is fairly homogeneous; its mineral assemblage consists dominantly of quartz and biotite with minor feldspar. Garnet commonly occurs as a porphyroblast phase indicating amphibolite facies metamorphism. The crystals range in size from 1mm to 3cm. The modal proportions of quartz and biotite are variable, which is attributed to the mud content of the original sedimentary rock. Although sedimentary layering is not preserved, compositional banding defined by biotite content occurs at the decimetre to metre-scale and is interpreted to reflect a protolith consisting of interbedded mudstone and muddy sandstone. This is consistent with regional interpretations of the English River as a flyshoid greywacke succession.

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Structure

The English River and Uchi subprovinces in the Property area are separated by the Pakwash Lake Fault, a major east-west trending fault that is interpreted to splay from the Sydney Lake Fault zone, located south of the property. The Pakwash Lake Fault is tightly constrained by mapping, but fault rocks are rarely exposed, suggesting that along much of its length it is a narrow zone of deformation. It is interpreted to be roughly parallel to the steeply south dipping foliation fabric expressed in sedimentary rocks adjacent to the fault zone.

Mineralization.

The Kwai trench exposes strongly foliated granodiorite that is cut by several small quartz veins up to 10cm wide and 1m to 4m in length. The vein quartz is typically colourless to dark grey with brownish weathered surfaces. Two channel samples from the south and north ends of the Kwai trench contained 662 ppb Au and 468 ppb Au over 1m respectively (Render et al. 2010). The sample in the north consisted of foliated granodiorite cut by a fracture with minor secondary quartz occurring discontinuously along its length.

In the south, the mineralized sample contained mostly foliated granodiorite with a small (< 10cm wide) portion of vein material. 2.5km west of the Kwai trench, another small quartz vein hosted by granodiorite was sampled. This vein had minor disseminated pyrite and contained 243 ppb Au. Despite these findings, mineralization cannot be consistently associated with quartz veining in the granodiorite, since several other veins sampled in the Kwai area proved to be barren.

FIGURE 4 PROPERTY GEOLOGY MAP, (Clarke et al March 2019)

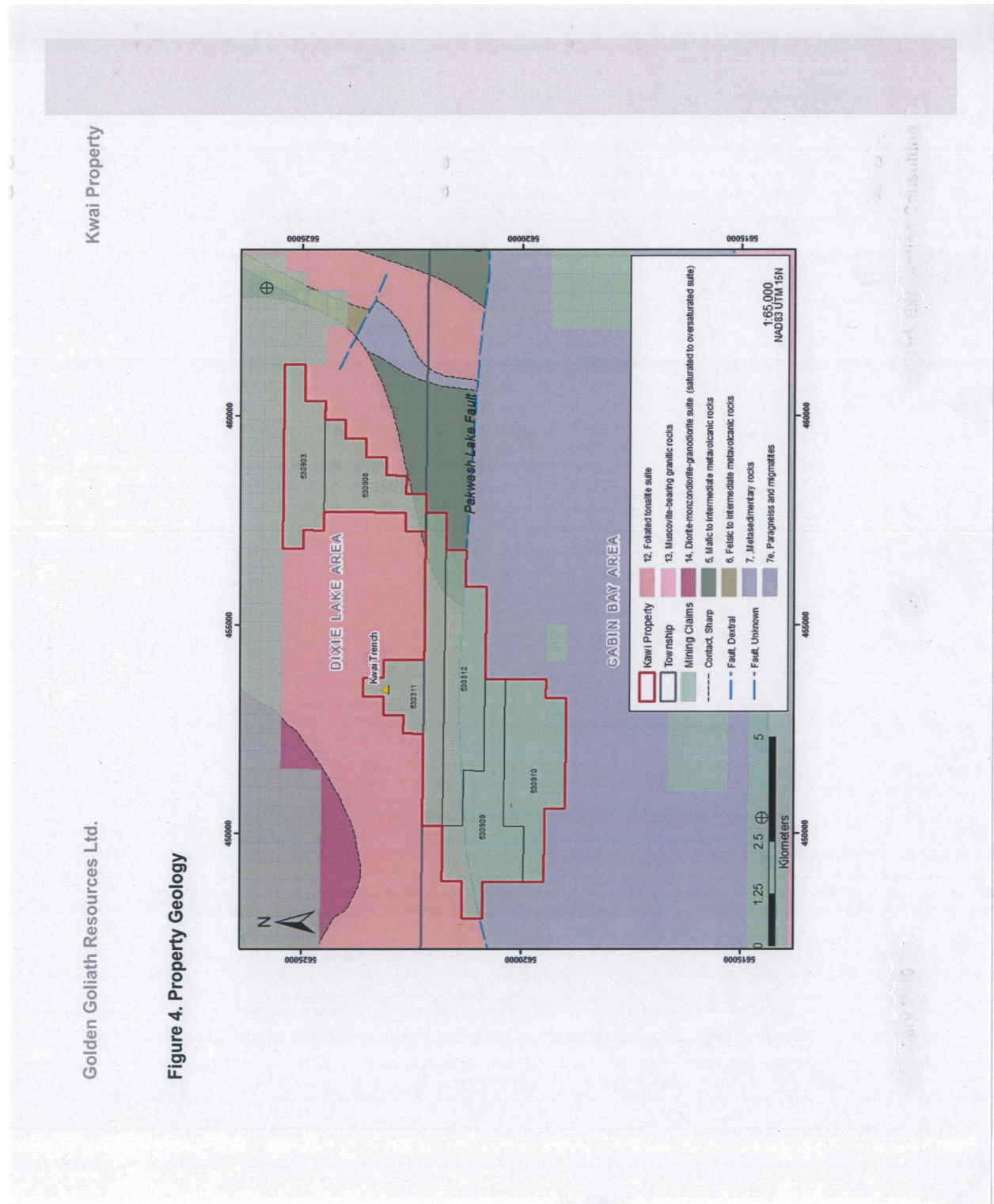


Figure 4. Property Geology

Golden Goliath Resources Ltd.

Kwai Property

PERSONNEL:

The field crew directly responsible for the collection of the raw field data were as follows:

J. Francoeur, Senior IP operator,	Timmins, Ontario
D, Poirier, Senior IP operator,	Timmins, Ontario
S, Duhan field assistant,	Timmins, Ontario
G. Martin. Field assistant,	Timmins, Ontario
B. Pigeon Field assistant,	Timmins, Ontario
I. Dougar, Field assistant,	Montreal, Quebec

The entire ground program was carried out under the direct supervision of J. C. Grant of Exsics Exploration Limited.

GROUND PROGRAM:

The current ground program was completed in two phases. The first phase consisted of cutting two small grids over a portion of the claim holdings generally to test the Pakwash lake fault that is assumed to cross cut the grid areas in an east-west direction. The two grids were called the west grid and east grid.

The west grid consisted of 4, 1800 meter long lines labelled lines 0, 200ME, 400ME and 600ME. The lines were turned off of a base line and cut 1800 meters to a northern Tie line labelled 1800MN. Line 0 baseline for this grid was UTM 449974E/5620230N.

The east grid consisted of 5, 1450 meter long lines labelled 4300ME, 4500ME, 4700ME, 4900ME and 5100ME. The grid was turned off of a tie line called 1975MN and all lines were cut to tie line 525MN. Line 4300ME/1975MN for the grid was 454295E/5622179N. All of the grid lines were chained with 25 meter picket intervals that have been metal tagged. In all a total of 18.25 kilometers of grid lines were cut and chained across the claim block.

Once the cutting was completed both of the grid was then covered by an Induced polarization, (IP), survey along with a total field magnetic survey and a VLF-EM survey.

The IP survey was completed using the Instrumentation GDD 32 channel receiver and the 3.6 kilowatt transmitters. Specifications for these units can be found as Appendix A of this report. The following survey parameters were kept constant throughout the survey period.

IP SURVEY:

Line spacing	200 meters
IP method	Time Domain
IP array	Pole-Dipole array
Receiver	Instrumentation GDD 8 channel
Transmitter	Instrumentation GDD 3.6 Kilowatt
Power supply	Honda 5000 watt generator
Electrode spacing	25 meters
Electrode number	6 stainless steel electrodes
Parameters measured	Apparent Chargeability in millivolts/volt
Sampling mode	20 time slices, M1-M20, Apparent Resistivity in ohms/meter
Transmitter cycle;	2 seconds on, 2 seconds off

Once the IP survey was completed the collected data was presented in individual line pseudo-sections showing the colour contoured results of the chargeability, resistivity and a calculated metal factor. The Metal Factor was calculated as $[(\text{chargeability} / \text{resistivity}) \times 1000]$, it can highlight regions of low resistivity and high chargeability which are amenable to hosting disseminated sulphides associated with gold in sheared or faulted environments, and/or semi-massive to massive sulphide occurrences.

The resistivity and chargeability data should always be consulted prior to drawing any conclusions from the Metal Factor. These individual line sections are included at the end of this report.

A total field magnetic survey was also done in conjunction with a VLF-EM survey over the entire cut grid lines. The Scintrex Envi system was used for the survey and specifications for this unit can be found as Appendix B of this report. The following parameters were kept constant throughout the survey.

MAGNETIC AND VLF-EM SURVEY

Line spacing	200 meters
Station spacing	25 meters
Reading intervals	12.5 meters
VLF transmitter	Cutler, Maine 24.0 Khz
Parameters measured	In Phase and Quadrature components of the secondary field along with field strength and tilt angle.
Parameters Plotted	In Phase values
Base station record interval	30 seconds
Reference field	590000nT
Datum subtracted	585000nT

Once the magnetic and VLF surveys were completed the collected In Phase readings for the VLF survey were plotted onto a base map at a scale of 1:2500 and then profiled at 1cm = +/- 20%. Any and all conductor axis were then placed on this profiled plan map.

The magnetic data was also levelled corrected to the base station data and then plotted onto a base map at a scale of 1:2500 and then contoured at 25 gamma intervals. The VLF conductors were also correlated to the magnetic plan map. Both of these plan maps are included in the report.

The ground program for the line cutting and geophysical programs were completed between 26th of June and July 30th 2019

IP SURVEY RESULTS, KWAI PROPERTY:

EAST GRID:

The eastern grid consisted of five lines, lines 4300ME, 4500ME, 4700ME, 4900ME and 5100ME. Each line will be interpreted separately.

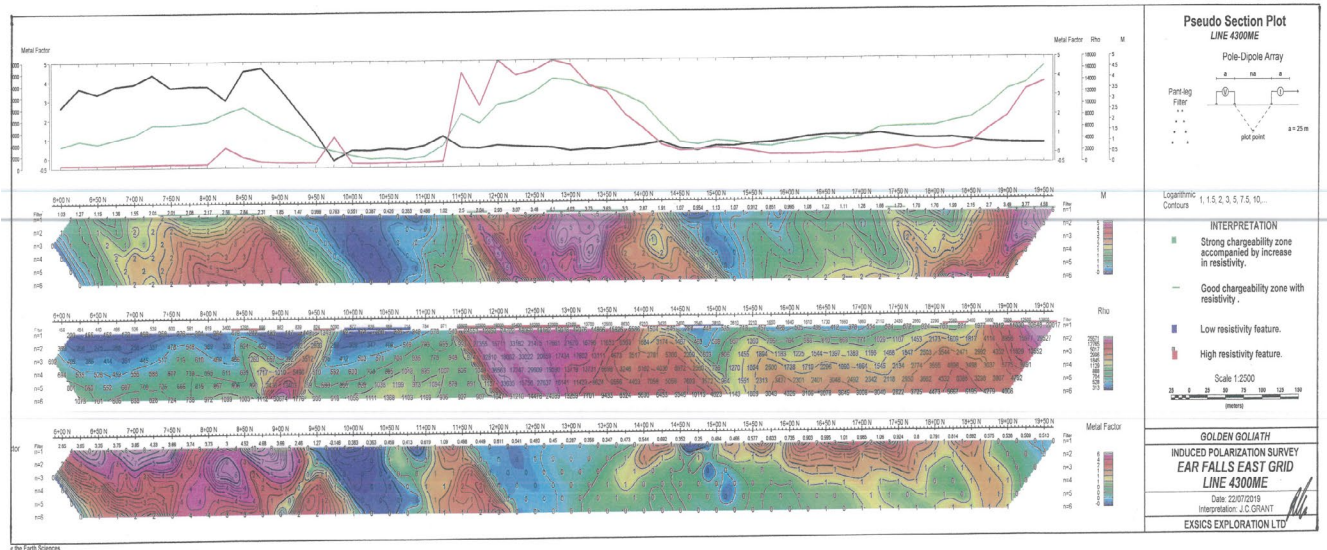
LINE 4300ME:

Three areas of interest were outlined across this survey line. The first anomaly lies between 725Mn and 860MN that generally correlates to a modest resistivity low but with a narrow dike like resistivity high lying on the northern flank of the anomaly. The zone lies at the southern edge of a good magnetic high that generally strikes east west across the grid area and appears to continue off of the grid in both directions. The appearance of this zone may suggest that there are two narrow zones with the broad response.

A second, quite broad, anomaly lies between 1150Mn and 1425Mn that correlates directly with a broad resistivity high. This zone appears to lie within and along the northern edge of the broad magnetic high that covers the same section of the grid. Again the shape of the anomaly may suggest a narrow zone lying at the southern edge of a broader zone to the north.

A third zone was noted just starting to build up at the northern end of the line that is still open to the north. The zone correlates directly with a resistivity high that is also building up at the north end of the line. This zone lies at the northern edge of a modest magnetic high that strikes from line 4800ME to 4300ME and continues off of the grid to the west.

LINE 4300ME IP SECTION



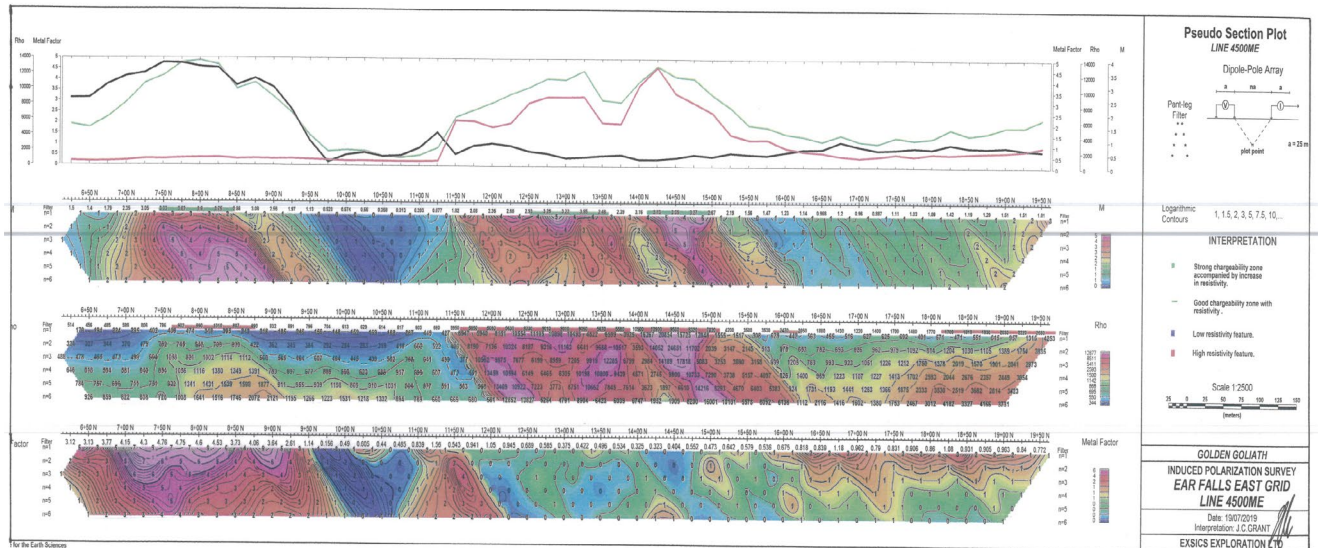
LINE 4500ME:

This line also outlined at least three conductive zones across the grid line. The first zone lies between 700MN and 850MN which represents a good chargeability high associated with a modest and deep resistivity high. The zone also lies along the southern edge of the good magnetic high trend striking east-west across the grid area. A narrow stringer style response may also be evident lying along the northern edge of the main zone.

The second zone is a broad zone which represents two good zones fairly close to one another. The southern portion of the zone lies between 1200MN and 1350MN and the second parallel zone lies between 1400MN and 1500MN. Both zones lie within a very good and strong resistivity high structure. The northern section of this target correlates to a good magnetic high unit that seems to strike off of the more predominant magnetic high to the south. The southern portion of the zone appears to correlate to the northern edge of the main magnetic high unit.

There may be a third zone building just at the very tip of the line that may lie just to the north of the grid line. The potential zone correlates to a resistivity high that is also building at the northern tip of the line.

LINE 4500MEIP SECTION



LINE 4700ME:

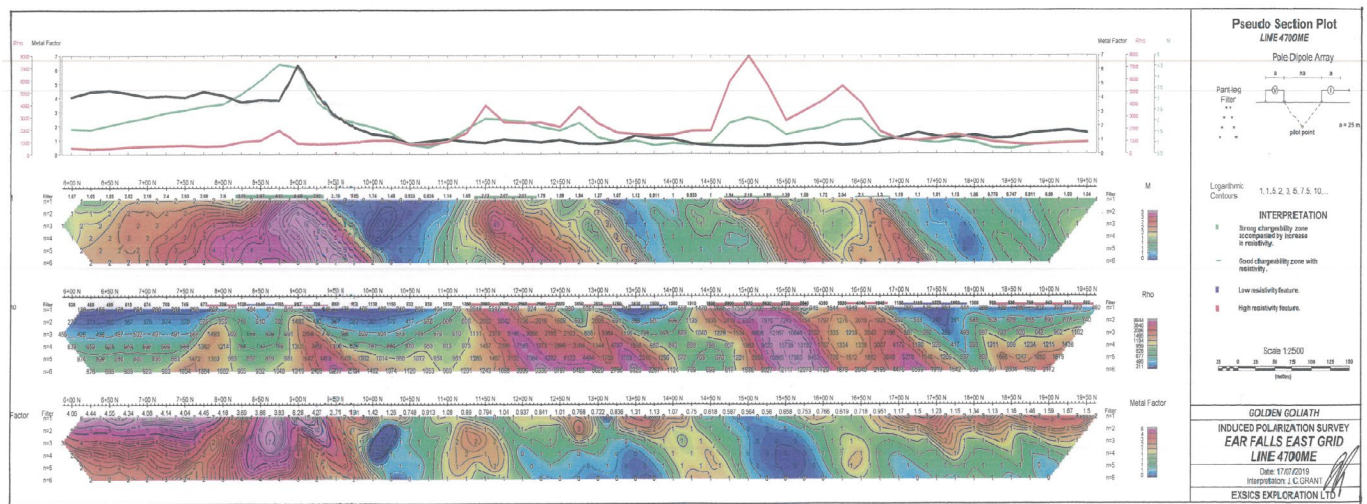
This line outlined 4 conductive zones across its length. The main zone lies between 800MN and 950MN and it is represented by a very strong chargeability high with a north flanking chargeability low. The zone correlates to a narrow resistivity high that is strengthening at depth and the high is flanked by modest resistivity lows. The zone also correlates to the main magnetic high structure that strikes east to west across the southern section of the grid.

A second modest zone lies between 1125MN and 1225MN that correlates to a good broad resistivity high that also continues to strengthen with depth. This zone correlates to a narrow magnetic high unit that strikes east from the northern shoulder of the main magnetic high unit.

A third zone was noted between 1475Mn and 1510MN that correlates directly with a good resistivity high unit that extends to depth. This zone correlates to a spot magnetic high in the same area.

A final and somewhat weaker zone lies between 1625Mn and 1675MN that correlates to a good resistivity high that lies to the immediate south of a modest resistivity low unit. The zone lies at the southern edge of a modest magnetic high unit that strikes into the grid from the northwest.

LINE 4700MEIP SECTION



LINE 4900EIP:

This line was successful in outlining to good zones and two modest to weak narrow zones.

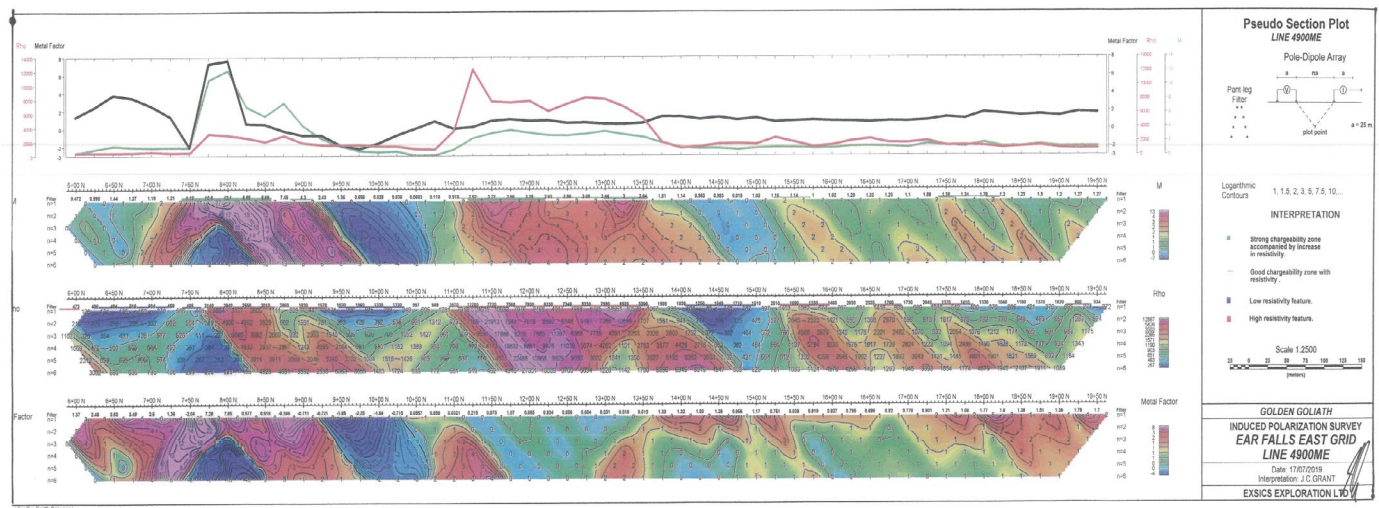
The strong and most predominant zone lies between 725MN and 900MN and is represented by a very strong chargeability high lying to the immediate south of a chargeability low feature. The zone correlates directly with a good resistivity high unit that lies to the north of a resistivity low that appears to continue at depth. Again his zone correlates to the southern edge of the predominant magnetic high unit.

The second zone lies between 1100MN and 1350MN that is represented by a broad chargeability anomaly possibly comprised of two parallel zones. The anomaly correlates to a good broad resistivity zone that has a well-defined and strong southern contact. The resistivity high is flanked to the north by a modest and shallow resistivity low.

This zone correlates to a modest magnetic low on its southern section to a narrow magnetic high with its central section that appears to be the western tip of a broad magnetic unit building up on the eastern edge of the grid. The northern portion of the IP zone correlates to a magnetic low feature.

The remaining two IP zones lie between 1500MN and 1525MN and 1700MN and 1825MN. Both of these targets represent narrow and weak chargeability anomalies with narrow and modest resistivity highs. The two zones also appear to lie to the north and south of a weak and narrow magnetic high that strikes east across the grid that appears to emanate from the larger magnetic high to the west.

LINE 4900ME IP SECTION



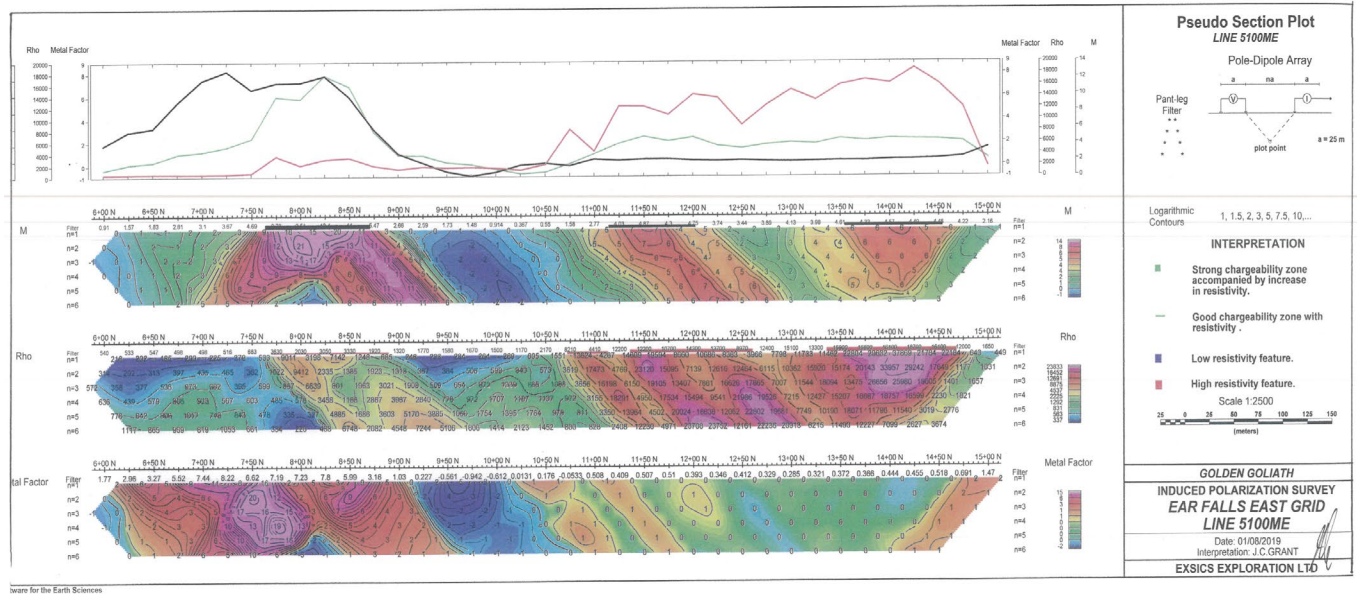
LINE 5100EP:

This line was successful in outlining three conductive zones. The strongest zone lies between 750MN and 875MN and it is represented by a strong and relatively shallow chargeability anomaly that has a chargeability low on its northern flank. The zone correlates to a modest resistivity high flanked by two resistivity lows. Again this zone lies along the southern flank of the main magnetic high unit that strikes across the southern section of the grid area.

The second zone of interest lies between 1100MN and 1200MN that correlates to two narrow resistivity highs within a broad resistivity. Both units appear to strengthen at depth. This zone lies at the southern edge of a magnetic high and correlates directly with a narrow and modest magnetic low.

The third zone lies between 1350MN and 1450Mn and it correlates to a shallow resistivity high. This zone correlates directly with a magnetic high unit that is striking off of the grid to the east.

LINE 5100EIP SECTION



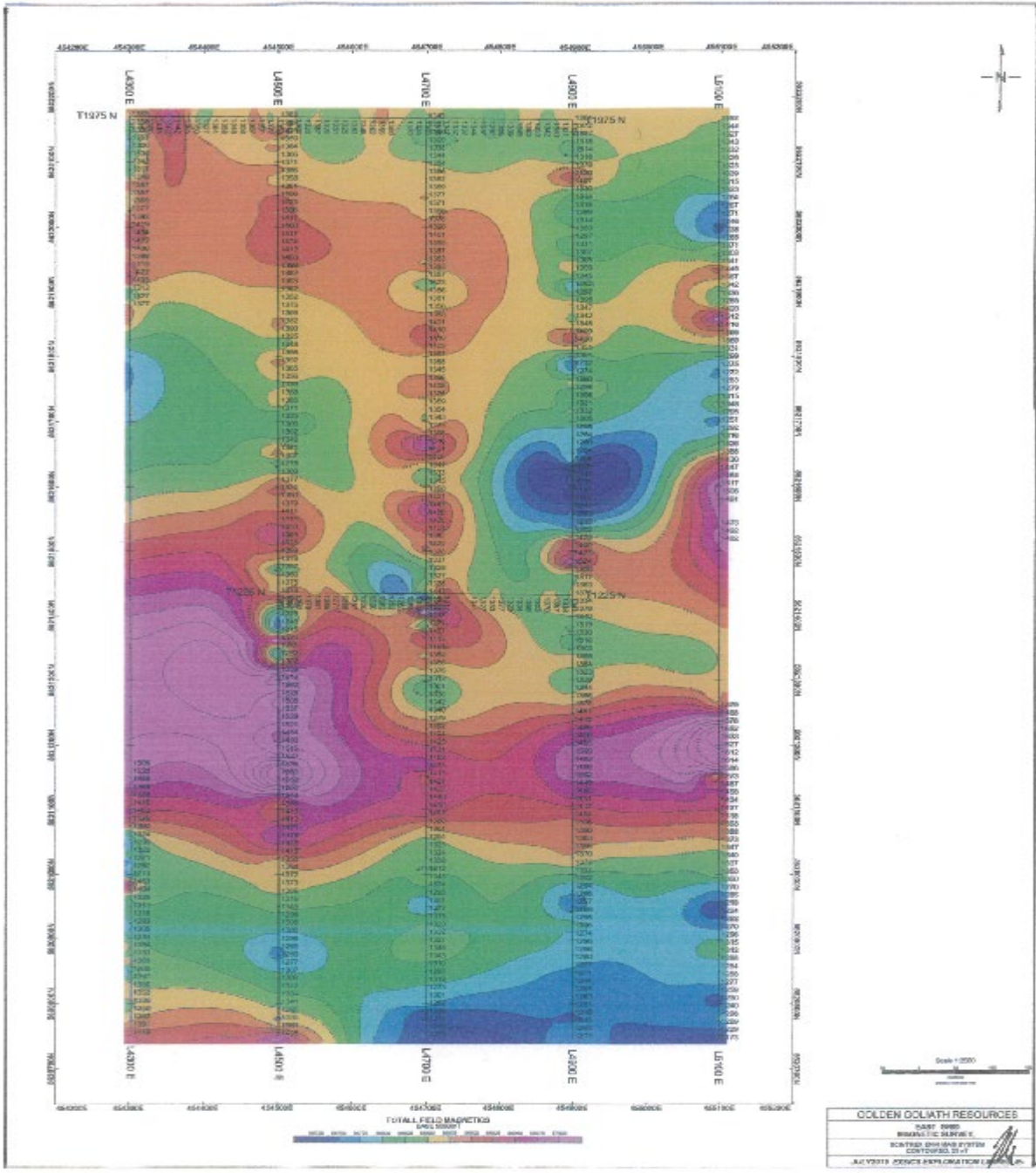
TOTAL FIELD MAGNETIC AND VLF-EM SURVEYS:

The most predominant feature outlined by the magnetic survey is the strong magnetic high that strikes into the grid from the west and continues off of the grid to the east. The main IP zone lies along the southern edge of this high and two of the main VLF anomalies lie within the high or along the southern edge of the high. The structure appears to dip near vertical to slightly grid south. This structure may correlate to the Pakwash Lake Fault that strikes across the grid area.

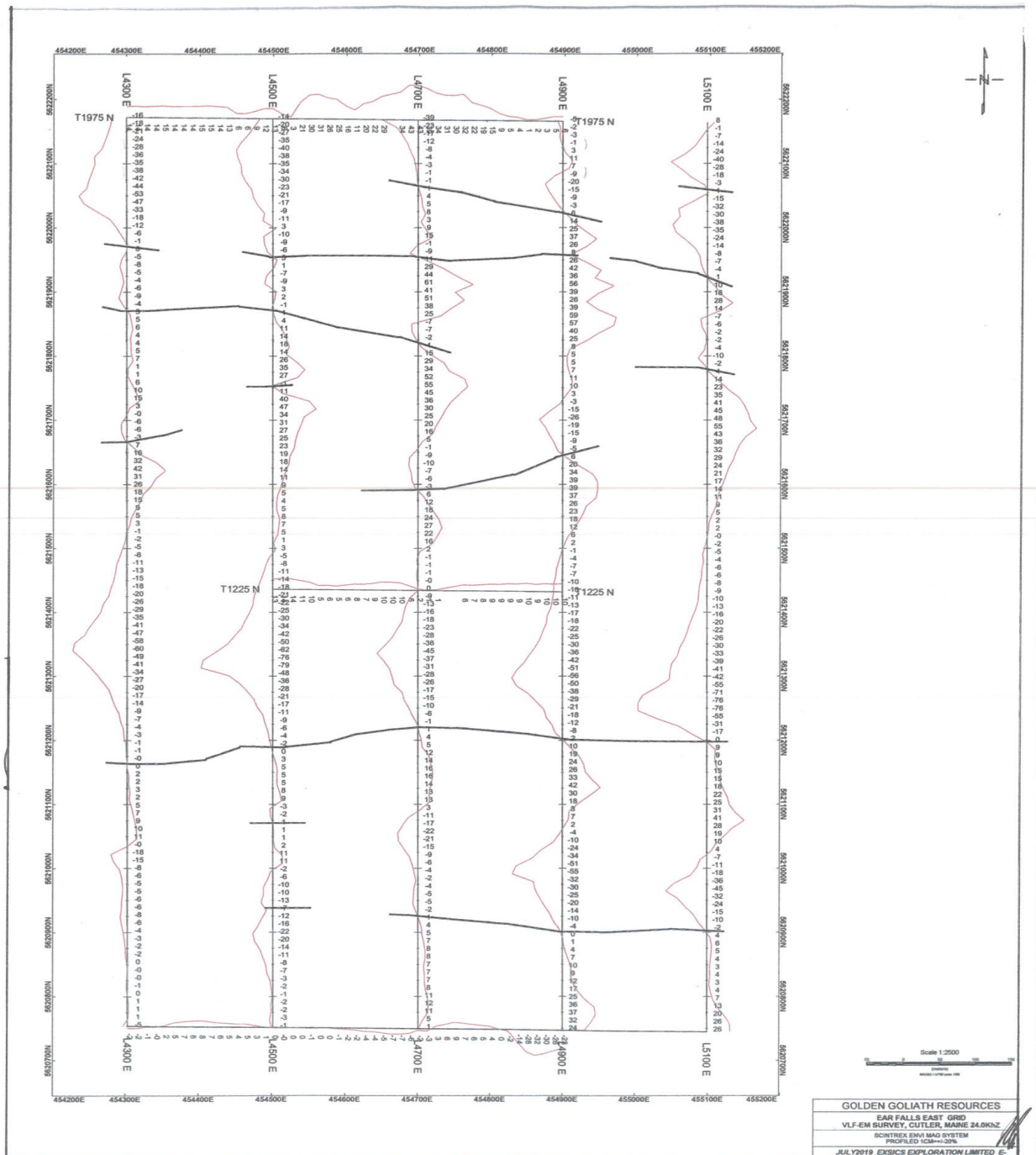
A second magnetic high unit strikes into the grid from the west and covers the northern sections of lines 4300ME to 4900ME and may extend as far as 5100ME albeit somewhat narrower. This high is associated with 3 VLF zones that lie along the edges of the high and directly with the high. These zones are open along strike.

Refer to the following plan maps for the results of the Total field magnetic survey, VLF-EM survey and a compilation plan map of the magnetic, VLF-EM and IP survey results.

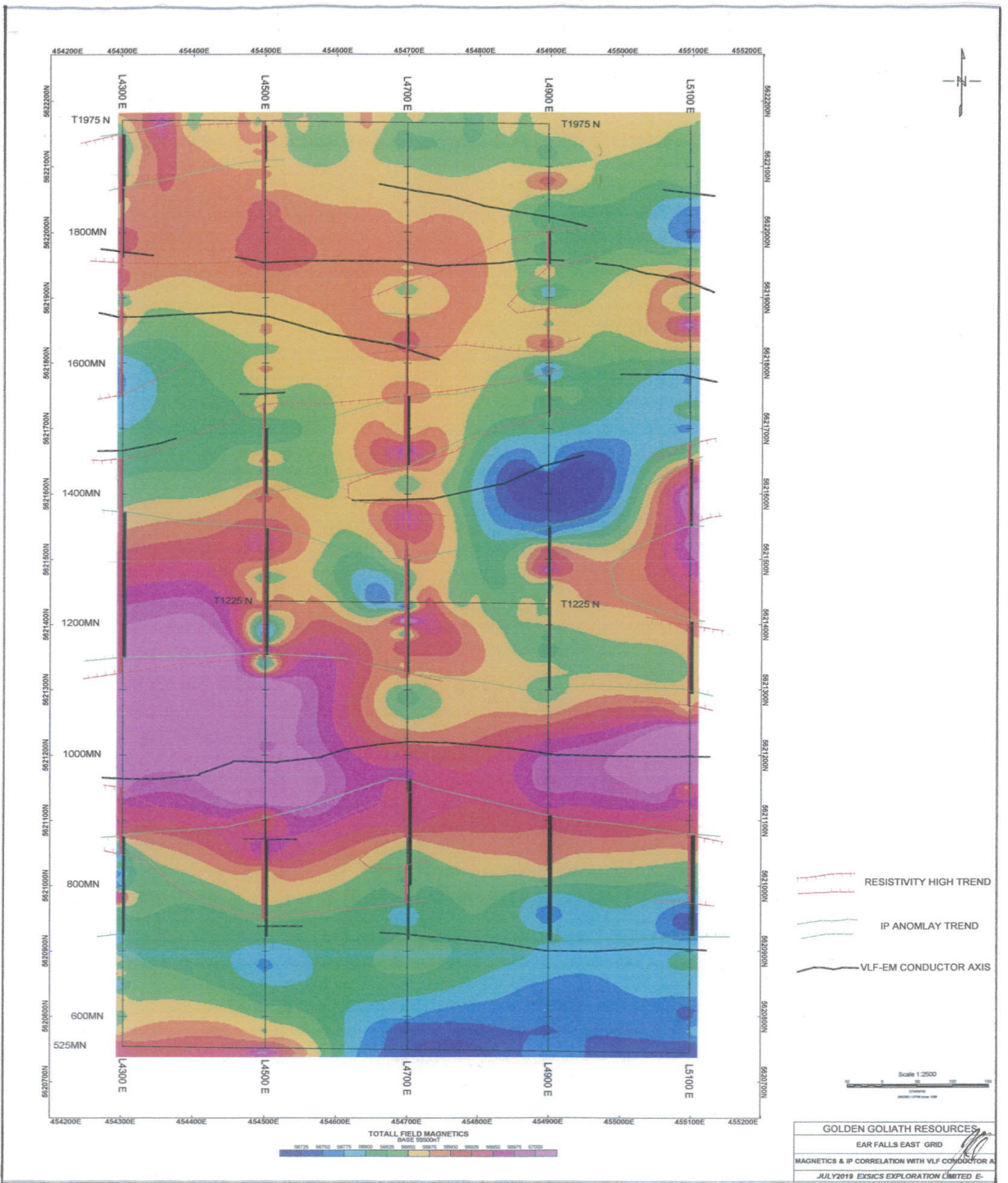
TOTAL FIELD MAGNETIC SURVEY, EAST GRID



VLF-EM SURVEY EAST GRID



MAGNETIC, VLF-EM, IP COMPILATION PLAN MAP EAST GRID



IP SURVEY KWAI PROJECT, WEST GRID:**LINE 0+00E IP**

This line returned 5 conductive zones across the length of the line. The first zone appears at the extreme south end of the grid line and lies to the immediate south of a chargeability low. The zone is represented by a chargeability high that is building as it continues off of the grid to the south. It appears to correlate to a resistivity high that is also building to the south of the line. The feature appears to correlate to a magnetic low as well as a VLF zone in the same area.

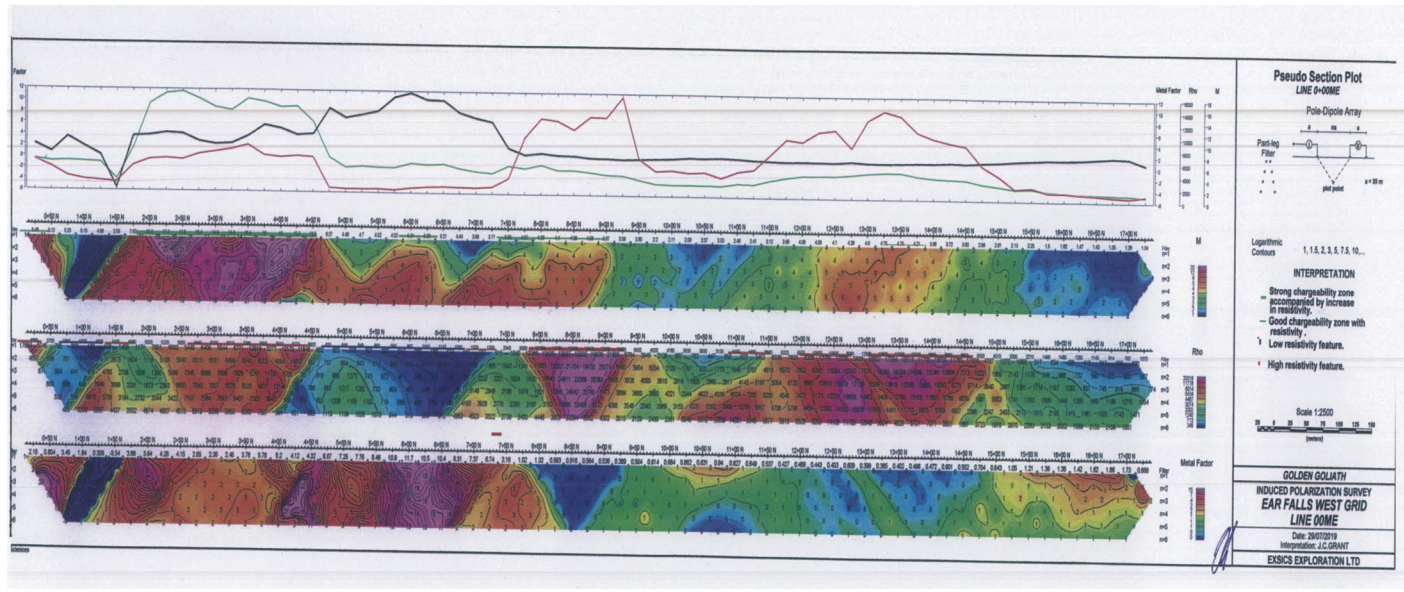
The second zone represents the strongest feature on the line and it lies between 175MN and 450MN and may represent two parallel zone relatively close to each other. The zone lies to the immediate north of a chargeability low feature. The zone itself correlates to a broad resistivity high. The south flanking chargeability low correlates to a resistivity low. The strong chargeability appears to correlate with the southern edge of a good magnetic high unit whereas the chargeability low appears to correlate or cut across the magnetic low unit.

A third zone lies between 575MN and 650MN and it is represented by a modest and possibly deeper rooted zone that the main IP zone to the south. This feature also correlates to a broad resistivity low unit suggesting a more conductive horizon. This zone correlates directly with the magnetic high that strikes east-west across the grid lines. It also correlates directly with a good VLF conductor axis that continues off of the grid in both directions.

The next area of interest lies between 725MN and 900MN with the strongest portion lying between 725MN and 800MN. The southern section of the zone lies at the contact between a good resistivity low and high and the northern portion of the zone correlates to a good strong and possibly shallow resistivity high. The entire anomaly coincides with the northern edge of the main magnetic high and it does not appear to have any VLF response associated with it.

A final weak zone was noted between 1275MN and 1350MN that lies within a modest to strong resistivity high that in turn appears to have been cross cut by a narrow structure at 1300MN. This zone appears to correlate to a very subtle magnetic high feature, possibly the extreme northern edge of the magnetic high to the immediate south.

LINE 0+00E IP SECTION

**LINE 200ME IP**

This line returned at least 6 to 7 areas of interest. The first is a narrow and possibly deep zone situated at the southern tip of the line that coincides with a narrow resistivity high. The zone appears to correlate to a magnetic low and lies to the immediate north of a VLF zone.

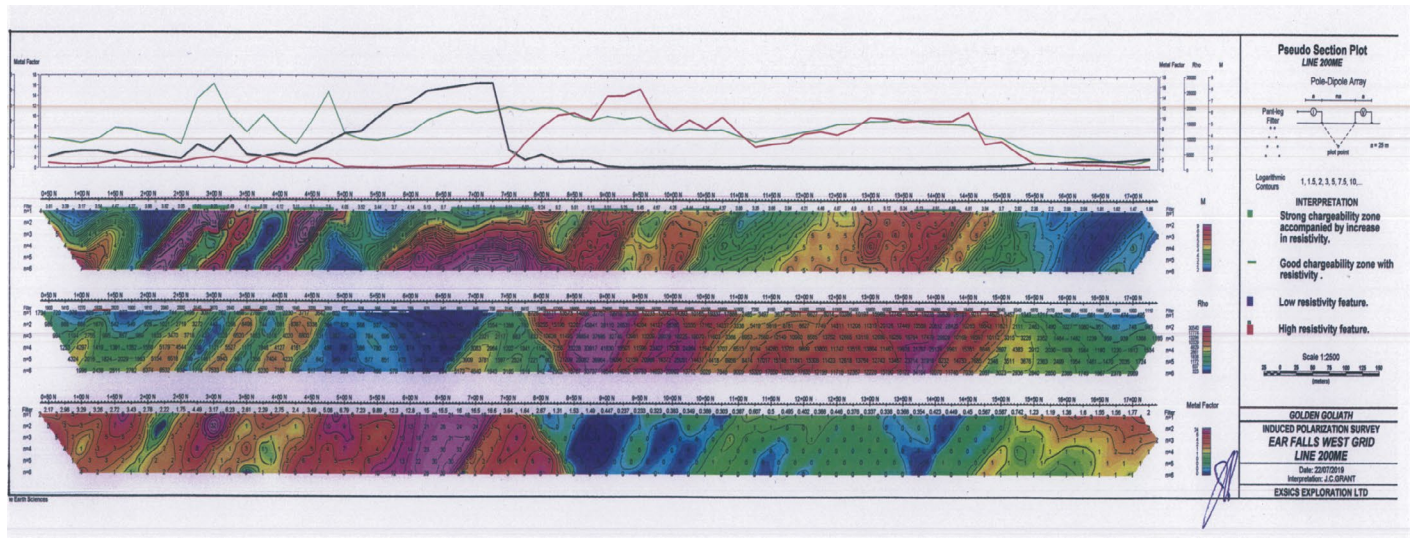
The second zone of interest lies between 250MN and 375MN and it is represented by two narrow and strong chargeability highs that correlate to two narrow resistivity highs. The zones correlate to spot magnetic highs and lows within a potential low magnetic signature. It also correlates to a good VLF zone.

There is a third zone paralleling the above two zones and it is situated between 425MN and 500MN. It is represented by a good strong chargeability high that appears to be shallow and it correlates to a modest resistivity high. The zone appears to correlate to a spot magnetic low at the southern edge of the main magnetic high unit.

The main zone of interest lies between 650Mn and 900MN and it is represented by a good strong chargeability high which appears to strengthen at depth. The zone correlates to a resistivity low to the immediate south and a modest to high resistivity to the north. A weak parallel zone lies just to the north of this feature and it also correlates to the northern resistivity high. The entire anomaly lies within the main magnetic high unit and it correlates directly with a good strong VLF zone.

The last zone lies between 1300MN and 1450MN and it is represented a modest broad chargeability high and a modest and broad resistivity high. The zone lies between two magnetic high trends that strike east-west across the grid. A short VLF conductor lies at the southern edge of this feature.

LINE 200MEIP SECTION

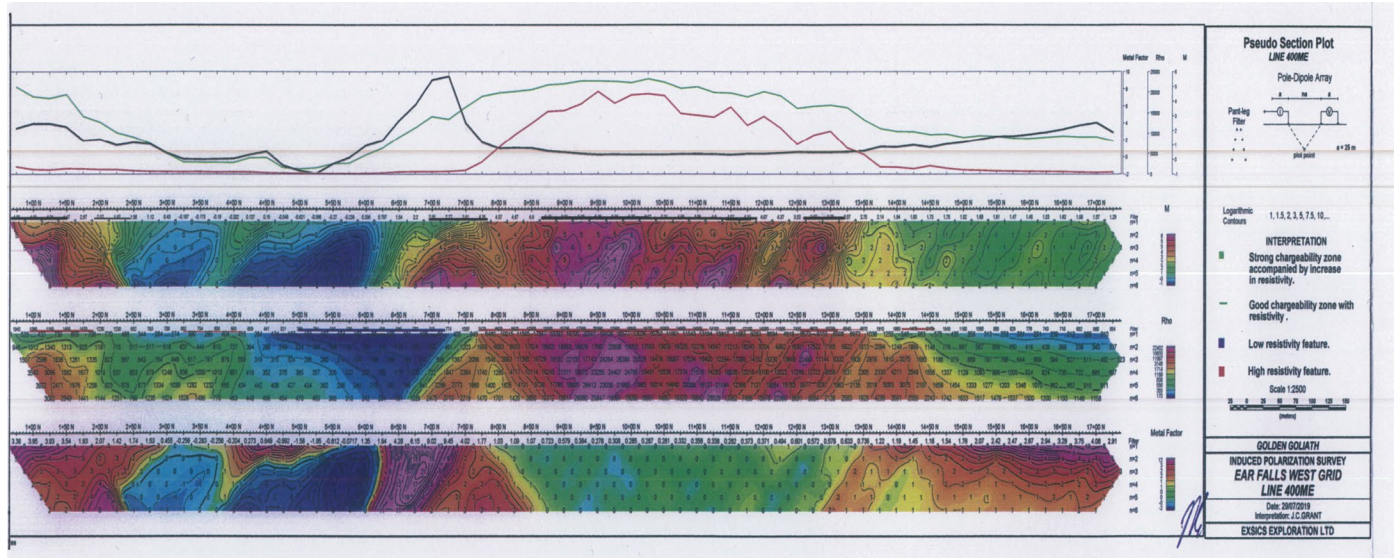


LINE 400ME IP

This line outlined several good zones across its length. The first zone lies between 200Mn and the southern edge of the line and appears to continue off of the grid to the south. The zone correlates to a modest resistivity high and a magnetic low. It also appears to correlate directly with a VLF zone.

The next zone is a deep seated zone between 700MN and 775MN that correlates to a modest and deep resistivity that lies on the northern flank of a good resistivity low feature. This zone lies on the southern edge of the main magnetic high structure.

The next area of interest is a broad chargeability high that lies between 850MN and 1200MN and appears to represent several narrow highs within the broad unit. The zone correlates to a broad resistivity high. The zone also correlates to the northern edge of the main magnetic high unit.

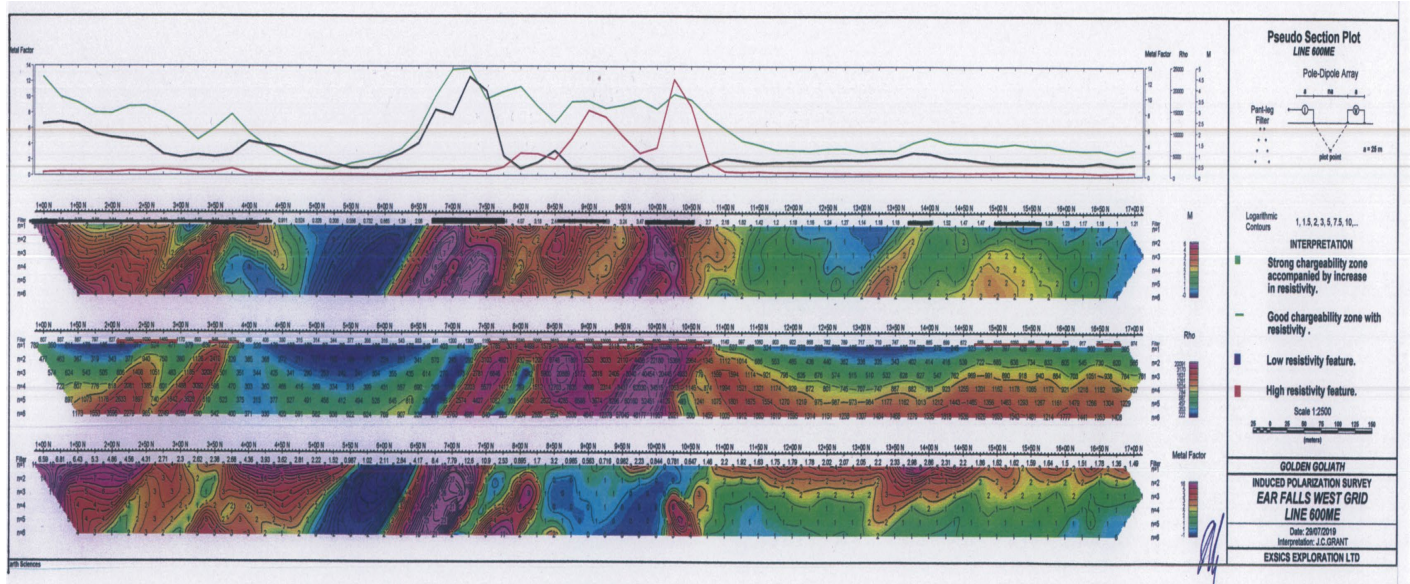
LINE 400ME IP SECTION:**LINE 600ME IP**

This line also outlined a number of areas of interest across its length. The first area lies between 400MN and the southern end of the grid line. The zone appears to represent several narrow chargeability high within a broader unit. The two main highs within the broad zone correlate to two narrow resistivity highs that extend to depth. The two main features also correlate to good VLF zones.

The next area of interest lies between 675MN and 1075MN and it is represented by a series of parallel zones within a broader zone. The southern anomaly correlates to a resistivity low and lies on the northern edge of the main magnetic high unit. The middle zone correlates to a resistivity high that appears to be cross cut by a narrow low structure. The northern zone correlates to a good strong chargeability high that correlates to a good strong and shallow resistivity high.

The remaining two zones lie between 1350MN and 1400MN and 1500MN and 1550MN and are represented by modes and narrow chargeability highs that correlate to a deep and very broad resistivity high. This zone correlates to the broad magnetic high that strikes across the northern section of the grid area.

LINE 600ME IP SECTION



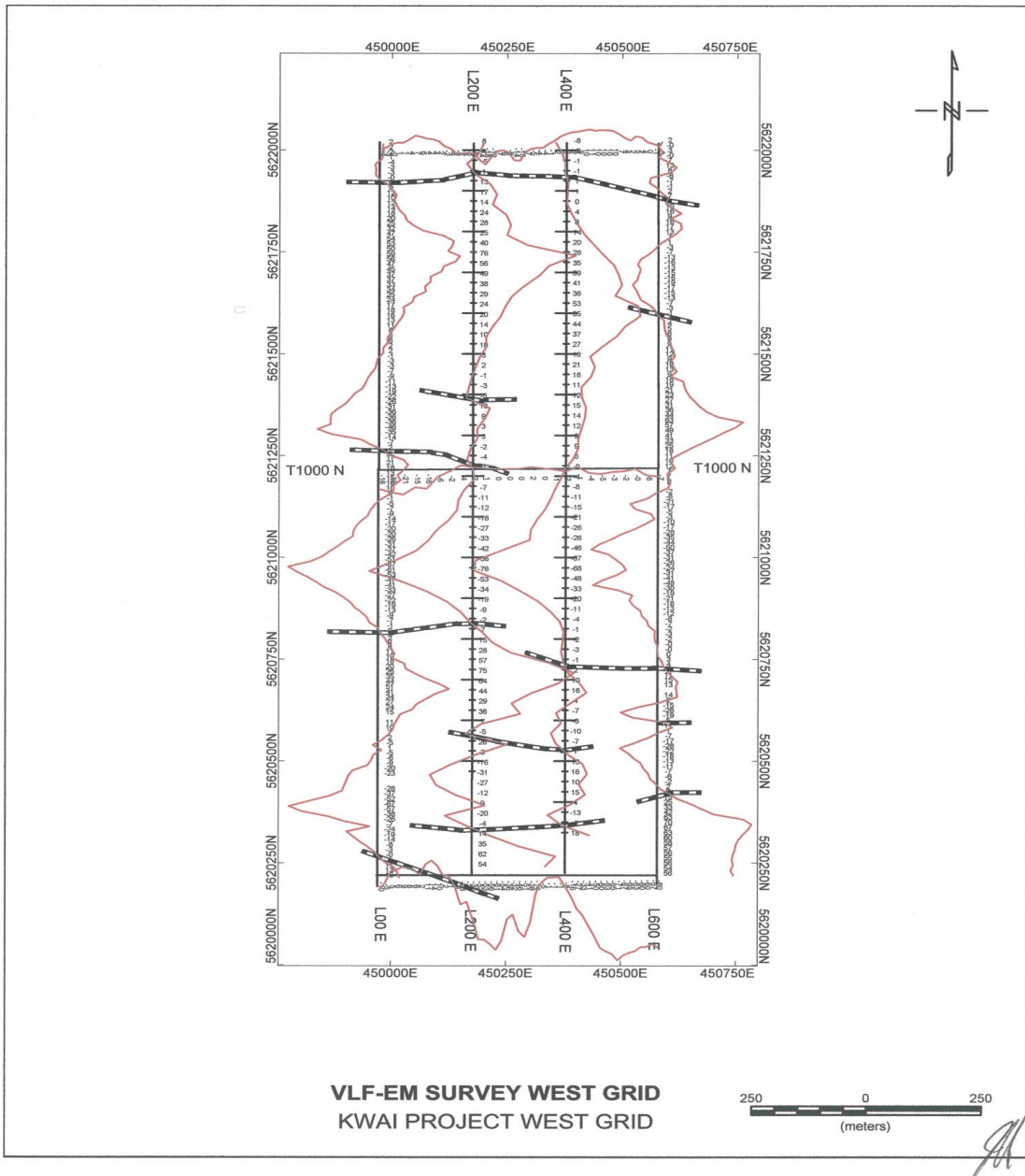
TOTAL FIELD MAGNETIC AND VLF-EM SURVEY:

The VLF survey was successful in outlining a number of VLF structures across the grid area. The main conductors correlate to the magnetic high units that strike across the central and north sections of the grid and for the most part they also correlate to several IP zones. The VLF survey suggests that the conductors generally are near vertical to slightly north dipping

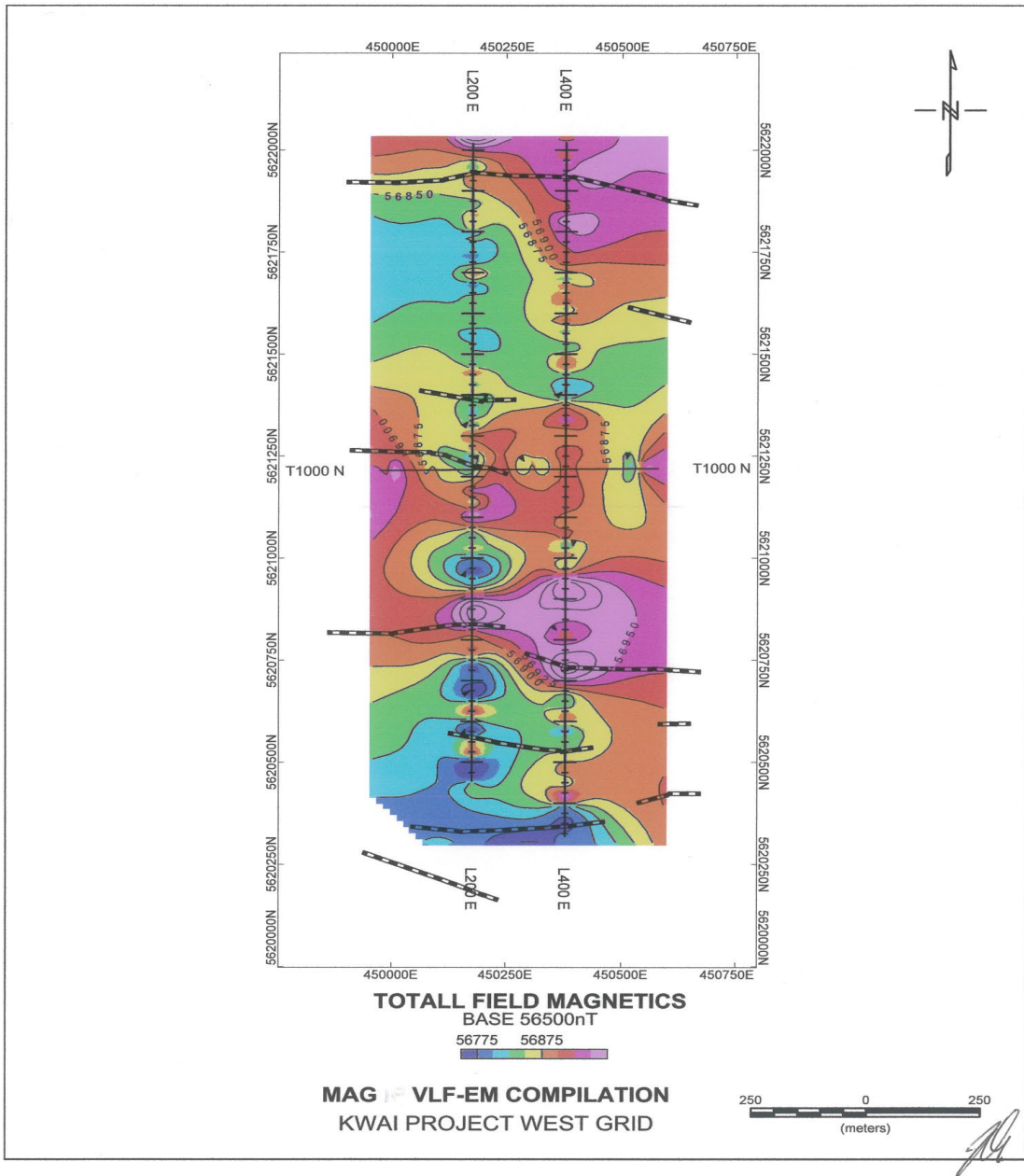
The magnetic survey outlined two potential magnetic highs that are host to the main VLF zones as well as the main IP zone. Unfortunately lines 0 and 600ME could not be plotted as the unit malfunctioned during the end of the survey. The enclosed magnetic map is generally accurate over lines 200ME and 400ME.

Both surveys along with a plan map compilation of the magnetic, VLF-EM and IP surveys are included below.

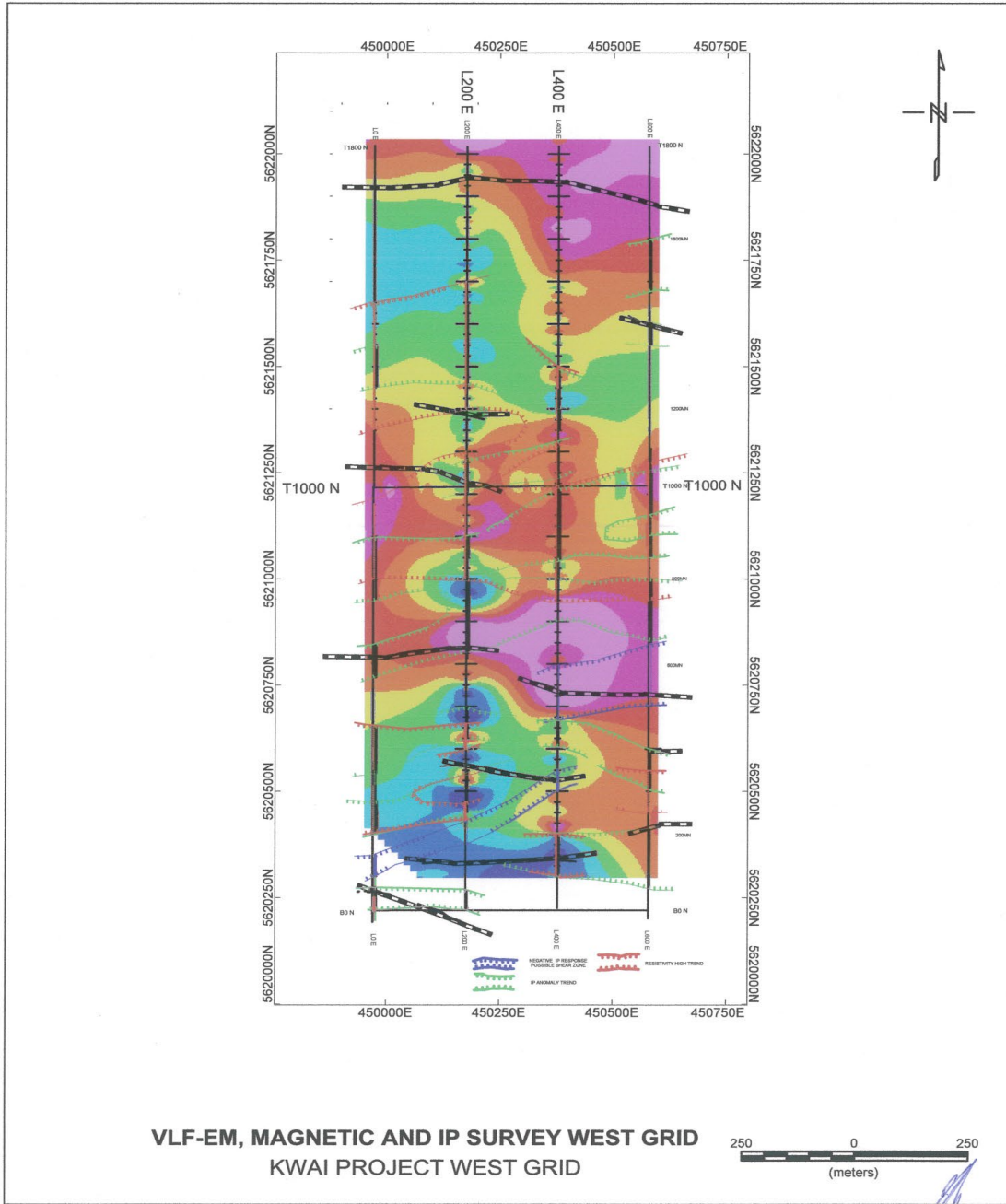
VLF EM SURVEY:



TOTAL FIELD MAGNETIC SURVEY



VLF-EM MAGNETIC AND IP COMPILATION MAP



CONCLUSIONS AND RECOMMENDATIONS:

The IP survey was successful in outlining several areas of interest across the survey portion of the two grids. The main IP target areas on both of the two grids appear to correlate to the suspected main fault zone, The Pakwash lake fault that is known to strike across the region from the west grid to the east grid. Figure 4. The fault represents the contact or suspected contact between the Intrusives to the north and the metasediments to the south. Both of the two grids were designed to cross cut the suspected fault location with the intent of testing the fault for an environment that would be considered a good area for deposition of gold bearing materials.

The area does not offer much in the way of exposed outcroppings so potential areas of interest were not visible to enhance the grids.

Once the IP program was completed the survey returned unexpected strong conductive zones over all of the IP lines on both grids. What was the most definitive outcome was the nature of the chargeability responses. The main area of interest outlined on both grids was the chargeability negative response that was followed by a chargeability high unit. These responses would normally correlate to resistivity highs with flanking lows.

When comparing the results over the two grids it was suggested that the features may be representing two major shear zones that strike across the entire area. Shears are the main controlling structures for gold in the Red Lake mines as well as the newly discovered Great Bear Dixie Lake project directly to the north of the Golden Goliath property.

The Author has also seen similar IP responses over the Bell Creek Mine which is an operating gold mine in the Timmins Gold camp.

The most intriguing part of this initial ground program is that initially we did not know what to expect for results as there had been very little historical work programs done in the area. The fact that the initial results are so similar in nature to historical results in both the Red Lake and Timmins camp may suggest that the potential for similar structures may exist on the Golden Goliath Kwai Property which we have just started to expose.

I would suggest that although we have potential drill targets from these initial surveys they may not represent the best targets across the property. A follow up program of additional IP surveys between the two initial grids along with detailed magnetics would greatly enhance the potential of the property as well as the possibility of outlining a more defined area for the initial drill program. The Dixie Property to the north has proven the existence of new gold structures that correlate to a major shear and or fault structure. They have raised significant funds to further drill the new discovery which can only help in boosting the potential of the Kwai Project as it progresses.

Respectfully submitted

JCGrant

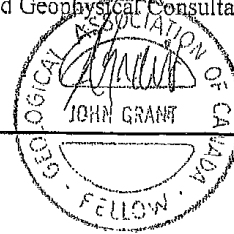
J. C. Grant, CET, FGAC
October 2019

CERTIFICATION

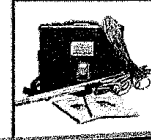
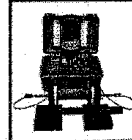
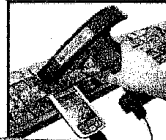
I, John Charles Grant, of 108 Kay Crescent, in the City of Timmins, Province of Ontario, hereby certify that:

- 1). I am a graduate of Cambrian College of Applied Arts and Technology, 1975, Sudbury Ontario Campus, with a 3 year Honors Diploma in Geological and Geophysical Technology.
- 2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years, 1975 to 1980), and currently as Exploration Manager and Chief Geophysicist for Exsics Exploration Limited, since May, 1980.
- 3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984.
- 4). I am in good standing as a Fellow of the Geological Association of Canada, (FGAC), since 1986.
- 5). I have been actively engaged in my profession since the 15th day of May, 1975, in all aspects of ground exploration programs including the planning and execution of field programs, project supervision, data compilation, interpretations and reports.
- 6). I have no specific or special interest nor do I expect to receive any such interest in the herein described property. I have been retained by the property holders and or their Agents as a Geological and Geophysical Consultant and Contract Manager.

John Charles Grant, CET., FGAC.



APPENDIX A

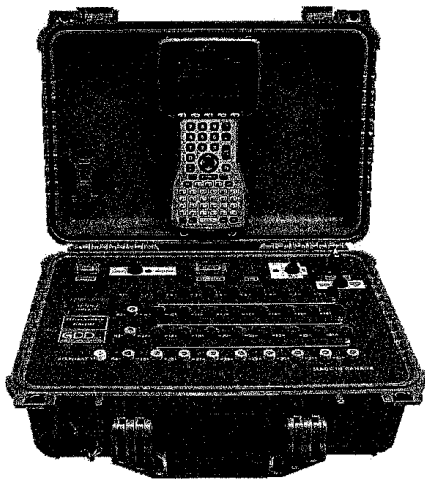


Canadian Manufacturer of Geophysical Instrumentation since 1976
Sales, Rental, Customer Service, R&D and Field training

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IP Receiver Model GRx8-32

«Field users have reported that the GDD IP Receiver provided more reliable readings than any other time domain IP receiver and it reads a few additional dipoles. »



FEATURES

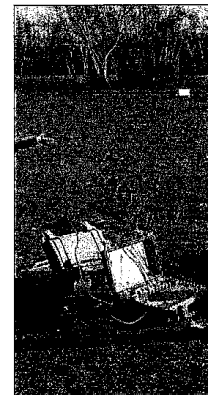
- 8 channels expandable to 16, 24 or 32
- Reads up to 32 ch. simultaneously in poles or dipoles
- PDA menu-driven software / simple to use
- 32 channels configuration allows 3D Survey:
 - 4 lines X 8 channels - 2 lines X 16 channels
 - 1 line X 32 channels
- Link to a PDA by wireless communication or a serial cable
- Real-time data and automatic data stacking (Full Wave)
- Screen-graphics: decay curves, resistivity, chargeability
- Automatic SP compensation and gain setting
- 20 programmable chargeability windows
- Survey capabilities: Resistivity and Time domain IP
- One 24 bit A/D converter per channel
- Gain from 1 to 1,000,000,000 (10^9)
- Shock resistant, portable and environmentally sealed

GRx8-32: This new receiver is a compact and low consumption unit designed for high productivity Resistivity and Induced Polarization surveys. Its high ruggedness allows it to work under any field conditions.

User modes available: Arithmetic, logarithmic, semi-logarithmic, Cole-Cole, IPR-12 and user defined.

IP display: Chargeability values, Resistivity values and IP decay curves can be displayed in real time. The GRx8-32 can be used for monitoring the noise level and checking the primary voltage waveform.

Internal memory: A 4 Go (or more) Compact Flash memory card is used to store the readings. Each reading includes the full set of parameters characterizing the measurements for all channels; the full wave signal for post-treatment processing. The data is stored in flash type memory not requiring any battery power for safekeeping.



Manufactured in Canada by Instrumentation GDD Inc.

New IP Receiver Model GRx8-32 with PDA

GRX8-32: This new receiver is a compact and low consumption unit designed for high productivity Resistivity and Induced Polarization surveys. It features high ruggedness allowing to work in any field conditions

Reception poles/dipoles: 8 simultaneous channels expandable to 16, 24 or 32, for dipole-dipole, pole-dipole or pole-pole arrays.

Programmable windows: The GRX8-32 offers twenty fully programmable windows for a higher flexibility in the definition of the IP decay curve.

User modes available: Arithmetic, logarithmic, semi-logarithmic, Cole-Cole and user define.

IP display: Chargeability values, Resistivity values and IP decay curves can be displayed in real time. The GRX8-32 can be used for monitoring the noise level and checking the primary voltage waveform.

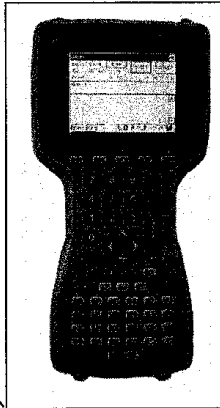
Internal memory: The memory of 64 megabytes can store 64,000 readings. Each reading totalizes one kilobyte and includes the full set of parameters characterizing the measurements on 8 channels. The data is stored in flash memories not requiring any lithium battery for safeguard. The memory can hold many days worth of data. It also stores fullwave form of the signal at each electrode for post-treatment.

Features:

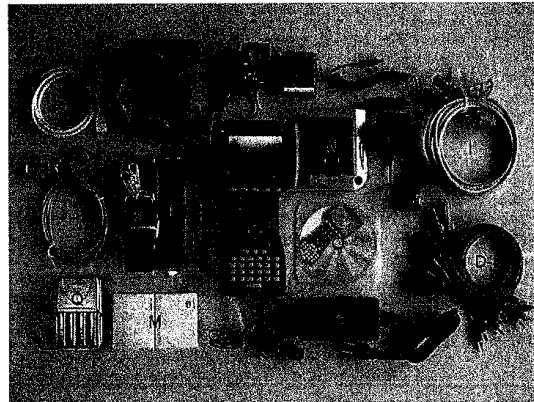
- 8 channels expandable to 16, 24 or 32
- Reads up to 32 ch. simultaneously in poles or dipoles configuration
- PDA menu-driven software / simple to use
- 32 channels configuration allows 3D Survey: 4 lines X 8 channels, 2 lines X 16 channels or 1 line X 32 channels
- Link to a PDA by Bluetooth or RS-232 port
- Real-time data and automatic data stacking
- Self-test diagnostic
- Screen-graphics: decay curves, resistivity, chargeability
- Automatic SP compensation and gain setting
- 20 programmable chargeability windows
- Survey capabilities: Resistivity and Time domain IP
- One 24 bit A/D converter per channel
- Gain from 1 to 1,000,000,000 (10^8)
- Shock resistant, portable and environmentally sealed



GDD IP Receiver model GRx8-32



PDA included with GRX8-32
Standard Juniper -
Allegro CX mobile PDA

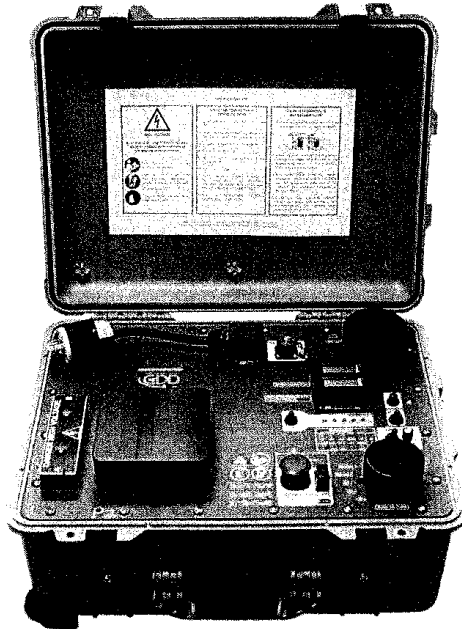


Components included with
GDD IP Receiver GRx8-32

IP Transmitter

Model TxII
5000W-2400V-15A

Instruction Manual

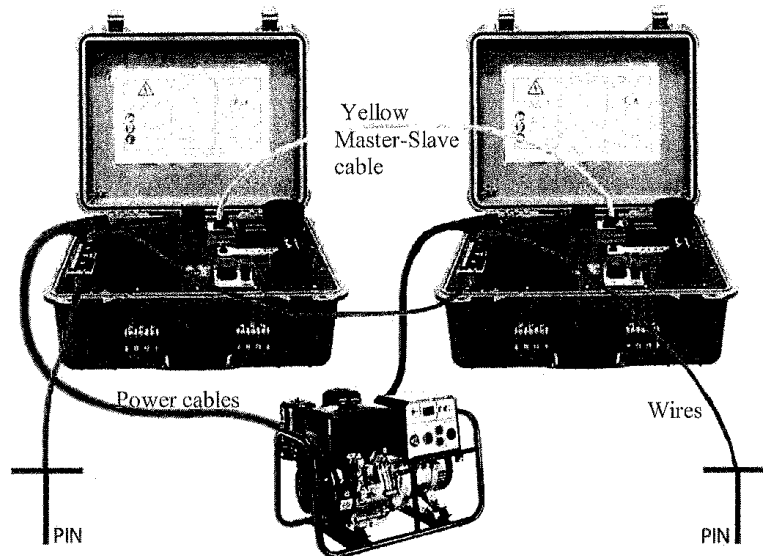


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6. MASTER / SLAVE MODE

Here are the basic steps for a Master/Slave operation of the TxII:

1. Connect the yellow synchronization cable (Master/Slave) to the transmitters. The Master/Slave cable terminations are different: one is labeled *MASTER* and the other one *SLAVE*. The transmitter is *MASTER* or *SLAVE* according to the termination of the cable connected on its interface. The *MASTER* and *SLAVE* LEDs indicate the mode of each transmitter. (see figure 2, yellow line)
2. Connect an insulated wire between the terminal (A) of one transmitter and the terminal (B) of the other one. (see figure 2, blue line)
3. Connect the two power cables from the transmitters to the generator. (see figure 2, red lines)
4. Drive the electrodes into the ground and connect them to the unused terminals (A) and (B) by using insulated wires. (see figure 2, blue lines)



9. SPECIFICATIONS

Size :	TxII-5000W with a blue carrying case: 34 x 52 x 76 cm TxII-5000W only: 26 x 45 x 55 cm
Weight :	TxII-5000W with a blue carrying case: ~ 58 kg TxII-5000W only: ~ 40 kg
Operating Temperature :	-40°C to 65°C (-40°F to 150°F)
Time Base:	2 s ON+, 2 s OFF, 2 s ON- DC, 1, 2, 4, 8 or 16 s
Output current :	0.030A to 15A (normal operation) 0.0A to 15A (cancel open loop) Maximum of 7.5A in DC mode
Rated Output Voltage :	150V to 2400V Up to 4800V in a master/slave configuration
LCD Display :	Output current, 0.001A resolution Output power Ground resistance (when the transmitter is turned off)
Power source :	220-240V / 50-60Hz

APPENDIX B

SCINTREX

ENVI GEOPHYSICAL SYSTEM

The Scintrex ENVI System gives you the flexibility to find the increasingly more elusive anomalous targets. A complete ENVI system is low cost, lightweight, portable proton precession magnetometer/gradiometer with VLF capabilities which enables you to survey large areas quickly and accurately. Whether it is for Magnetic surveys, VLF electromagnetic surveys or a combination of these techniques, the ENVI system can be designed to suit your own unique requirements. This customized approach gives you the ability to select the following options for your instrument:

- Portable Field and Base Station Magnetometer
- True Simultaneous Gradiometer
- VLF Electromagnetic Receiver
- VLF Resistivity Option

Rapidly Recall Data

For quality of data and for rapid analysis of the magnetic characteristics of the survey line, several modes of review are possible. These include the measurements at the last four stations, the ability to scroll through any or all previous readings in memory and a graphic display of the previous data as profiles, line by line.

Simplify Fieldwork

The ENVI makes surveys easier to conduct as the system:

- provides simple operator menus
- presents the data both numerically and graphically on the large LCD screen
- eliminates the need to write down field data as it simultaneously stores time, field measurements and grid coordinates
- clears unwanted last readings if selected
- calculates statistical error for each measurement
- automatically calculates the difference between the current reading and the previous one (base station)
- provides the ability to remove the coarse magnetic field value or data from the field data to simplify plotting of the field results
- automatically calculates diurnal corrections
- allows for hands free operation with the backpack sensor option

BENEFITS

Customize Your System

At the heart of the ENVI system is a lightweight console with a large screen alphanumeric display and high capacity memory which is common to all configurations. Included with each system are the appropriate sensors, sensor staff and/or backpack, a rechargeable battery, battery charger, an RS-232 cable and a transit case.

Increase Productivity

For magnetic surveys you can select sampling rates of 0.5 second, 1 second and 2 seconds.





ENVI VLF is the ideal groundwater exploration tool.

With the gradiometer option there is no lost survey time as the ENVI enables you to conduct gradient surveys during magnetic storms. The technique of simultaneously measuring the two sensors cancels the effects of diurnal magnetic variations.

ENVI VLF

The ENVI VLF is ideal for environmental, geotechnical and mineral/water exploration application.

The ENVI VLF unit allows you to read the vertical in-phase, vertical quadrature, total field strength, dip angle, primary field direction, apparent resistivity, phase angle, time, grid coordinates, direction of travel along grid lines and natural and cultural features. The ability to obtain data from as many as 3 VLF transmitting stations provides complete coverage of an anomaly regardless of the orientation of the survey grid of the anomaly itself.

The unique, 3-coil sensor does not require orientation of the VLF sensor head toward the transmitter station. This simplifies VLF field procedures and saves considerable survey time.

The ENVI VLF can measure up to three VLF frequencies. The display indicates the signal to noise ratio which provides you with an immediate indication of how usable a frequency is. The ENVI also enables you to automatically scan the entire VLF spectrum for the most usable stations between 15 kHz to 30 kHz. Using up to three frequencies optimizes conductor coupling even in the most complex geological environments. The ENVI VLF system's ability to obtain repeatable readings from weak signals offers a number of benefits:

- extends the use of VLF to countries where its use was previously marginal
- increases the number of frequencies with which you can operate

VLF Resistivity Option

The ENVI also offers a non-orientation VLF resistivity option.

ENVI MAG/VLF

The ENVI MAG/VLF has the features of both the ENVI MAG and ENVI VLF combined in one instrument.

ENVI GRAD/VLF

The ENVI GRAD/VLF has the features of both the ENVI GRAD and ENVI VLF combined in one instrument.

ENVI MAP Software

Supplied with the ENVI MAG and ENVI GRAD and custom designed for this purpose, is an easy to use, menu-driven data processing and mapping software for magnetic data called ENVI MAP. The software enables you to:

- read the ENVI MAG/GRAD data and reformat it into a standard, compatible with the ENVI MAP software
- grid the data into a standard grid format
- create a vector file of posted values with line and baseline identification that allows the user to add some title information and build a suitable map surround
- contour the grided data
- autoscale the combined results of the posting/surround step and the contouring step to fit on a standard 8.5 inch wide dot-matrix printer
- rasterize and output the results of the autoscaling to the printer

The ENVI MAP software is fully compatible with Geosoft programs. More advanced data processing, modeling and interpretation software is also available.

The ENVI MAG/VLF with backpack option is a highly productive and efficient geophysical system.

