Geophysical, Radiometric and Geological Work
on the
Jove Claim Group (Jove, Dome, 60 M, Cap, Mat, and Son Properties)

Grant Numbers: YC34401 to YC34408,YC35168 to YC35175,YC36548 to YC36559,YC36560 to YC36571,YC52730 to YC52800,YC60501 to YC60625,YC34409 to YC34416,YC52714 to YC52729,YC60976 to YC60979,YC60980 to YC60983,YC60984 to YC60987,YC61354 to YC61413,YC61482 to YC61539,YC61890 to YC61951,YC61967 to YC62929,YC62042 to YC62314,YC62323,YC62325,YC62327,YC62329,YC62331,YC62333,YC62335,YC62337

Summer 2008 Field Activities

Sixty Mile River Area
Latitude: 63° 40’ N   Longitude: 140° 25’ W
NTS 115 N – 09, 10

Dawson Mining District
Yukon Territory, Canada

Prepared at the request of

Matson Uranium Ltd.

By

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1. Summary

The Jove Claim Group covers a large uranium prospect and is located in western Yukon Territory, approximately 66 km southwest of Dawson City. The group comprises 796 contiguous claims covering a total area of 15461.27 hectares and is owned 100% by Matson Uranium Limited. The property lies approximately 40 km from the fully serviced Top of The World Highway and bush roads come within 9 km of the property bounds. However, currently overgrown bulldozer trails were established by Eldorado Nuclear in the late 1970's to access what is now the central portion of the present property.

Historically, the Jove Property saw substantial exploration between 1977 and 1980 including 18 diamond drill holes totalling 1863.7 m, bulldozer trenching, geochemical sampling, geophysical and radiometric surveys, and geological mapping. The previous exploration programs focused on uranium hosted in fractured and shattered intrusive bedrock with high background radioactivity levels. The host rocks are mapped as variably deformed Devonian to Mississippian granitic intrusives with abundant coarse grained phases. Structurally, there are a series of faults and fractures that generally trend north-south. Locally there are also younger intrusive rocks of Jurassic age that may have contributed to mobilization of uranium bearing fluids.

Subsequent evaluation of the geological setting and regional geochemical and geophysical surveys revealed the untested possibility of mineralization in the form of a Roll-Front type deposit. Deep weathering of the sheared uraniferous intrusive rocks and migration of the uranium-bearing waters into an Upper Cretaceous conglomerate unit capped by basic and felsic extrusive rocks provides a much larger regional target. Redox traps in the Cretaceous rocks include coal seams and conglomerate-volcanic contacts.

A two stage exploration program is recommended with total expenditures of $901,000. Phase One (~$300,000)would include detailed 3D interpretation of the airborne VTEM geophysical survey as well as ground follow up work comprising mostly trenching, geological mapping, prospecting, ground magnetics survey and scintillometer work.

Phase Two (~$601,000) would concentrate on drilling anomalies uncovered by Phase One work.

2. Introduction

This report has been prepared at the request of Eagle Hill Exploration Corporation (“Eagle Hill”) and examines the results of new geological, geophysical and radiometric surveys with consideration of previous exploration conducted on the property. Recommendations are made for future exploration programs.

The report is based on information obtained from private company data, public documents, assessment reports and literature sources cited under the heading "References" and the writer's familiarity with the geology and mineral deposits of the Dawson Range area. The author physically visited the property in August of 2007 and oversaw the daily activity during the 2008 field program.

3. Reliance on Other Experts

Much of the information disclosed in this report is derived from the results of the previous field programs (all of which were prior to NI 43-101 standards) and the author has relied on data, interpretations, and information supplied by others, as listed in the References. Geophysical interpretations by Geotech and radiometric interpretations by Geoxplor were taken as valid and thus relied upon. Much of the property history was obtained through the Yukon Government’s MINFILE database (Deklerk, 2003) and claim information was obtained online from the Yukon Mining Recorder website. Although every attempt was made to obtain all relevant and available documents, some publications may have been missed.

4. Property Description and Location

The Jove Claim Group consists of 796 contiguous mineral claims owned 100% by Matson Uranium Limited. The claims are located in Dawson Range area of west central Yukon Territory, at latitude 63°43'N and longitude 140°31’'W (Figure 1). The bulk of the claims lie within National Topographic System map sheet 115N/ 09, but also fall within NTS sheets 115N 10, 15, and 16. The general property location is shown in Figure 2 and the location of individual mineral claims is illustrated on Figure 3. The claims were recorded in six stages between August 2004 and July 2007, under the Yukon Quartz Mining Act. All claims are registered with the Dawson Mining Recorder in the name of Matson Uranium Ltd. In aggregate, the claims cover an area of approximately 15461 hectares. Mineral claim tenure information is summarized below and the bulk of the claims have been grouped under No. H003047.

Table 1. Claim Information

Claim Names		**Grant Numbers**	**# of Claims**
JOVE 1	to JOVE 8	YC34401 to YC34408	8
JOVE 9	to JOVE 16	YC35168 to YC35175	8
JOVE 17	to JOVE 28	YC36548 to YC36559	12
JOVE 29	to JOVE 40	YC36560 to YC36571	12
JOVE 50	to JOVE 120	YC52730 to YC52800	71
JOVE 121	to JOVE 245	YC60501 to YC60625	125
DOME 1	to DOME 8	YC34409 to YC34416	8
60 M 1	to 60 M 16	YC52714 to YC52729	16
60 M 17	to 60 M 20	YC60976 to YC60979	4
CAP 1	to CAP 4	YC60980 to YC60983	4
SON 1	to SON 4	YC60984 to YC60987	4
MAT 69	to MAT 128	YC61354 to YC61413	60
MAT 197	To MAT 254	YC61482 to YC61539	58
MAT 605	To MAT 666	YC61890 to YC61951	62
MAT 682	To MAT 744	YC61967 to YC62929	63
MAT 757	To MAT 1029	YC62042 to YC62314	273
MAT 1038		YC62323	1
MAT 1040		YC62325	1
MAT 1042		YC62327	1
MAT 1044		YC62329	1
MAT 1046		YC62331	1
MAT 1048		YC62333	1
MAT 1050		YC62335	1
MAT 1052		YC62337	1
		Total Number of Claims:	**796**

The mineral claims can be maintained in good standing by performing approved exploration work to a dollar value of $100 per claim per year or by making a corresponding payment-in-lieu of work. Exploration work is subject to terms of the

Yukon Environmental Socio-Economic Assessment Act and to Mining Land Use Regulations of the Yukon Mining Quartz Act, which require permits prior to performing significant exploration programs. The work programs proposed in this report could be conducted under a Class II Land Use Permit but at the time of writing this report no permit had been registered for work on the property. The proposed program in its entirely would require approval by the Yukon Environmental Socio-Economic Assessment Act Board.

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

The claim block is approximately 66 km southwest of Dawson City, Yukon Territory (Figures 1 and 2) and lies within 20 km of the US-Canada border. The closest major road is the Top of The World Highway, which sits approximately 40 km to NE. Helicopter support is best used to access the claim block at this time, although a rough 4 x 4 trail does exist within 9 km of the northwest corner of the claim group; this was built to access Matson Creek for placer activity. An old and overgrown bulldozer trail does exist and was built to access the Jove Property in the late 1970's (see Property History).

The property has low levels of precipitation with respect to other areas of the Yukon and typically experiences long and warm summers that last from May to October. The claim block covers most of Matson Creek, and the north-eastern edge covers a portion of the Sixty Mile River. The Sixty Mile River drains into the Yukon River, ~ 12 km east of the claim block boundary. At this junction it is approximately 50 km downstream to Dawson City. Topography in the area is relatively subdued, and elevations are typically between ~ 600 to 1100 m above sea level. Highest elevations on the property reach 1600 m, and treeline is at approximately 1200 m. At these higher elevations outcrop is more abundant than in the valleys, where glaciofluvial gravel covers the floors. A forest fire in 2004 burnt most of the property, including the area that housed the drill core from previous exploration activities in the late 70's and early 80's. Amongst the fallen burnt trees is significant low brush, making ground traverses time consuming. Uprooted trees provide a good opportunity to inspect near-surface float, and since the region escaped the last glaciation the majority of the float is likely locally sourced.

No infrastructure exists on the property, and the closest access to power would be from the Top of The World Highway to the NE. Personnel could be sourced from Dawson City or Whitehorse where the resource industry has historically been a major employer. Fresh water is abundant.

6. History

The following is an abridged version of the property history and the reader is directed to the National Instrument 43-101 compliant report by Becker (2006) for a more detailed description of the property history.

In the late 70's and early 80's the Jove property was staked by Eldorado Nuclear Limited and Occidental Petroleum Limited on the basis of geochemical anomalies. Drilling (total ~2000 m) and trenching (23 lines) programs were conducted in successive years following up anomalous zones identified during initial radiometric and geochemical surveys (Deklerk & Traynor, 2004). The Jove property was eventually dropped and left unworked until 2004 when it was staked by a private group. In 2005, Matson Uranium gained full control of the claim group and expanded its extent to cover the possibility of roll front mineralization under the volcanic suite. Due to the forest fires of 2004, drill core on the property could not be salvaged for down-hole information, and no intact drill core from this program exists in the government-run H.S. Bostock Core Library in Whitehorse.

There have been three phases of recent government mapping in the area of the Stewart River map sheet (115N). The first was undertaken by Templeman-Kluit in 1974 and over twenty years passed before the next investigation by Mortensen (1996), who updated some regions of the area and published a compilation map. A larger

NATMAP/NATGAM program commenced in the early 2000's and comprised of geological mapping and airborne geophysical surveys. The mapping culminated with Gordey *et al.* (2006) and the geophysical surveys resulted in a compilation GSC Open File led by RBK Shives (2002b). Figure 4 shows the locations of the geophysical surveys with respect to the Jove Claim Block.

7. Geologic Setting

The geologic setting of the Jove Property was well described by Becker (2006). At that time the claim block consisted of only 40 claims, not the 1406 current claims. Thus, the Regional Geologic Setting (Section 7.1) remains the same between both reports, however, a shortened regional geology section is included for ease of reading and interpretation. Additional detail is given in the Local Geologic Setting (Section 7.2) due to the expansion of the claim group. Descriptions of rock units were taken from Gordey & Makepeace (2000) and can be found in Appendix A.

7.1 Regional Geologic Setting

The regional geology around the Jove Claim Group is shown in Figure 5. The digital regional geologic map compilation by Gordey & Makepeace (2000) relies heavily on the mapping by Templeman-Kluit (1974) and a map compilation by Mortensen (1996) in the vicinity of the Jove Property. It suggests that the Jove Property is dominantly underlain by the Pelly Gneiss Suite (Unit DMgPW), a variably but significantly deformed granitic unit of intermediate composition of the Yukon-Tanana Terrane. Locally, early Jurassic granitic intrusives with pegmatitic and aplitic phases (Unit EJL) of the Long Lake Suite are also present. Subsequent uplift and erosion of these units was punctuated at ~70 Ma by deposition of the mantle plume-related Carmacks volcanic and sedimentary succession (Unit uKC) (Johnston *et al.* 1996). At the base of this unit lies a conglomerate unit derived from the underlying Devonian to Jurassic bedrock with variable amounts of coal (uKC3). Above and capping the conglomerate unit are units uKC2 and uKC1, which are felsic volcanic rocks and basaltic to andesitic volcanic and epiclastic rocks, respectively. Finally, early Tertiary basaltic rocks occur at higher elevations. The maps published by Ryan & Gordey (2004) and Gordey & Ryan (2005) show slight differences around the Jove Property, however, this area was the last region to be looked at in the program and contains comparatively little structural information. Furthermore, it appears that the contacts may have been drawn primarily on the basis of airborne geophysical responses. Thus, the bedrock mapping by Templeman-Kluit (1974) and Mortensen (1996) is the preferred interpretation for this report.

7.2 Local Geologic Setting

The bulk of the Jove Claim Group is underlain by the Pelly Gneiss Suite and overtop of which is the younger bimodal Carmacks Volcanic Succession. The Carmacks group trends in a NE fashion, probably following paleo-topographic features that likely resemble the present day topography. Surficial exposures of this unit show lesser amounts of felsic volcanics (uKC2) that underlie the more common basic volcanics (uKC1). Beneath and flanking the entire package of volcanics is medium-bedded sandstone to conglomerate with lenses of coal (uKC3). Figure 6 shows a hypothetical cartoon section of the major rock types within the Jove Claim Group.

The structural setting at the NW extent of the Jove Claim Group is dominated by two main fault/lineament trends. The first set strikes north to north-northeast and dips steeply. Two of these structures have produced zones of intensely fractured or completely shattered rock, which can be traced for over 1000 m along strike with widths up to 50 m. The second set of faults strikes northwest and dips subvertically. These structures form prominent topographic linears that often coincide with, or parallel, local drainages. The structural setting of the remainder of the claim group is related to volcanic flow and fall events, and thus is related to paleotopography. No significant subsequent deformation appears to have acted upon these younger rocks.

The drill core on the Jove Property consists of unfoliated to moderately foliated quartz-biotite-muscovite granitic rocks. Along the trenches this unit is seen in outcrop and becomes more foliated near small draws in the topography. These topographic lows likely represent the shear zones reported in the existing literature where increased weathering is likely to occur. Pegmatitic phases were also noted in float along the trenches and appear to represent isolated areas of coarser grained intrusive as opposed to cross-cutting dykes. These pegmatitic phases (up to ~30 cm across) were noted to contain megacrystic quartz, K-feldspar, and muscovite, as well as rarer black tourmaline and garnet. These coarse-grained phases likely indicate that the present erosional level is near the upper regions of the intrusion.

Although Eldorado mapped part of what makes up the Jove Property, a discrepancy is evident between the locally mapped intrusive rocks on the Jove property and those seen on the regional geologic map. Perhaps the most significant observation is the presence of pegmatitic phases within the unfoliated to foliated granitic intrusive. No pegmatitic phases are noted within Unit DMgPW, whereas it is noted as a regional feature in Unit EJL. Furthermore, although the initial interpretation by Becker (2006) of rock descriptions by Olsson (1981) lumps all the units in DMgPW, the noted paragenetic relationships suggest an intrusive contact between the intrusives (Units 1 – 3) and the surrounding augen gneiss (Unit 4). Therefore, the rocks directly underlying the Jove Property are more likely part of the Long Lake Suite and not associated with the Devono-Mississippian Pelly Gneiss (DMgPW), which is seen elsewhere within the regional claim group. This possible reclassification of the map units could have significant implications on the uranium potential of the region because of petrogenetic differences between the Devono-Mississippian and Jurassic rocks.

8. Deposit Types

Three general events or time periods have the potential to concentrate or disperse uranium in various locations at the Jove Property.

1 – Primary enrichment of uranium could be present in significant concentrations in a cupola type setting or disseminated at a high level in an intrusion, giving an overall high background level of radioactivity for a large region. This would be the case if the intrusive rocks at the Jove Property were of Unit DMgPW or EJL.

2 – The subsequent shearing and fracturing that likely gave rise to the local moderate foliation in the granitic rock may have remobilized uranium into these zones from the potential early Jurassic intrusive rocks, and also from the surrounding Devono-Mississippian rocks. Becker (2006) summarized drill hole information from previous programs and describes the most abundant mineralization as 'secondary' uranium mineralization to a depth of 50 m in the form of autunite [$Ca(UO_2)_2(PO_4)_2(10\text{-}12H_2O)$] along fractures. These fractures were also noted to contain chlorite, limonite and manganese staining. Furthermore, it was noted that the radioactivity measurements from down-hole probes was typically higher than what was measured from the recovered core itself. This was interpreted as evidence for re-mobilization of the oxidized uranium (U^{6+}) within the water table.

3 – Uranium existing in either primary minerals within the intrusive or secondary minerals within the shear and fracture zones would be mobilized during weathering. This would occur primarily through oxidation of insoluble U^{4+} to highly soluble U^{6+} and secondarily through alluvial mobilization of uranium-bearing minerals.

Significant concentrations of uranium from alluvial processes (i.e., placer deposits) are unlikely because no significant U-bearing primary minerals were noted during previous exploration programs. However, there may be other undocumented zones in the intrusive or host rocks that could host these types of minerals (i.e., uraninite). Alternatively, if primary U-bearing minerals were located in the upper portions of the intrusive rocks, they may have already been eroded and concentrated in Unit uKC.

A 'Roll Front' type deposit (e.g., Nash *et al.* 1981) has significant potential in this area. The large paleo-basin (50 x 10 km) that these rocks weather into has not been recently glaciated, providing ample time for surficial weathering to mobilize uranium from bedrock with high radioactive background values. The oxidized and mobilized uranium would then travel through the upper Cretaceous (~70 Ma?) Carmacks conglomerate (Tantalus Formation?), initially as surficial water and later as ground water. Once traveling through the Cretaceous stratigraphy or along its stratigraphic contacts, two geochemical or redox traps are likely. (1) Coal seams and organic horizons have been noted in unit uKC and local lenses or clasts could provide the necessary reducing geochemical environment to change U^{6+} to U^{4+} in restricted areas. (2) The upper volcanic sub-unit of the Cretaceous Carmacks succession that overlays the conglomerate may also be a prospective redox trap for oxidized uranium traveling in surficial or ground water. Possible analogues to this type of mineralization in western North America include the Blizzard Deposit in BC (Boyle 1982) and the Sherwood Deposit in Washington State (Milne 1979).

Theoretically, the most prospective type of mineralization within the existing claim group is the latter roll-front, redox-type enrichment. This type of mineralization would exploit primary magmatic enrichment as well as secondary enrichment from remobilization during shearing and faulting. Furthermore, due to the increased permeability of shear and fracture zones, it is possible that groundwater is able to penetrate to significant depths under present topography to mobilize uranium within the shears.

9. Mineralization

The most significant mineralization within the Claim Group occurs within the Jove Claims where Eldorado and Occidental worked in the early 1980's. Uranium mineralization occurs there as either (a) surface accumulations of unidentified uranium minerals in ground water seeps and soils, or (b) autunite in fractures. In the south part of the Jove-2 grid, uranium surface anomalies appear to be the result of organic-rich soils scavenging uranium from uraniferous ground water percolating out of the hillside. Autunite has been identified in fractures in drill core to a depth of 50 m below surface (Olsson, 1981a). Limonite, chlorite and manganese minerals are also present on the radioactive fractures. Fractures below the water table (roughly 50 m vertical depth) are barren of primary or secondary uranium mineralization. This suggests that uranium was transported to its present site by ground water flow and precipitated out in the form of autunite along fractures, possibly as the water table lowered.

Autunite mineralization has been found only in fractures and not as material interstitial to the fabric of the rock or in soil. No primary uranium minerals were identified in the earlier program.

10. Exploration

10.1 Historical Exploration

This section largely originates from Becker (2006, 2008) and summarizes exploration performed on the Jove property during the period 1976 to 1980, except diamond drilling which is described in Section 11. Work performed up to 1977 was not thoroughly documented, but the 1978, 1979 and 1980 exploration programs were well documented in Riley (1978), Olsson (1980) and Olsson (1981a). The work completed between 1976 and 1980 was performed by a joint venture but was compiled and presented by Eldorado. Description of exploration work performed and results obtained that appear in this report were taken from assessment reports submitted by Eldorado to the Dawson Mining Recorder. The reports were not prepared in accordance with the standards prescribed in National Instrument 43-101. Nonetheless, they were acceptable to the mining recorder and were consistent with professional standards at the time they were written.

Work on the property in 1977 covered the Jove 1-16 claims and consisted of airborne radiometric surveys, ground radiometric surveys and stream sediment, water and soil geochemical sampling. The airborne radiometric surveys located the Jove showing which later became the focus of the ground radiometric and soil sample grid surveys. Airborne radiometric surveys were carried out using a Scintrex 113 cubic inch crystal connected to a Scintrex GAD-4 spectrometer. The unit was mounted in a helicopter, connected to a

Fischer 2-channel chart recorder which recorded total counts for thorium, uranium and potassium.

The ground radiometric survey outlined a north-south trending anomaly that was traced for over 400 m with peak values of 550 counts per second (Olsson, 1977). This anomaly is called the Jove-1 anomaly but some later work refers to it as the East anomaly. Ground radiometric surveys were carried out with either a Scintrex BGS-1 SL scintillometer or a McPhar TV-1A spectrometer (Olsson, 1977). The results were recorded as counts per second (cps) and presented on a contoured grid map.

The strongest geochemical results approximately coincide with the ground radiometric anomaly and produced a peak value of 140 ppm U. A water sample taken from a seep near the centre of the geochemical anomaly returned 57 ppb U. Reconnaissance soil samples collected to the east of the 1977 grid, in the area of the Jove 9-16 claims, investigated a second airborne anomaly and returned values of 545, 765 and 935 ppm U. Elsewhere in the vicinity of the Jove claims, 20 water samples were collected. These samples ranged between 0.2 and 67 ppb U, with 13 of them greater than 5 ppb U. Thirty-six stream sediments were also collected in the area. Nineteen of them returned greater than 10 ppm U with a peak of 308 ppm U (Riley, 1978).

The focus of the 1978 work was expanding the ground radiometric and soil geochemical grids that were started in 1977. Some reconnaissance soil sampling was also performed beyond the grid. The ground radiometric program utilized Scintrex BGS-1 SL scintillometers with total counts recorded in counts per second (Riley, 1978). Instrument readings were checked daily at a base station to ensure reliability between individual instruments. Radiometric readings were taken at 25 m intervals along cross lines spaced 100 m apart. The radiometric survey confirmed the existence of the original Jove-1 anomaly but also outlined a stronger anomaly to the west called the Jove-2 anomaly. This second anomaly had a peak reading of 550 cps on the grid lines but later prospecting in the area returned a maximum value of 3800 cps (Riley, 1978). The northern third of the radiometric and geochemical grid had no anomalous values but the southern two-thirds showed a strong north-south trend to anomalies with a weaker northwest-southeast trend. Two soil pits were dug in anomalous areas. They returned generally uniform values from the A, Band C soil horizons.

Exploration on the property in 1979 included: detailed soil and rock sampling surveys to help understand the surficial and bedrock geochemistry of the property; experimentation with different geophysical and geochemical techniques to help delineate the mineralized areas; and, testing of the Jove-1 (East) and Jove-2 (Central) anomalies with bulldozer trenches and diamond drilling (Olsson, 1980). The locations of bulldozer trenches and drill holes are shown on Figure 9.

The detailed soil sample surveys focused on the Jove-1 and Jove-2 anomalies and helped to characterize the surficial geochemical characteristic of the property. The surveys indicated that the Jove-2 anomaly is 400 m long and averages about 200 m wide with the highest values obtained immediately north of Glazy Creek. Olsson (1980) concluded that the Jove-2 uranium anomaly is the result of ground water transportation of uranium and not the result of underlying bedrock mineralization. Two observations point toward this conclusion. The first is that the highest uranium values in the Jove-2 anomaly occurred in alluvial material directly north of Glazy Creek. These values suggest that surface waters are transporting the uranium downhill toward the creek and depositing the uranium in reduced, organic-rich sediments. Active deposition has to be occurring in this area; otherwise the anomaly would be masked by, or offset due to the transportation of alluvial material down the creek valley. The second observation was that the anomaly does not extend onto the south bank of the creek but is instead truncated by Glazy Creek.

Rock samples collected in conjunction with the soil samples returned a mean uranium value of 1.25 ppm which indicates that the uranium content of the quartz monzonite is depleted with respect to the norm for such an intrusive (Olsson, 1980). Anomalous uranium values from rocks illustrate similar trends to soil and radiometric results.

Geophysical exploration included dipole-dipole apparent resistivity, VLF·EM 16 and detailed radiometric surveys. The apparent resistivity survey was completed by a subcontractor on three cross lines. The dipole spread was 50 m with readings taken to the 5th separation. The surveys identified anomalously low resistivity areas that spatially corresponded to soil geochemical anomalies.

Five cross lines were tested with a Geonics VLF-EM 16 instrument. The survey used the Seattle station as the transmitter with readings taken at 25 m intervals. This survey was not able to delineate structures underlying the property.

The detailed radiometric surveys utilized a Scintrex BGS-1SL total count scintillometer. Readings were taken every 10m along lines spaced 50 m apart. The surveys returned an average reading of 150 cps and outlined several strong linear anomalies.

Geochemical exploration procedures tested in 1979 included: reanalysis of all soil sample splits for thorium; three soil pits at the Jove-1 anomaly; bulk water sampling; and, radon gas analysis. The reanalysis and plotting of thorium results indicate that the uranium anomalies and the thorium anomalies have a crude spatial relationship (Olsson, 1980). This is interpreted to reflect different geochemical properties of the two elements in the weathering environment and is not a reflection of primary mineralization. The results of geochemical samples taken from various levels in the soil pits at the Jove-1 anomaly suggest the characteristics of both a seepage anomaly and a residual anomaly. The bulk water sampling indicates that anomalous amounts of uranium and radon are present in the surface waters and that the uranium is transported both chemically and mechanically in the secondary environment (Olsson, 1980). Radon gas test lines were completed using alpha meters that were left in position for a 24 hour period, after which measurements were made and recorded. The survey indicated that radon soil gas is present in anomalous quantities on the property.

Four bulldozer trenches totaling 870 were completed on the Jove property in 1979 (Table 2). The work was performed with a D-6E bulldozer under contract from E. Caron

Diamond Drilling of Whitehorse, Yukon. Each trench was tested with radiometric surveys, soil profiling and geological mapping. Radiometric surveys covered the entire trench length with cross lines spaced 5 m apart and readings taken at 1 m interval along the cross lines. When soil was exposed in the trench walls, soil samples were taken from the A, Band C horizons. The profiles were routinely taken at 10m intervals with 5 m intervals in areas of anomalous radiometric values. The highest radiometric values were associated with areas where water was seeping into the trench. Although the best uranium in soil values were obtained from trenches testing the Jove-2 anomaly, the values tended to decrease with depth. The only bedrock exposures were at the ends of trenches JT-1 and JT-2. Trenches JT·3 and JT-4 bottomed in soil and boulders.

The 1980 exploration program focused on the Jove-1 and -2 grids. Some work was also done uphill from these grids on the Jove-5 and -6 grids. Additional stream sediment and water samples were collected from creeks on the property. The work consisted of: water, stream sediment and soil sampling; stream sediment, radon gas (alpha meter) and ground radiometric surveys, 16 bulldozer trenches and diamond drilling (Olsson, 1981a).

Water samples were collected from creeks as part of a regional geochemical program, from seeps when they were encountered during the grid sampling program, from trenches during the trenching program and from the bottom of drill holes during the drilling program. The surface water sampling program involved taking samples from Glazy Creek and two parallel creeks to the north plus tributaries of these creeks. Glazy Creek and its tributaries returned values from trace to 6.0 ppb U. Creeks to the north and east returned up to 6.0 ppb and 4.2 ppb U in the area of the Jove-5 and -6 grids, respectively, and a peak value of 14.0 ppb U from an area 5 km east of the Jove property. Bulk water samples collected from the Jove-1 and -2 grids helped determine the geochemical characteristics but did not identify exploration targets. Samples collected during the trenching and diamond drilling programs are discussed later in this report.

Silt samples were collected at water sample sites, as part of the regional geochemical program. Samples taken from Glazy Creek returned values of 5.0 to 169 ppm U. The samples suggest that anomalous silt and water values are entering Glazy Creek from West Creek and from the seepage anomalies that were defined on the Jove-1 and -2 grids. Silts from the area of Jove-5 and -6 grids returned peak values of 358 ppm and 98 ppm U, respectively. Only background uranium values were obtained from silts in the area near the anomalous water values mentioned above.

Soil samples confirmed the location and magnitude of anomalies outlined by previous work, returned spot anomalies with limited aerial extent and confirmed that the Jove-1 and -2 anomalies do not extend beyond Glazy Creek. Samples collected from the Jove 5 and -6 grids failed to return significant uranium soil anomalies.

Radon gas surveys were completed using 100 alpha meters supplied from three different sources. A correction factor had to be applied to some readings in order to correct for an apparent difference in readings taken from some of the equipment. Initial readings were taken at 50 by 50 m spacing with follow up surveys at 25 by 25 m spacing.

Ground radiometric surveys were conducted over the Jove-1, -2, -5 and -6 grids. Work in the area of the Jove-1 and -2 grids outlined five radiometric anomalies. The first two correspond with Jove-1 and -2 anomalies and a third is slightly west and north of the Jove-2 anomaly. All three of these anomalies were tested with bulldozer trenching and diamond drilling. The other two anomalies are wider, weaker and appear to be the result of felsenmeer.

A total of 3882 m of bulldozer trenching was completed in 1980. The work involved a total of 16 trenches, 14 of which were new trenches and two were deepening and lengthening of 1979 trenches (see Table 2). The 1980 work was completed with a bulldozer under contract from Kolody Enterprises of Whitehorse, Yukon. Each trench was geologically mapped and tested with radiometric surveys, soil sample profiles, rock samples, water samples and alpha meter readings.

Four trenches were completed on the Jove-1 anomaly. The trenches exposed weathered foliated quartz monzonite cut by a zone of closely spaced jointing and fracturing. Peak radiometric readings of 300-410 cps, above background values of 150200 cps are associated with the fracture zone. Uranium values in the soil profiles are highest in the A and B horizons and generally increase in the downhill direction from 30+00N to 27+00N. The uranium content of the water ranged from 3.8 ppb to a high of 473 ppb.

Six trenches tested the southern end of the Jove-2 anomaly. The ends of the trenches exposed bedrock or frost-heaved boulders but elsewhere did not reach bedrock. A peak radiometric value of 2500 cps was obtained in 1979 from trench JT-1. When this trench was deepened in 1980 the peak value was only 1200 cps, suggesting the source of radioactivity was in the soil rather than bedrock. Trenches south of line 27+00N were not able to locate elevated radioactively or geochemical values at depth. Olsson (1981a) concluded that the surface anomalies resulted from A horizon soils scavenging uranium from uraniferous waters percolating out the hillside.

The northern end of the Jove-2 anomaly was tested with five trenches. The trenches exposed foliated quartz monzonite cut by a northwest trending zone of intense fracturing and stronger weathering. The peak radiometric response was 250 cps and all anomalous readings were from areas of faulted and fractured quartz monzonite. Uranium-in-soil values were variable but the higher values were generally from lower on the hillside and higher in the soil profile. Water samples contained radon gas downhill from 36+00N.

Table 2. Summary of Bulldozer Trenches

Trench No.	Location	Line	From	To	Length
JT-1	Jove-2	28+00N	38+60W	41+65W	305 m
JT-2	Jove-2	29+00N	38+50W	41+50W	300 m
JT-3	Jove-3	35+00N	49+00W	50+50W	150 m
JT-4	Jove-3	50+10W	34+05N	36+80N	275 m
JT-5	Jove-2	27+00N	38+00W	41+75W	375 m
JT-6	Jove-2	26+00N	38+75W	42+02W	327 m
JT-7	Jove-2	25+00N	31+45W	34+05W	260 m
JT-8	Jove-1	29+00N	31+45W	34+05W	260 m
JT-9	Jove-1	28+00N	31+55W	34+00W	245 m
JT-10	Jove-1	27+00N	31+05W	33+80W	275 m
JT-11	Jove-2	30+00N	38+15W	42+00W	385 m
JT-12	Jove-1	30+00N	31+50W	33+90W	240 m
JT-13	Jove-2	32+00N	41+00W	44+10W	310 m
JT-14	Jove-2	34+00N	41+00W	44+15W	315 m
JT-15	Jove-2	36+00N	42+00W	44+00W	200 m
JT-16	Jove-2	37+00N	42+00W	44+00W	200 m
JT-17	Jove-2	31+00N	41+20W	42+80W	160 m
JT-18	Jove-1 north	34+00N	34+60W	37+30W	270 m

10.2 Government Survey

One of the geophysical surveys (GSC OF 4305) carried out in the early 2000's as part of the NATMAP project encompassed approximately half of the Jove Claim Group and covered an area of ~ 130,000 hectares. The data acquired from this program is most useful for providing targets to resolve geological contacts. It will also be useful for delineating some prospective areas for ground prospecting and surveying. Figures 7 and 8 show the Uranium radiometric response and First Vertical Derivative magnetic response from the survey, respectively. It should be noted that due to the buried nature of the roll-front type (primarily hosted within Unit uKC3 and capped by Units uKC1 and uKC2), regional airborne responses are not always ideal.

10.3 2008 Exploration

Exploration activities in the summer of 2008 comprised a ground Radon Cup Radiometric Survey, an airborne VTEM geophysical survey, and a ground magnetics-radiometric-prospecting reconnaissance survey.

The Radon Cup Radiometric survey was undertaken by Geoxplor Corp and consisted of four survey grids conducted from July 5 to 14, 2008. The objective of these surveys was to provide information about the distribution of radioactive elements and provide data to define the geology, structure and alteration that relates to uranium mineralization. Two grids were performed in the Glazy Creek area on the historical diamond drilling area of the Jove claims and totalled 305 (212 + 93) cup stations. The Dome Grid was conducted near the Dome Claims and comprised 77 stations. The last Silvain Grid was a reconnaissance style grid and comprised 41 stations. Each grid had anomalous results and the author of that report recommended expanding all four grids to better define the extent of possible uranium mineralization. Figures of the locations of the Radon Cup Survey are given at the end of this report and the Radon Report is given in the appendix.

The airborne VTEM-magnetometer survey was conducted at the Jove Claim Group from July 4th to 5th by Geotech Ltd. over three main blocks (#1, #2, #3) and comprised a total of 282 line kilometres with 400 m spacing between main lines and ~4000 m spacing for tie lines. The objective of this survey was to characterize the area of known mineralization at the core Jove Claims and to investigate two other areas of known conglomerate outcrop with overlying volcanics – the target for Roll Front type mineralization. Recommendations by Geotech include more detailed 2D and 3D interpretation of the EM and magnetic data due to the presence of numerous anomalies within the three blocks. The survey blocks by Geotech were as follows:

Survey blocks	Traverse/Tie Line spacing (m)	Area (km^2)	Planned Line-km's	Actual[1] Line-km's	Flight direction	Line numbers
Block 1	Traverse: 400	34.6	99.64	102.2	N 138° E	L1000 – L1060
	Tie: 4000				N 49° E	T1100 – T1120
Block 2	Traverse: 400	43.9	126.84	126.6	N 115° E	L2000 – L2060
	Tie: 3900				N 25° E	T2100 – T2140
Block 3	Traverse: 400	17.6	55.02	54	N 43° E	L3000 – L3060
	Tie: 4000				N 133° E	T3100 – T3110
	Total	96.1	281.5	282.8		

The ground magnetometer, scintillometer and mapping/prospecting survey was conducted over 8 days and included 5 geologists. Areas investigated were chosen based on historical data (core Jove claims), geological information provided by OF4970, geophysical data provided by OF4305 and airborne radiometric kicks listed by Bert Savage. Survey location was also dictated by helicopter accessibility and concurrent survey locations of the Radon Cup grids. A total of 725 readings were taken, ranging from 400 to 10000 counts per second. Spacing between scint readings averaged ~30 m, but variations in response also had an influence on frequency of data recording. The magnetometer was equipped with a high resolution GPS and recorded the local magnetic signature every 2 seconds when signal quality was good. Low signal quality data points were filtered from the data set, resulting in irregular time spacings between points where signal quality was low. Over 35,000 individual points were recorded. Secondary prospecting and mapping that accompanied the primary geophysical and radiometric ground surveying was successful in that it confirmed the nature of outcrops according to published maps by regional mapping campaigns. Highly mineralized samples were not expected to be found due to the buried nature of the proposed mineralization and accordingly prospecting did not yield positive results in this regard.

High radiometric response was noted in the historical diamond drilling area, as expected, and thus supplying context for radiometric responses in the area. Several other areas also showed positive above background responses, including the 60M area where concurrent magnetic highs were also seen. Along Pine Creek one of the few prominent radiometric highs along a drainage was recorded by the GSC airborne survey, however, the ground scintillometer failed to note any exceptional anomaly in that location. The reason for this is currently unknown and deserves follow up. A more systematic grid is recommended to be conducted alongside magnetics in future work.

The ground magnetics survey was successful in that it successfully highlighted contacts between conglomerate and overlying volcanics in most areas. Regions that did not show the same positive response indicate that there is a variable geochemical signature to the contact which possibly indicates the activation of redox traps for percolating ground water. The ground survey results also roughly correlated with airborne results, indicating the accuracy of both the ground based and airborne surveys. The success of this ground technique warrants further investigations of both the data and additional surveying.

11. Diamond Drilling

No new diamond drilling has been conducted on the Jove Property.

Two historical diamond drill programs have tested the property with 18 holes totaling 1863.7 m. Fourteen of the holes tested the Jove·2 (Central) anomaly; two were drilled at the Jove1 (East) anomaly and two at the Jove·3 (West) anomaly. Drill hole locations are shown on Figure 9, survey data is shown in Table 3 and drill hole results in Table 4.

Table 3. Historical Drill Hole Survey Data

Hole No.	Coordinates		Dip	Azm	Depth (m)
79-J-1	40+75W	28+00N	-50°	110°	138.1
79-J-2	40+60W	29+00N	-50°	290°	153.0
79-J-3	40+70W	29+00N	-60°	110°	122.8
79-J-4	50+25W	35+75N	-60°	065°	101.2
79-J-5	50+75W	35+25N	-60°	065°	110.3
79-J-6	41+50W	27+90N	-60°	110°	167.3
79-J-7	41+16W	29+20N	-60°	110°	153.0
80-J-1	40+25W	30+00N	-55°	292°	91.6
80-J-2	40+25W	27+00N	-55°	292°	81.7
80-J-3	32+05W	29+00N	-55°	292°	109.4
80-J-4	32+85W	30+00N	-55°	292°	70.4
80-J-5	38+70W	27+00N	-55°	292°	62.5
80-J-6	38+80W	29+00N	-55°	292°	77.9

80-J-7	40+32W	28+00N	-55°	292°	64.3
80-J-8	40+65W	29+00N	-55°	292°	57.6
80-J-9	40+60W	30+00N	-55°	292°	47.5
80-J-10	42+12W	34+00N	-55°	292°	177.1
80-J-11	42+65W	34+00N	-55°	292°	78.0

Table 4. Summarized Historical Drill Hole Results

Hole No.	From (m)	To (m)	Width (m)	U_3O_8 (%)
79-J-1	27.7	28.4	0.7	0.03
	29.0	29.3	0.3	0.10
	31.1	31.4	0.3	0.09
79-J-2	13.4	15.2	1.8	0.04
	50.0	50.3	0.3	0.23
79-J-3	39.9	40.5	0.6	0.05
79-J-4				<0.01
79-J-5				<0.01
79-J-6				<0.01
79-J-7	41.1	41.4	0.3	0.08
80-J-1	41.5	44.0	2.5	0.06
	46.0	47.0	1.0	0.06
	48.5	52.0	3.5	0.02
80-J-2				<0.01
80-J-3				<0.01
80-J-4				<0.01
80-J-5				n.a.
80-J-6				n.a.
80-J-7	49.1	50.6	1.5	0.01
80-J-8	11.0	13.7	2.7	0.01
	35.4	36.9	1.5	0.04
80-J-9	43.3	44.5	1.2	0.04
80-J-10				<0.01
80-J-11				<0.01

In 1979 the Jove property was tested with seven BQ sized holes totaling 945.7 m. Holes 79-J-1 to -J-3, -J-6 and -J-7 were collared in the Jove-2 anomaly while 79-J-4 and -J-5 were drilled in the Jove-3 anomaly. Results from the Jove-3 area were negative so the following discussion will focus on holes in the Jove-2 anomaly only.

Each hole was geologically logged and tested with downhole radiometric logging, sludge samples and core analysis. All holes were logged through the casing with a Mount Sopris G-375 downhole probe connected to a Mount Sopris 1000 recorder (Olsson, 1980). The results of downhole logging determined how the core was sampled. If elevated radioactivity was detected, the core was split with one-half retained in the field and the other half submitted for U_3O_8 assay reported in percent. If radiometric response was weak, the core was sampled at 3.05 m intervals and analyzed for uranium and thorium with results reported in parts per million. During casing operations, a sludge sample was taken at 3.05 m intervals and each sample was submitted for U_3O_8 analysis. The drilling was contracted to E. Caron Diamond Drilling with helicopter support provided by Shirley Helicopters and Trans North Helicopters, all of Whitehorse, Yukon.

The average radiometric response for fresh quartz monzonite was 50 cps while weathered quartz monzonite averaged 125 cps. A similar trend was evident in analysis fresh quartz monzonite averaging 1.5 ppm U and weathered material averaging 12 ppm U (Olsson, 1979). The highest assay was 0.10% U_3O_8 over 0.3 min hole 79-J-1. This sample returned a radiometric reading of 14,400 cps.

The 1980 drill program consisted of 918 m of drilling in 11 shallow holes all drilled at 55° to the west (Olsson, 1981 a). Seven holes were completed in the southern part of the Jove-2 grid, two holes were in the northern part of that grid and the last two holes were in the southern part of the Jove-1 grid. All the holes intersected various phases of quartz monzonite and all but two of the holes encountered mineralization in the form of autunite-coated fractures. No primary uranium minerals were identified. All holes were geologically logged and tested with radiometric surveys. Sludge, core and bulk water samples were collected and analyzed. The 1980 program utilized the same downhole logging equipment and core handling procedures as the 1979 program.

In the area of the Jove-2 anomaly, a north trending zone of fractured and mylonitic quartz monzonite controls the mineralization. This structure is open to the north and south but the area between 27+00N and 30+00N contains the best mineralization. However, this grade is very low and the autunite appears to be restricted to the weathered quartz monzonite which only extends to 50 m depth (Olsson, 1981a). Drilling beneath the Jove-1 anomaly intersected a similar structural system but it appears to be narrower with less intense fracturing. This zone is also very weakly mineralized. The uranium at surface is precipitating from ground waters and there is no evidence to suggest the existence of large scale hydrothermal system.

12. Sampling Method and Approach

12.1 New Sampling

Minor new rock sampling has been carried out on the Jove Claim Group. Three grab samples of conglomerate were sampled to investigate their geochemistry. Although scintillometer readings showed up to 2500 cps, no significant uranium mineralization was reported in the assays. Results are appended.

12.2 Historical Sampling

This section describes the soil and rock sampling methods followed during the 1977 to 1980 exploration programs. All of the explorations programs were supervised and performed by Eldorado staff except for part of the 1977 program which was conducted by Archer, Cathro under direct field supervision by Eldorado. The following comments are based on material presented in assessment reports. All of the previous sampling programs were carried out prior to NI 43-101 guidelines.

During the 1977 program, soil samples were collected from a 1700 by 900 m northerly elongated grid that covered most of the Jove 1-8 claims on the north side of Glazy Creek (Olsson, 1977). Soil samples were collected at 100 m intervals on lines spaced 100 m apart using one north trending (025°) baseline for grid control.

The 1978 program was centred on the 1977 grid and expanded to roughly 3200 by 3200 m in size (Riley, 1978). Survey control was provided by compass-oriented; slope corrected chained baselines with stations marked at 100 m intervals along them. Compass-controlled slope-corrected cross lines were measured with topofil. These cross lines were spaced 100 m apart with stations at 100 m intervals. The cross lines extended between the baselines and up to 500 m beyond them on the east and west sides of the grid. Soil samples and rock chips were collected at 100 m intervals along the cross lines.

Soil samples were taken from B horizon soils where possible but in some places, particularly in areas of frozen ground, a small amount of organic material may have been included in the samples (Riley, 1978). Rock chips were collected from the C horizon or from felsenmeer.

Work in 1979 focused on the Jove-1 and -2 anomalies. Tightly spaced soil geochemical samples were collected from areas where previous sampling had returned anomalous results. These samples were collected at 50 m intervals on lines spaced 50 m apart. In a few selected areas, the sample interval was reduced to 25 m (Olsson, 1980).

In 1980 grid soil samples were collected at 50 by 50 m intervals from B horizon soils. Silt and water samples were collected at stations located 125 m apart from alternating banks of the creeks. Water samples were collected from the centre of the streams while stream sediment samples were taken from areas of low energy within the active stream channels. At each soil, stream sediment and water sample site a radiometric reading was also taken.

12.3 Recent Government Geophysical Surveys

The GSC geophysical maps were compiled from data acquired in the Stewart River Area, Yukon. The following techniques for the geophysical surveys were obtained from Open File 4305. That survey was undertaken during the second phase of an airborne geophysical survey (gamma ray spectrometer, magnetometer) carried out by Fugro under contract to the Geological Survey of Canada. Funding for the survey was provided by Natural Resources Canada's Targeted Geoscience Initiative. The Phase 2 survey was completed between July 18, 2001 and September 28, 2001, using an Aerospatiale AS350B2 helicopter (registration C-GZTA).

Flight path was recovered using a post-flight differential Global Positioning System. A vertically mounted video camera was used for verification of the flight path. The average traverse line spacing was 500 m with control lines flown at 3.5 km intervals. Helicopter flight height was maintained at an average ground clearance of 119 m.

The GSC's gamma ray spectrometry data were recorded at a 1.0 second sample rate into 256 channel main and radon spectra using an Exploranium GR820 spectrometry system. The volume of Nal in the two detectors comprising the system were; main detector, 33.4L; radon detector 8.4L. Counts from the main detector were recorded in five windows corresponding to thorium (2410 - 2810 kev), uranium (1660 -1860 kev), potassium (1370 - 1570 kev), total radioactivity (400 - 2815 kev) and cosmic radiation (3000 to >6000 kev). Counts from the radon detector were recorded in the radon window (1660 - 1860 kev). The radon detection system was calibrated following methods outlined in AGSO 1995/60. After removal of the background, the data were corrected for spectral interferences, changes in temperature, pressure and departures from the 119 m planned survey elevation. The data were then converted to standard concentration units and ratios and then interpolated to a 125 m square grid. The ternary image grid was created from the three concentration grids.

The GSC's aeromagnetic data were recorded at a 0.1 second sample rate using a 0.01 nT sensitivity split-beam cesium vapour magnetometer suspended 23 m below the helicopter. The control line and traverse line magnetic data were corrected for variations in the magnetic field using the ground station magnetometer data. After editing the survey data, the intersections of traverse and control lines were established and the differences in the magnetic values were computer analysed to obtain the levelling network. Global Positioning System data were used to compute the International Geomagnetic Reference Field data circa. 2001.7, which was subtracted from the total magnetic field data to produce the residual magnetic field. The resulting residual magnetic field values were interpolated to a 125 m square grid. The first vertical derivative of the magnetic field was computed from the grid of the residual magnetic field.

13. Sample Preparation, Analyses and Security

13.1 Current Sampling

Samples taken for assay were bagged and tagged in the field and UTM coordinates recorded along with scintillometer reading and rock description. Samples were then shipped direct to the Ecotech Lab in Whitehorse for preparation and subsequent analysis via ICP in Kamloops.

13.2 Historical Sampling

This section describes the sample handling procedures followed during the 1977 to 1980 exploration programs. The author cannot comment on transportation or security procedures followed during any of these programs because they were not described in the assessment reports and were carried out prior to NI 43-101 guidelines.

In 1977 the water, stream sediment and soil samples were submitted to Chemex Labs in North Vancouver, British Columbia. Water samples were analyzed for U, HCO_3, SO_4 and pH. The uranium analyses were obtained by f1uorometric method on an acidified, 100 ml sample. Stream sediment and soil samples were analyzed for U, F, Mo and Cu. Values for uranium in soils were determined by f1uorometric method on a 0.25 gm sample of ashed, double acidified, minus 80 mesh fraction material. The copper and molybdenum values were obtained using atomic absorption spectrometry of a nitric perchloric extraction on the minus 80 mesh fraction. Soil uranium results were presented on a contoured map.

Soil samples collected in 1978 were analyzed for uranium by Chemex Labs using standard f1uorometric methods on a 0.25 gram sample of twice acidified -80 mesh fraction material.

In 1979 all soil, rock and drill core samples were submitted to Chemex Labs. Water samples were tested at Bondar-Clegg and Company Limited in Ottawa (Olsson, 1980).

Soil and rock samples were submitted for U and Th analysis and core samples for U_3O_8 Water samples collected from the central draw on the Jove claims were analyzed for eH, pH, K, Ca, U, CO_3, CI, SiO_2, SO_4 and PO_4. Additional samples collected later in the season were analyzed for U, F, HCO_3, Na, Ca, Mg, PO_4, CI and SO_4, Ra and Rn.

All samples collected during the 1980 exploration program were analyzed by Chemex Labs except for bulk water samples which were sent to Bondar Clegg (Olsson, 1981a). Soil and stream sediment samples were dried at 550· C, screened to -80 mesh, split, weighed, dried twice in 4 M nitric acid, acidified, fused with a standard sodium fluoride flux and analyzed with G.K. Turner Fluorometer with results reported in parts per million. Rock samples were crushed and then processed in a similar fashion to the soils and stream sediments. The detection limit for these analyses was 0.5 ppm U. Samples that yielded values above 100 ppm U were assayed with results reported as percent U_3O_8.

Water samples were concentrated in the laboratory by evaporation and then analyzed similarly to the stream sediments, soils and rocks with U results reported as parts per billion. Bulk water and drill hole water samples were submitted for total dissolved solids analysis which included K, Ca, U, HCO_3, CI, SiO_2, SO_4, PO_4, Mn, Fe, Na, F, Ra and Rn. For all water samples specific conductivity, pH measurements and approximate radon determinations were carried out in the field by Eldorado personnel.

14. Data Verification

In areas of overlapping geophysical surveying there was a strong correlation of prominent features between survey types (ground magnetics, airborne VTEM magnetics, GSC magnetics). Minor differences were seen, however, it is likely due to the different features exhibited by the different techniques as well as a function of resolution.

There is no record of duplicate or check assays collected or submitted for analysis during any of the historical exploration programs. Historical sample data described in this report was compiled from assessment reports pertaining to exploration programs conducted on the property. In examining and verifying the historical sample data for this report, the author performed the following tasks:

1) Copies of assay certificates were reviewed, where available.
2) Reported trench and drill core analyses were checked against sample numbers on the trench maps, drill logs and the assay certificates to ensure accurate reporting.
3) The range of reported results and their geographic distribution were checked against similar ranges and distributions from properties containing similar mineralization.

15. Adjacent Properties

Two claim groups existed at the NE boundary of the Jove Claim Group (See Figure 3) but have recently lapsed. One of these blocks abuts the Jove Group, while the other sits approximately 1 km away. Both are owned by Longview Capital Partners Limited. To the east the closest claims are more than 15 km away, and southward the nearest claims are more than 5 km. All claim blocks cover non-uranium mineralization or have no recorded mineralization type.

16. Interpretation and Conclusions

Previous exploration programs and regional geological, geochemical, and geophysical surveys have outlined an area with significant potential for Roll-Front Type uranium mineralization. The Jove Claim Group covers the most prospective areas, including the region that was diamond drill tested in successive years during the late 1970’s. Although historical assessment reports were authored prior to NI43101 guidelines the information contained in the documents appears reliable and build on previous years’ results and recommendations. Furthermore, recent field examination of the area shows consistency with historical records with respect to local geology and topographic features.

Field surveying in 2008 with a scintillometer and ground magnetic geophysical device was focused on areas where potential conglomerate was outcropping. The conglomerate is thought to be the window into the subsurface mineralization that is possibly present at depth. Scint readings provided a quick estimate of whether or not the rocks contained significant mineralization. In the historical Jove area to the west scint readings were commonly up into the 10K range, indicating a positive response of the scintillometer to known significant mineralization. A number of other similar responses were found in other areas of the property, suggesting that indeed the geological model has merit. Magnetometers can be particularly useful at discriminating contacts between rock types when outcrop is sparse. At Jove, it appears that in a number of locations the contact between the conglomerate unit and the overlying volcanic sequence is marked by a distinct magnetic high. This observation is highly significant because it will greatly aid in honing in on these areas for further prospecting. Depending on the original character of the contact, oxidization of primary mineralogy could result in the creation of magnetite after sulphides, or possibly the destruction of primary magnetite for secondary limonite. Thus, more exposure and in-situ bedrock is required to better understand the geological setting.

Radon Cup radiometric surveying was effective at delineating areas of U enrichment. The grid located on the Jove Block did indeed show the highest positive response of all the surveys. Nevertheless, the existence of positive Radon Anomalies in 'Cap Rock' areas indicates that mineralization may occur at depth with gases travelling through fractures in the overlying volcanics. Notably, the authors of that report observed several linears of anomalous responses, which is consistent with gas seepage through fractures.

The comprehensive VTEM data contains a wealth of information not only from surficial 2D responses but also in the third dimension. It is for this third dimension that the survey was primarily contracted, however, the data has yet to be fully interpreted by a professional geophysicist. A first pass of the raw data suggests also that the contact between the conglomerate on the overlying volcanics is characterized by a magnetic high, however, it is clear from the data contained within the report that more complex relationships exist at depth. Further processing and 3D inversions of the data should allow discrimination of the layer-cake type structure of the underlying bedrock and subsequent deposition of the conglomerate and overlying volcanic sequence.

Unfortunately, no ‘smoking gun’ samples were found during the 2008 field season. However, due to thick overburden and abundant brush this is not necessarily surprising and further focused prospecting and minor hand trenching is warranted in the areas of conglomerate outcropping and geophysical anomalies. This program is well positioned with current and published historical information and exploration results, providing a solid framework to execute future programs.

17. Recommendations

The Jove project and claim group covers a large area with significant potential to host several types of uranium mineralization. The project is still in its infancy and much work can be done on this project to better define potential areas of mineralization. Because of the difficulty of ground traverses and the large area covered by the claim group, remote techniques (i.e., VTEM and GSC airborne survey) have been efficient ‘first approaches’. All further ground-based work should be accompanied by background scintillometer surveys in order to better define the regional radiometric profile.

Below are recommendations for continued work on the Jove Project in order of importance:

1 - A detailed interpretation of the airborne VTEM survey over the claim group would provide a 3D view of the geological system. In particular, discerning the thicknesses of the volcanic cap and the conglomerate unit would provide the best information for future diamond or RC drilling. This would be best

accompanied by a small amount of field work to collect surface samples and geophysical data of all the possible rock types for input into the models.

2 - Continued assessment of the roll front traps (coal and volcanics) could be achieved through trenching, detailed mapping and scintillometer surveys near upper and lower contacts of the conglomerate units as facilitated by a magnetometer survey to hone in on the contact location. Once these areas are located, academic paleoflow studies on the conglomerate could yield vectors for water flow and uranium mineralization and assessment of iron oxide (up-dip from U) and sulphide (down-dip from U) distribution may also shed light on the system. Furthermore, minor differences between government regional geological mapping programs at the south of the property should be assessed.

3 - Additional geochemical surveying within drainages could be carried out. Specifically, water and silt sampling above and below the conglomerate unit could shed light on the importance of redox-type mineralization. Heavy mineral sampling from the same drainages for U-bearing phases could also provide information regarding the existence of other U-bearing minerals in the area.

4 - In addition to a wide soil sampling survey, areas with anomalous scintillometer readings could also be covered with tightly spaced soil grids. If significant amounts of soil sampling are to be carried out, resampling of anomalous zones in previous soil grids should be done to facilitate correlation between historical and new geochemical results.

5 - A literature review comparing the regional metallogeny of units EJL and DMgPW could yield useful information with implications for mineralization potential. Geochronological studies could also enhance the understanding of the primary and secondary uranium mineralization.

6 – Continued ground based radiometric surveys are also recommended, specifically radon-based methods. This work would have to be conducted after spring thaw when ground is dry and should expand on previous grids and as directed by airborne radiometric data.

If significant uranium mineralization or strong potential for mineralization is found a second drilling phase is required. Additionally, shallow drilling in areas with anomalous radioactivity readings but ‘normal’ geology could reveal information about the origin and nature of the uranium mineralization.

At a minimum, the recommended budget for both phases is $901,000 (Table 5). The first phase ($300,000) comprises airborne data reinterpretation and follow up ground work, while the second phase ($601,000) concentrates on diamond (or RC) drilling at the most prospective areas. Additional funds are best directed towards enhancing the drilling program.

Table 5: Recommended Budget for 2-Phase Program

Phase 1 Budget	
Airborne Radiometric Survey Data Interpretation/Modeling	$50,000
Geological mapping, trenching and geochemical sampling	100,000
Room, board and field supplies – 200 mandays at $100/day	20,000
Geochemical analyses (250 samples @ $40 each)	10,000
Expediting, transportation and communication	20,000
Reports and assessment filing	20,000
Contingency	60,000
Total Phase 1	**$300,000**
Phase 2 Budget	
Diamond Drilling ~1000 m NTW @ $180/m	$180,000
Helicopter support 100 hr @ $1600/hr, fuel included	160,000
Geological and camp support staff	100,000
Room, board and field supplies – 200 mandays at $120/day	24,000
Expediting, transportation and communication	40,000
Analysis – 300 samples at $40/sample	12,000
Report and assessment filing	30,000
Contingency	55,000
Total Phase 2	**$601,000**
Total Phase 1 and Phase 2	**$901,000**

18. Summary of Expenses

Below is a list of assessable costs incurred during the summer 2008 work, as provided by Matson Uranium and Eagle Hill Exploratin Corp.

Who	**What**	**Cost**
Geoxplor Corp	Radon Cup Survey	30,883.13
Transnorth Helicopters	Heli support	31,436.70
Geological Crew	Ground surveys / mapping / prospecting	12,125.00
Diesel for truck	Jet fuel transport	159.70
	Total:	**74,604.53**

19. References

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20. Qualifications

I, David J. Turner, of 537 Kenneth St., Victoria, British Columbia, Canada V8Z 2B6 do hereby certify that I am a geologist and:

(a) I am a graduate of the University of Victoria with a Bachelor of Science Degree in Earth and Ocean Sciences and Geography (2003) and the University of British Columbia with a Master's of Science Degree in Earth and Ocean Sciences. I have practiced my profession continuously since 2001 and have direct experience in the exploration and development of tantalum, lithium, gold, uranium, rare earth elements, gemstones and tungsten in Canada.

(b) I personally visited and inspected the Jove Property in August 2007 and oversaw the work of August 2008.

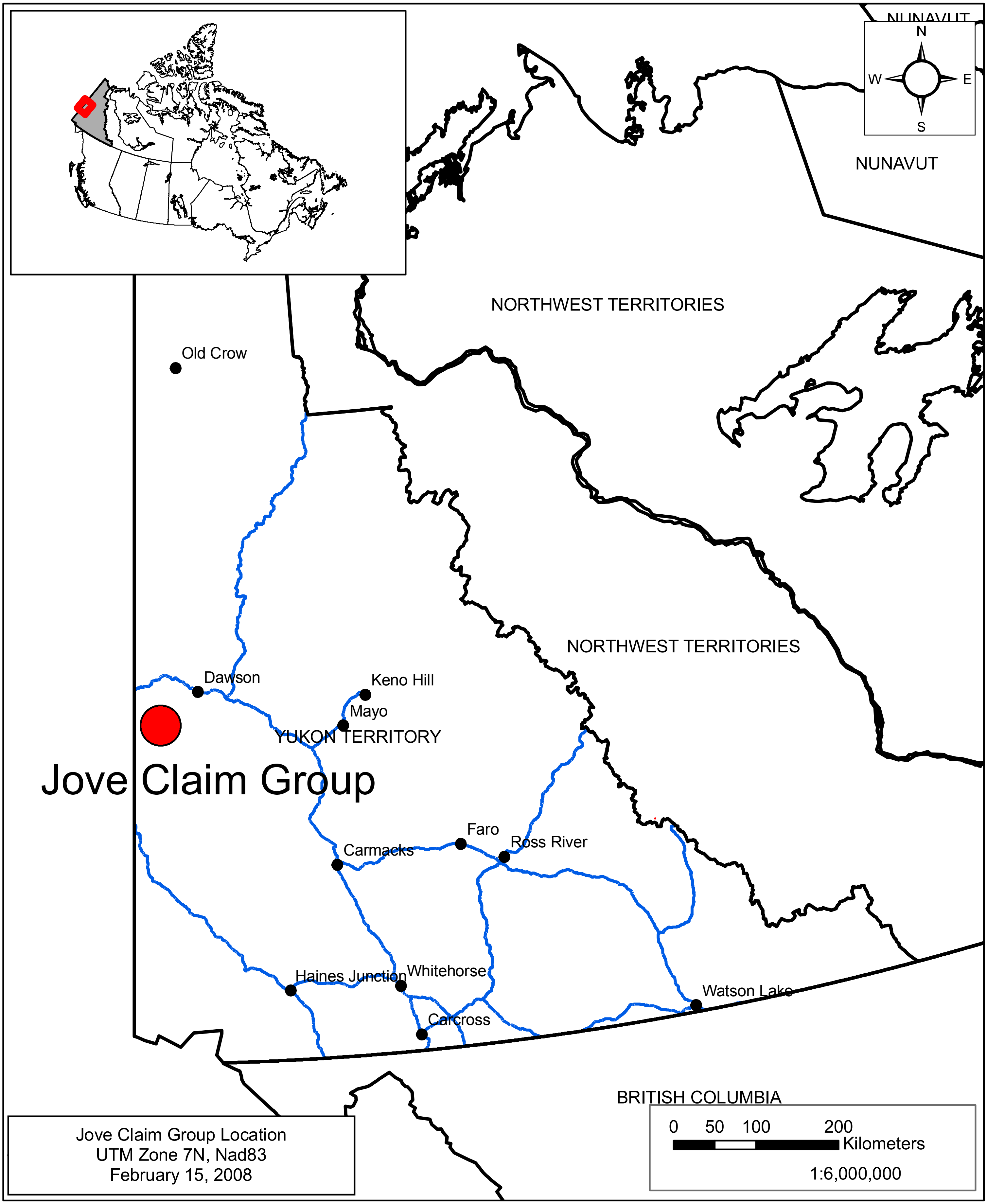
(c) I am independent of Matson Uranium and Eagle Hill Exploration.

(d) as of the date of this page, and to the best of my knowledge, information and belief, this report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 17th day of September, 2009
Victoria, British Columbia

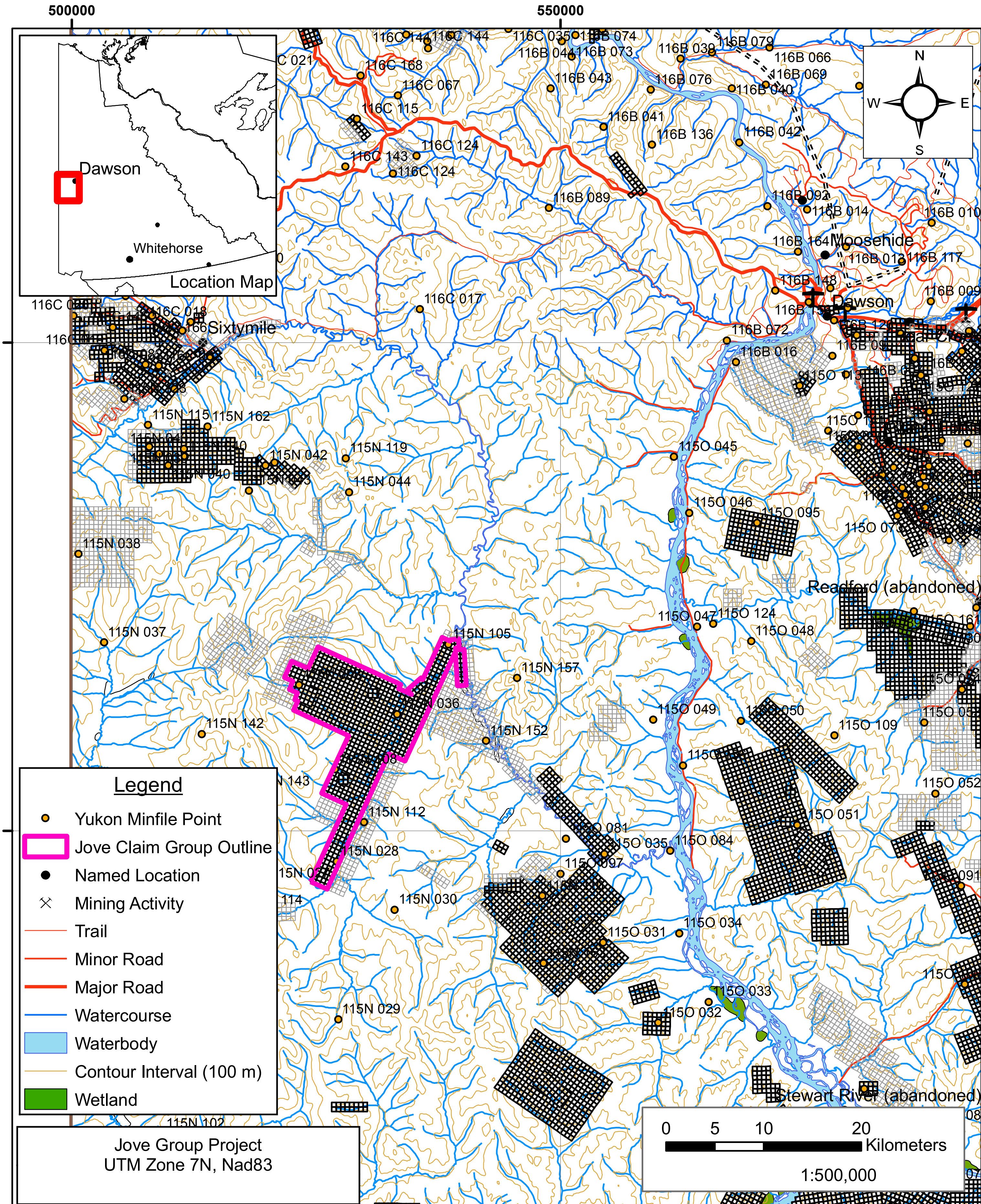
____
David Turner, B.Sc., M.Sc.

Jove Group Claim Location Map



Jove Claim Group Location
UTM Zone 7N, Nad83
February 15, 2008

Jove Claim Group - Regional Location Map



Jove Claim Group - Local Claim Map

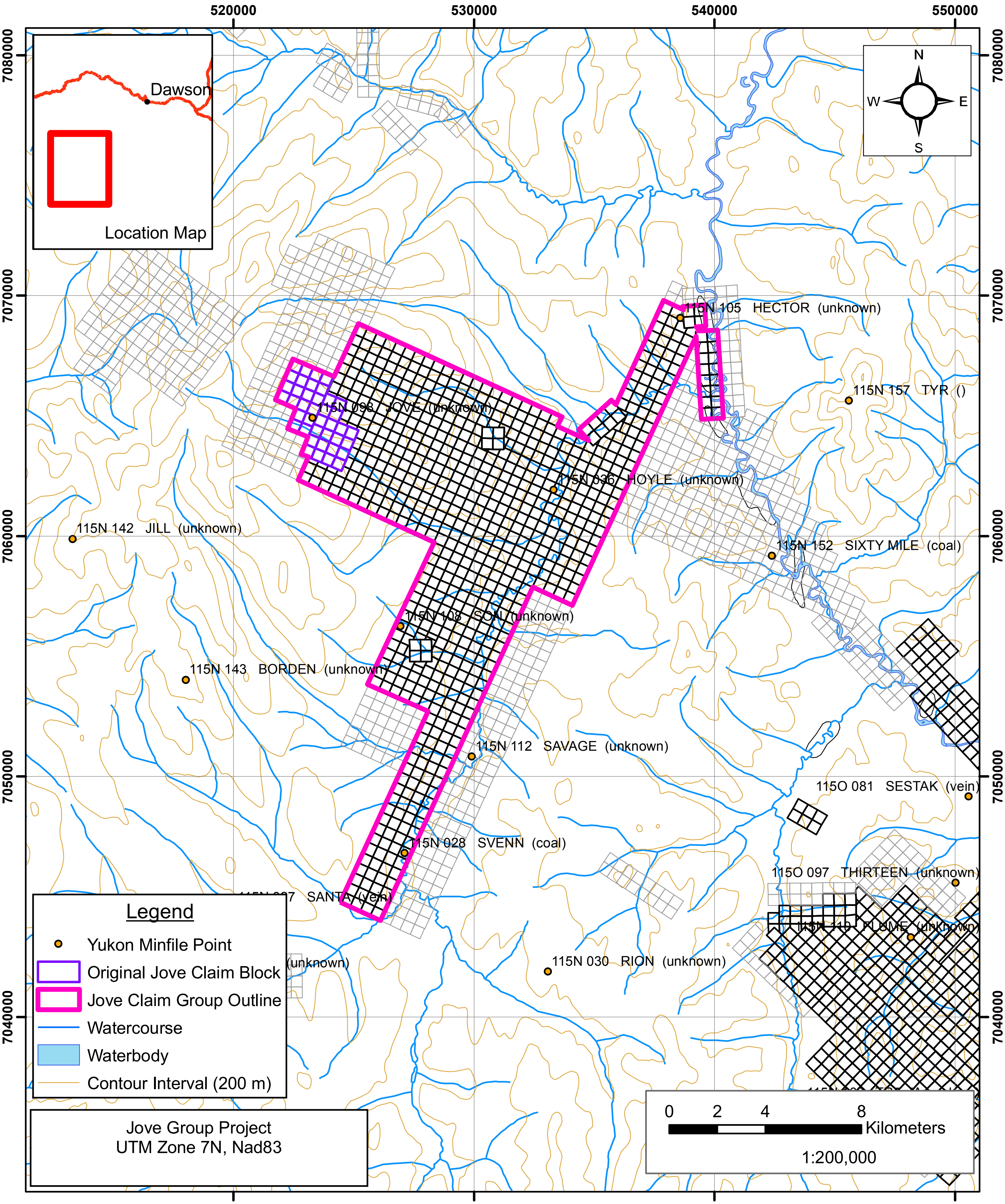


Figure 4 - Jove Claim Group - GSC Geophysical Survey Index

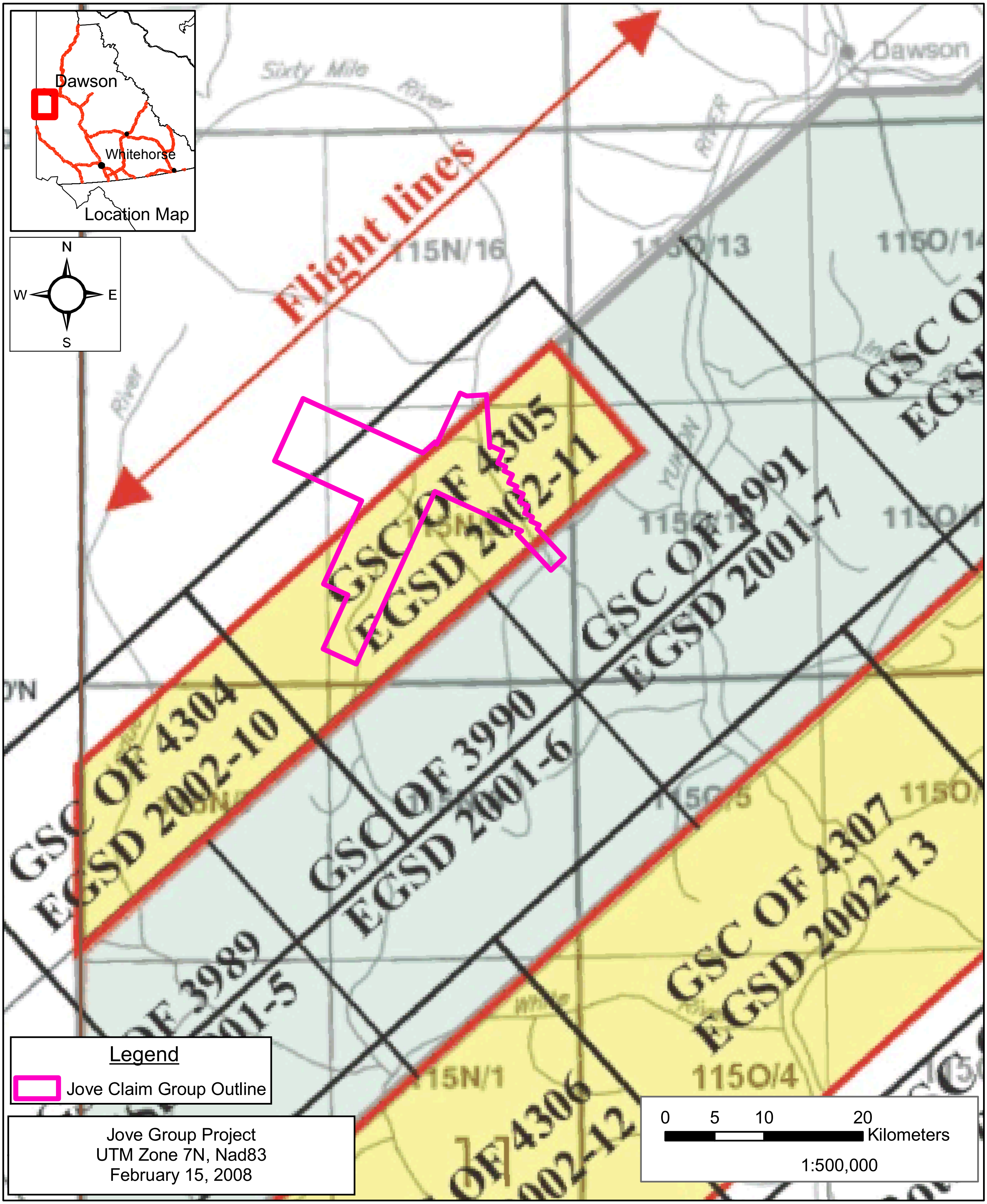
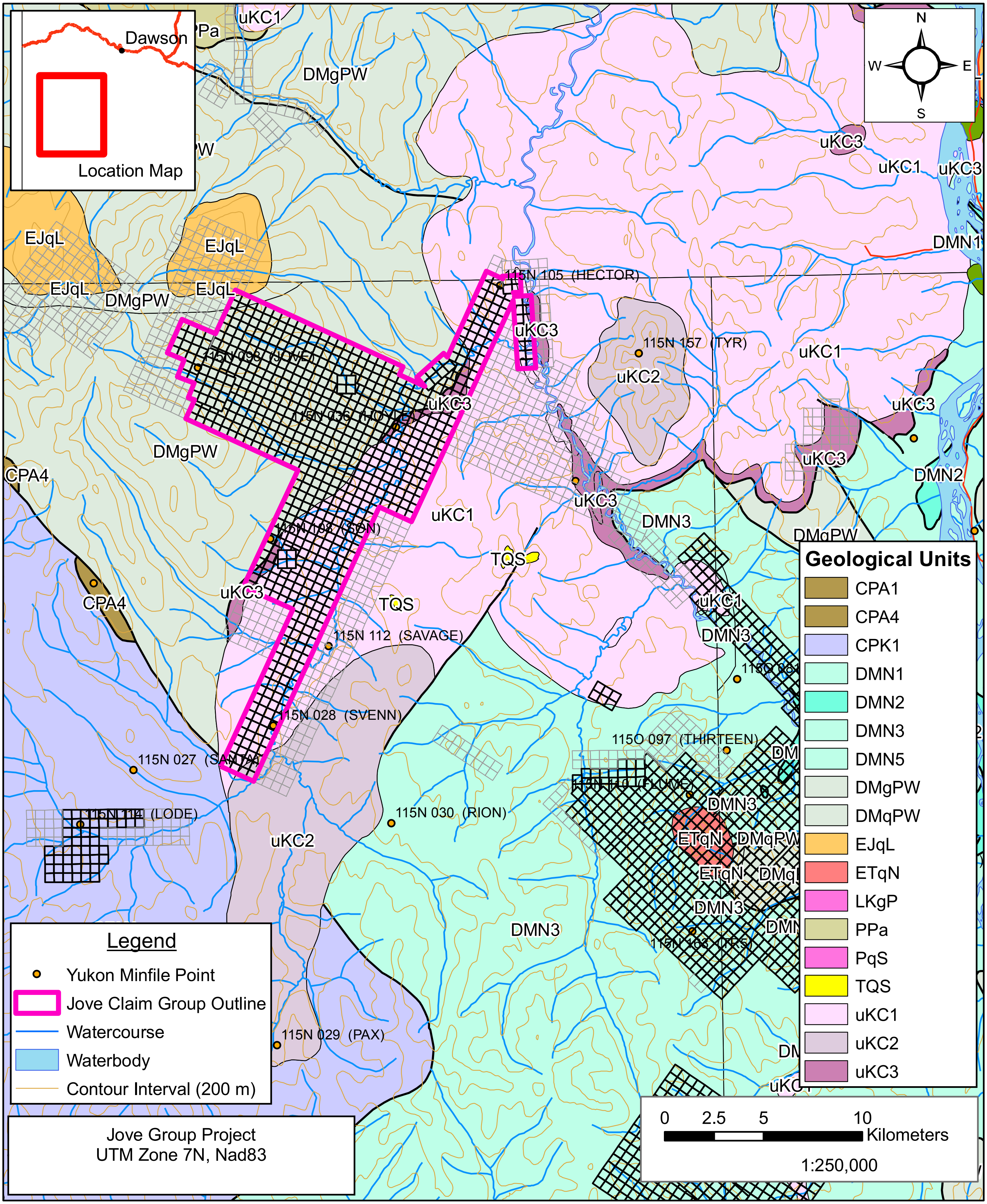


Figure 5 - Jove Claim Group - Geological Setting



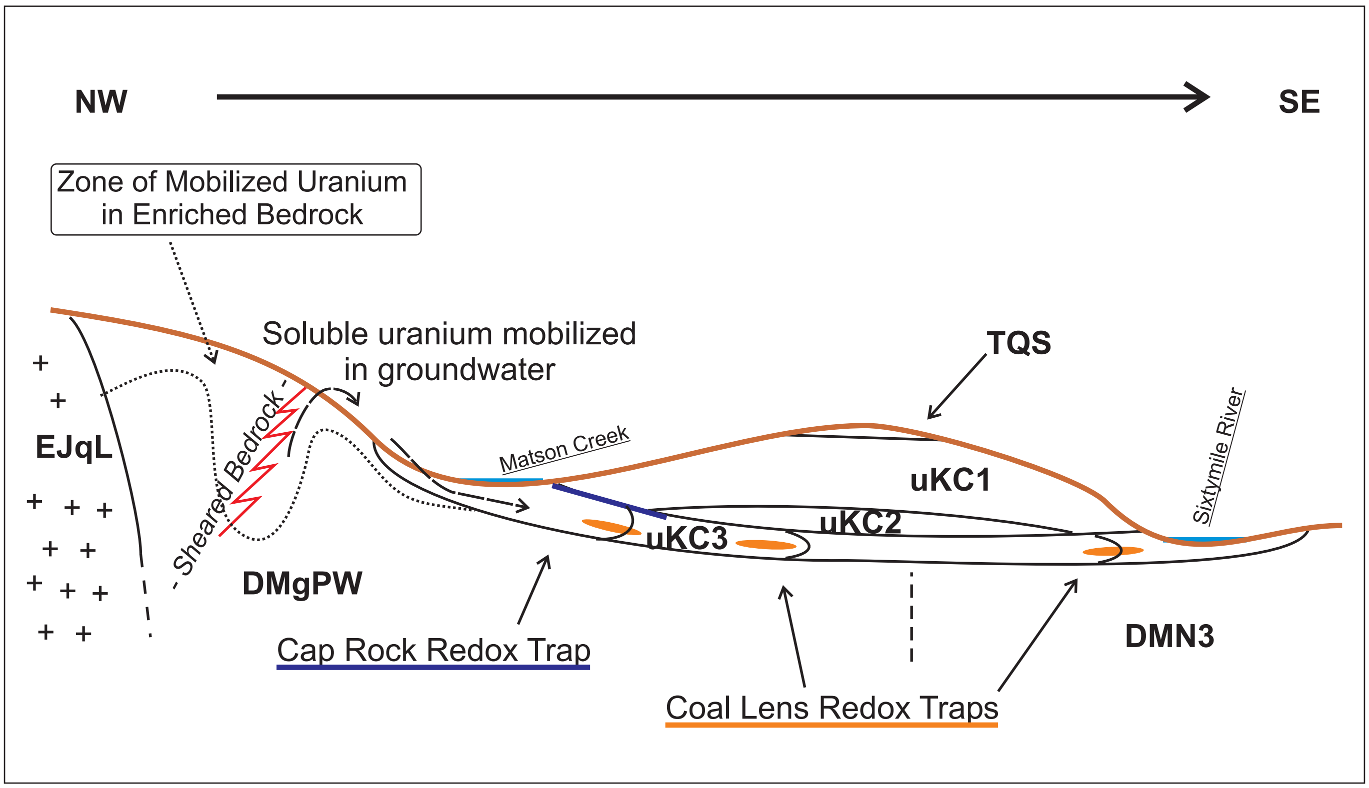


Figure 6. Cartoon Cross Section across the Carmacks Group showing source of uranium, its mobilization, and subsequent trapping in roll-front type redox traps. Unit abbreviations are in **bold** and their descriptions can be found in the text and Appendix A.

Figure 7 - Jove Claim Group - GSC Radiometrics - Uranium

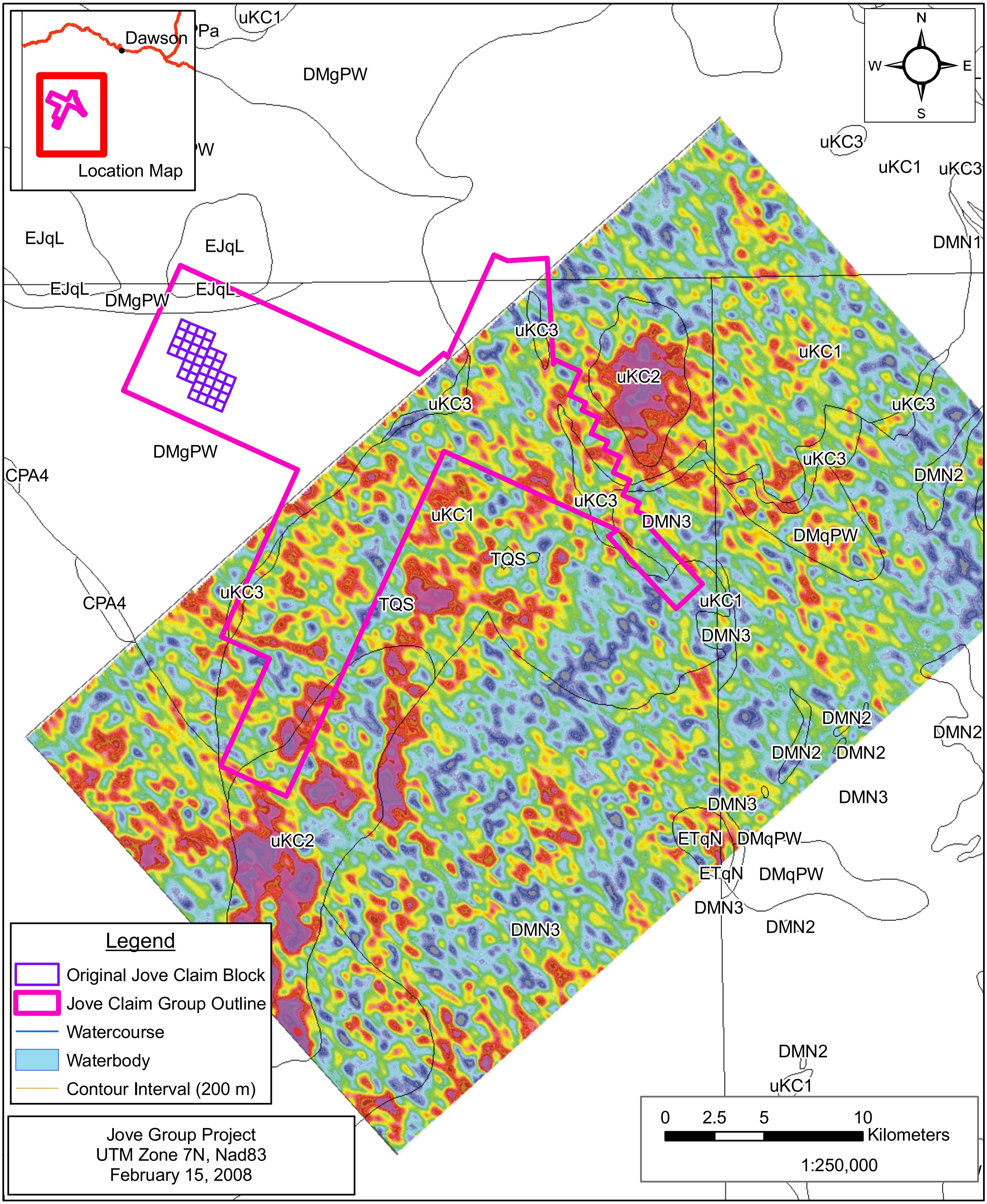
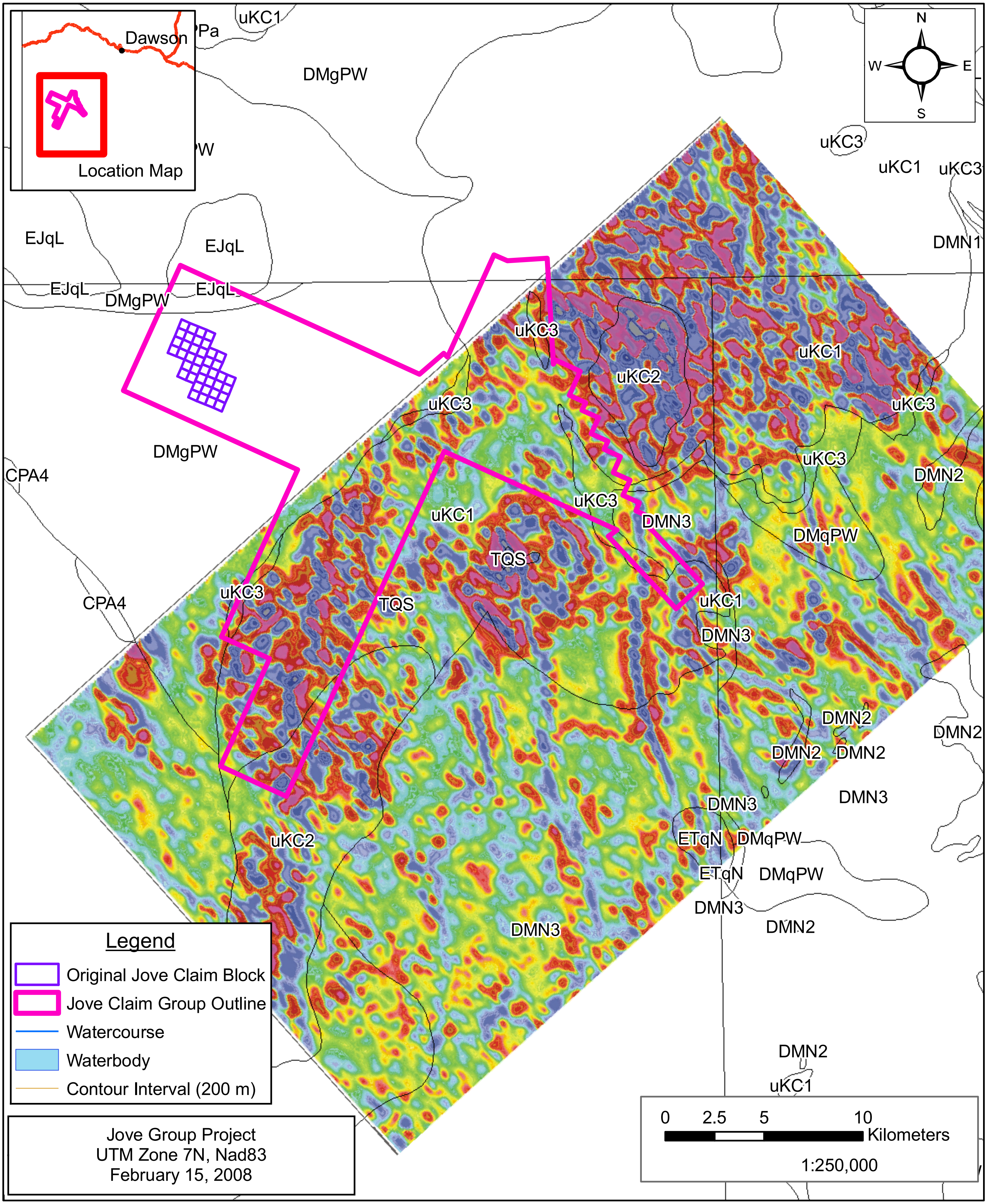


Figure 8 - Jove Claim Group - GSC Magnetics - FVD



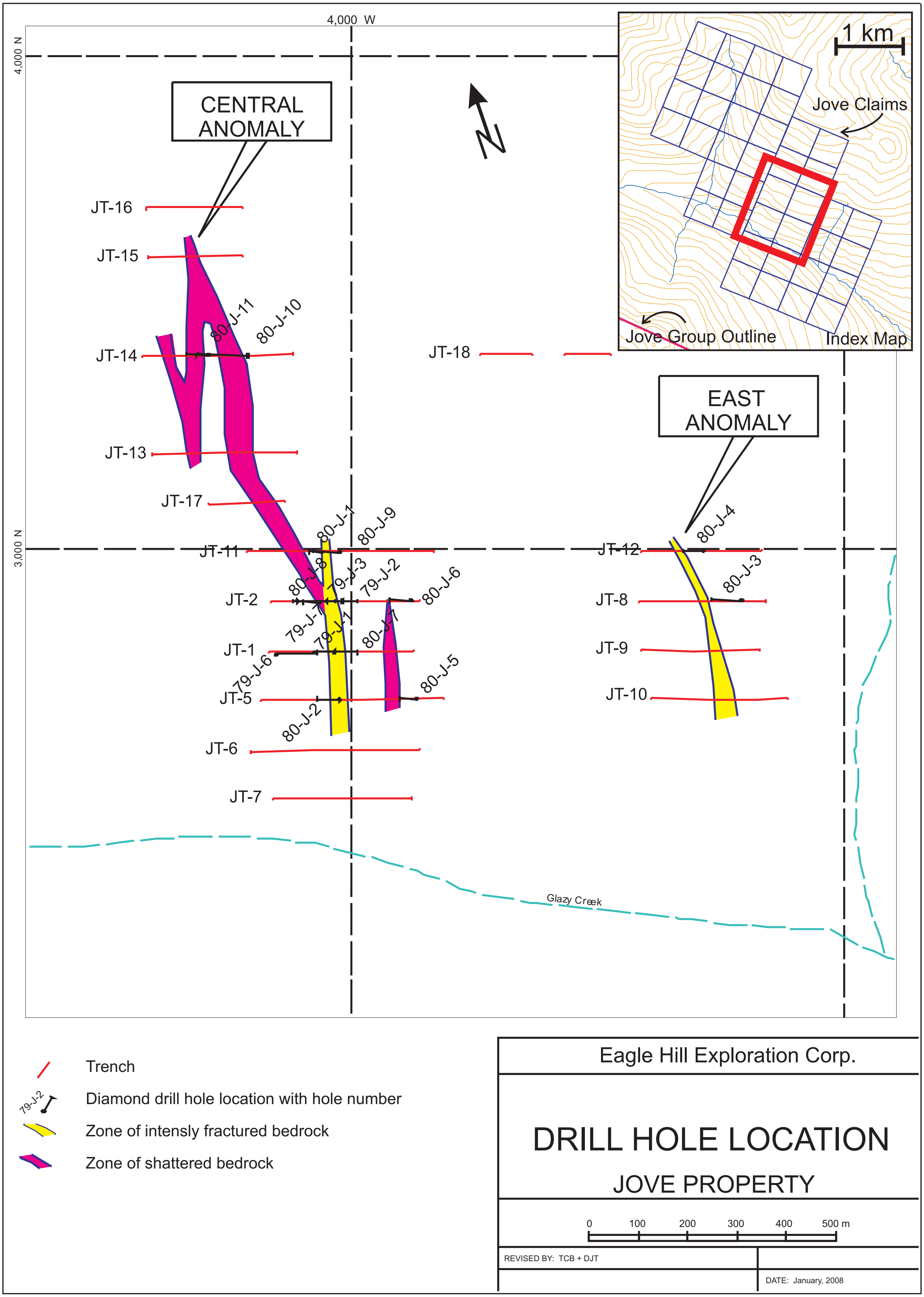
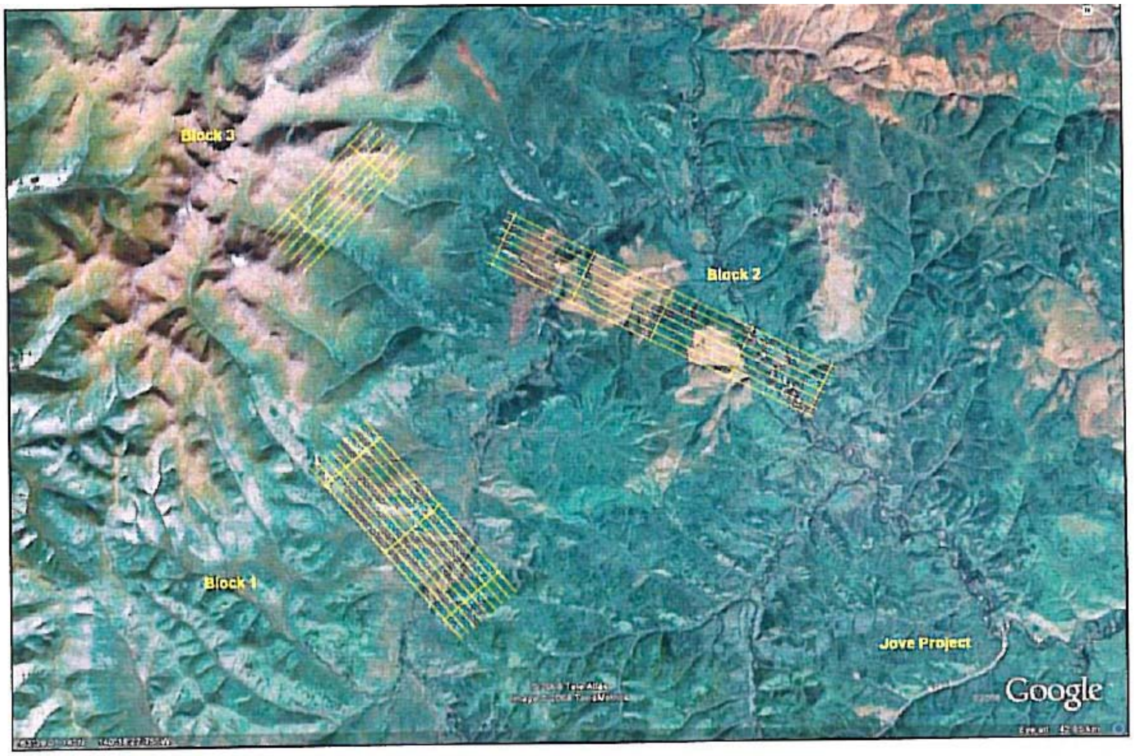


Figure 9. Historical Drill Hole and Trench Locations (modified from Becker, 2006)



Google Earth Imagery

Figure 10. Location map of airborne VTEM survey blocks

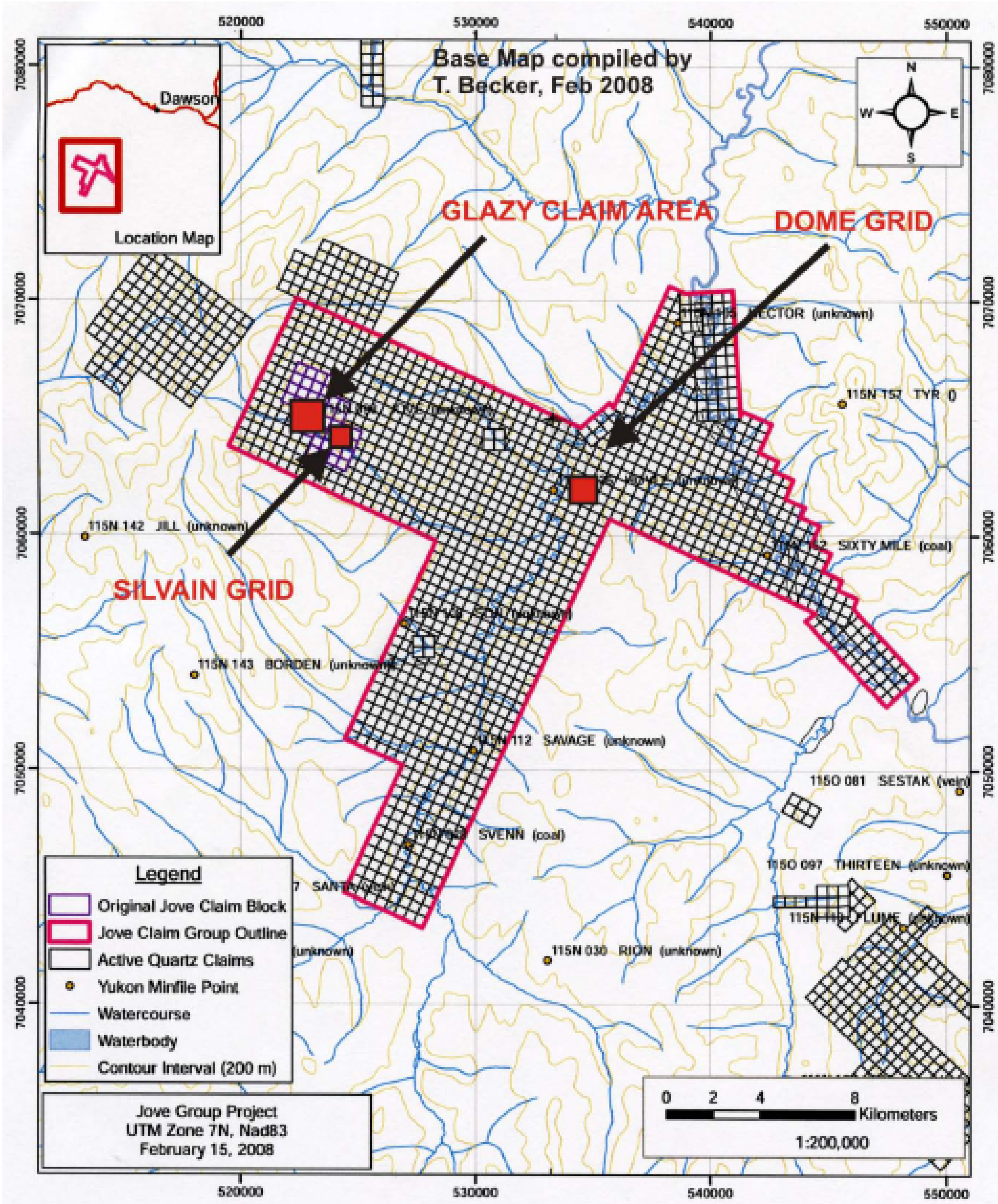
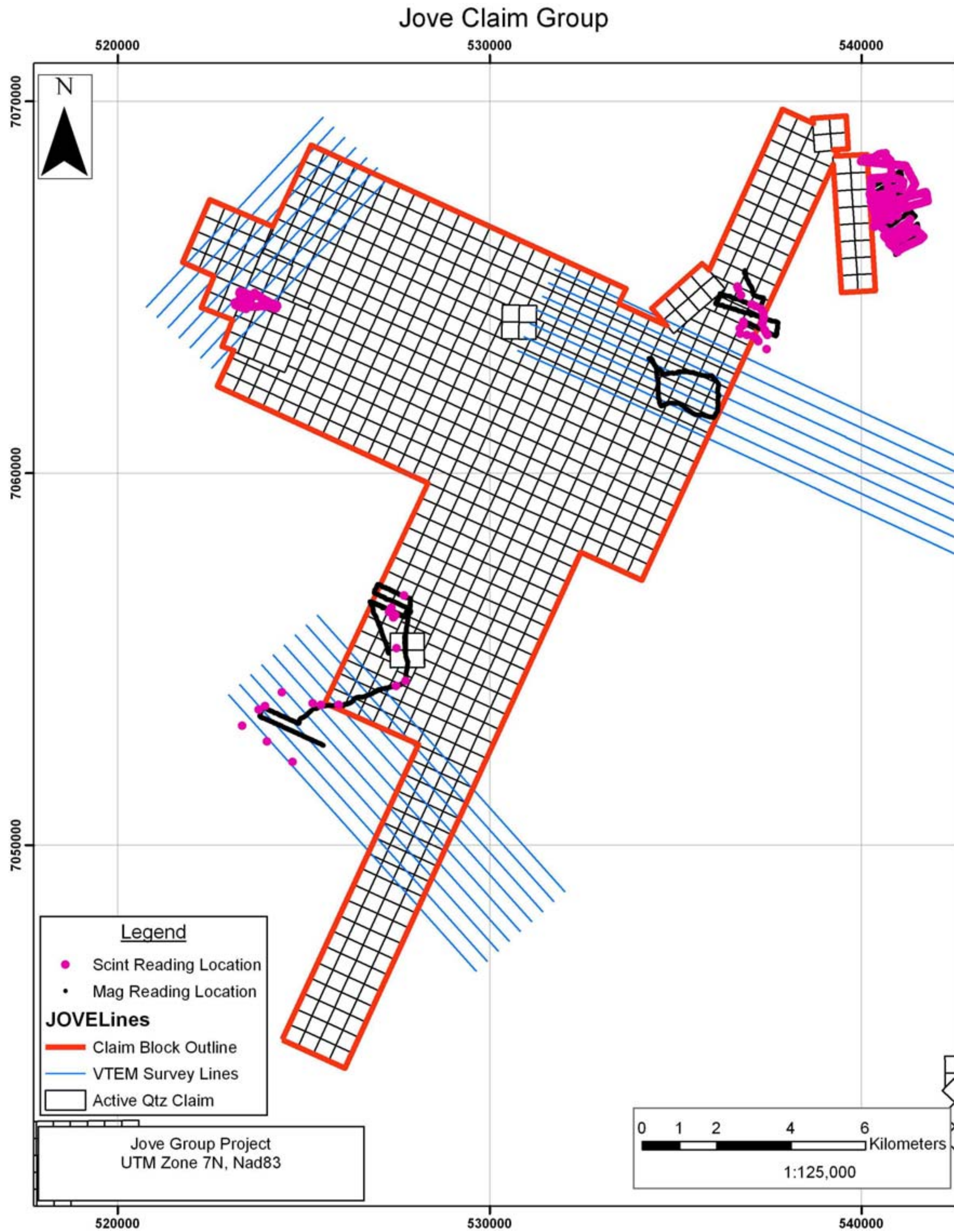
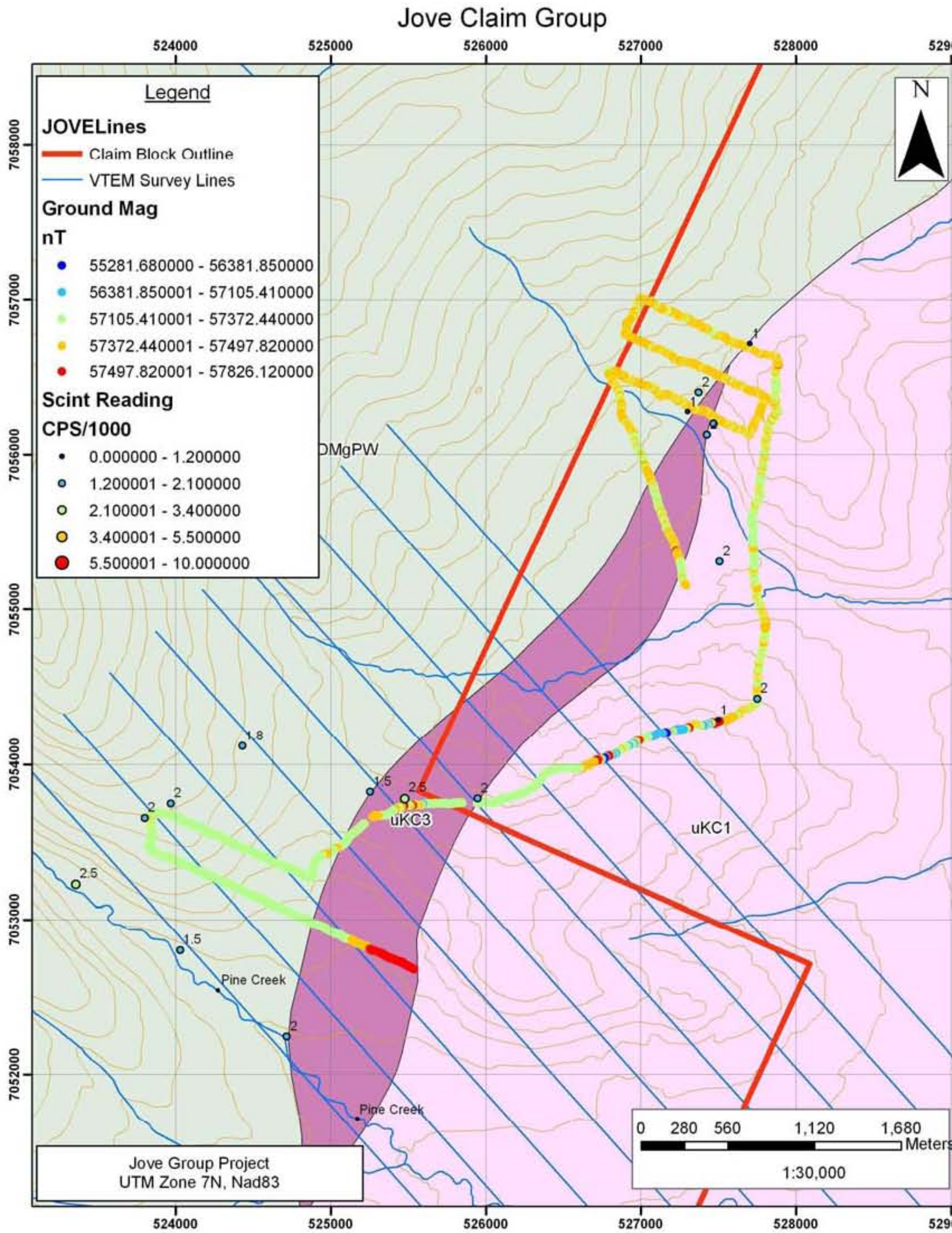


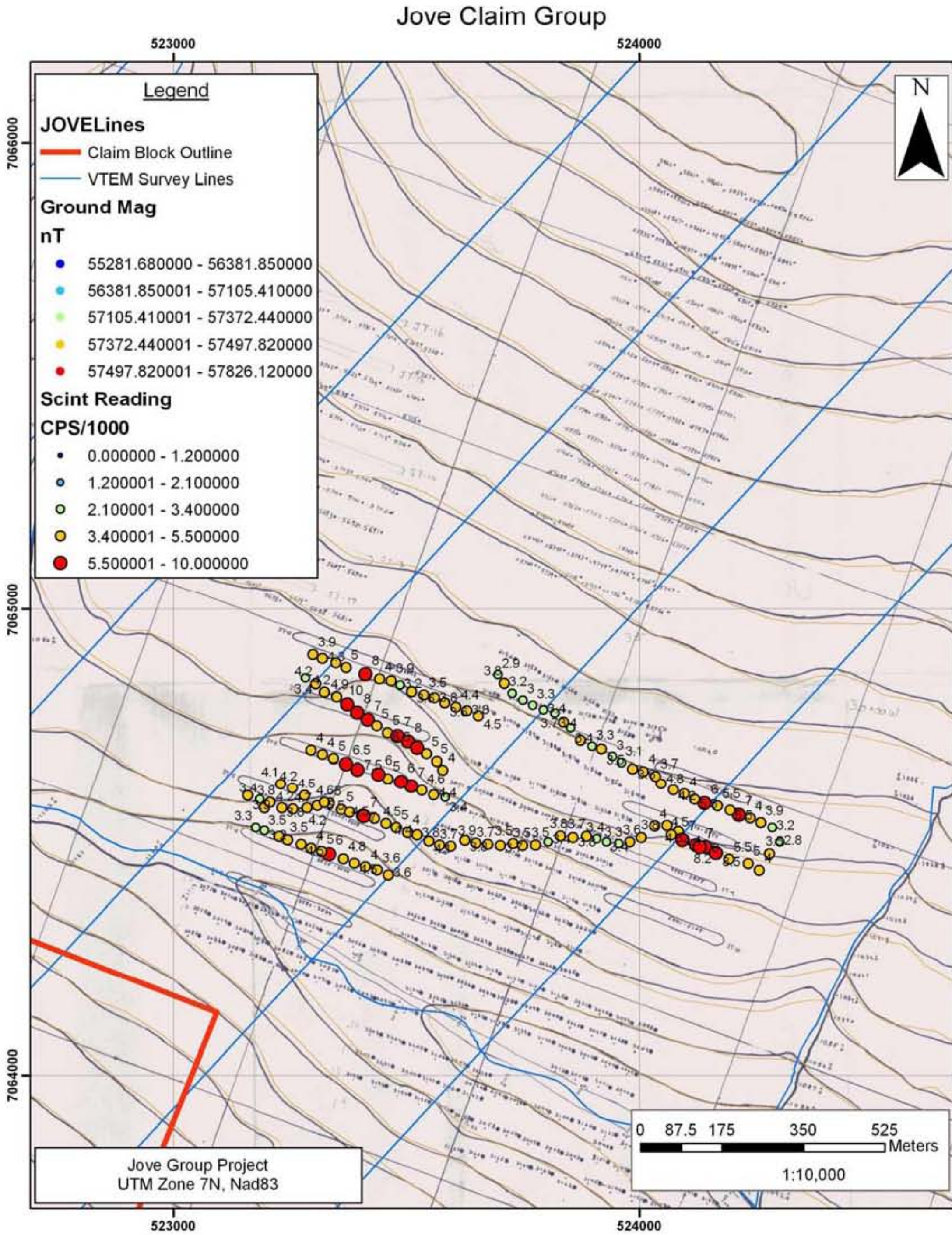
Figure 11. Location map of ground based Radon Cup survey blocks from Geoxplor Report (note the original morphology of the claim block prior to lapsing of non-core claims).



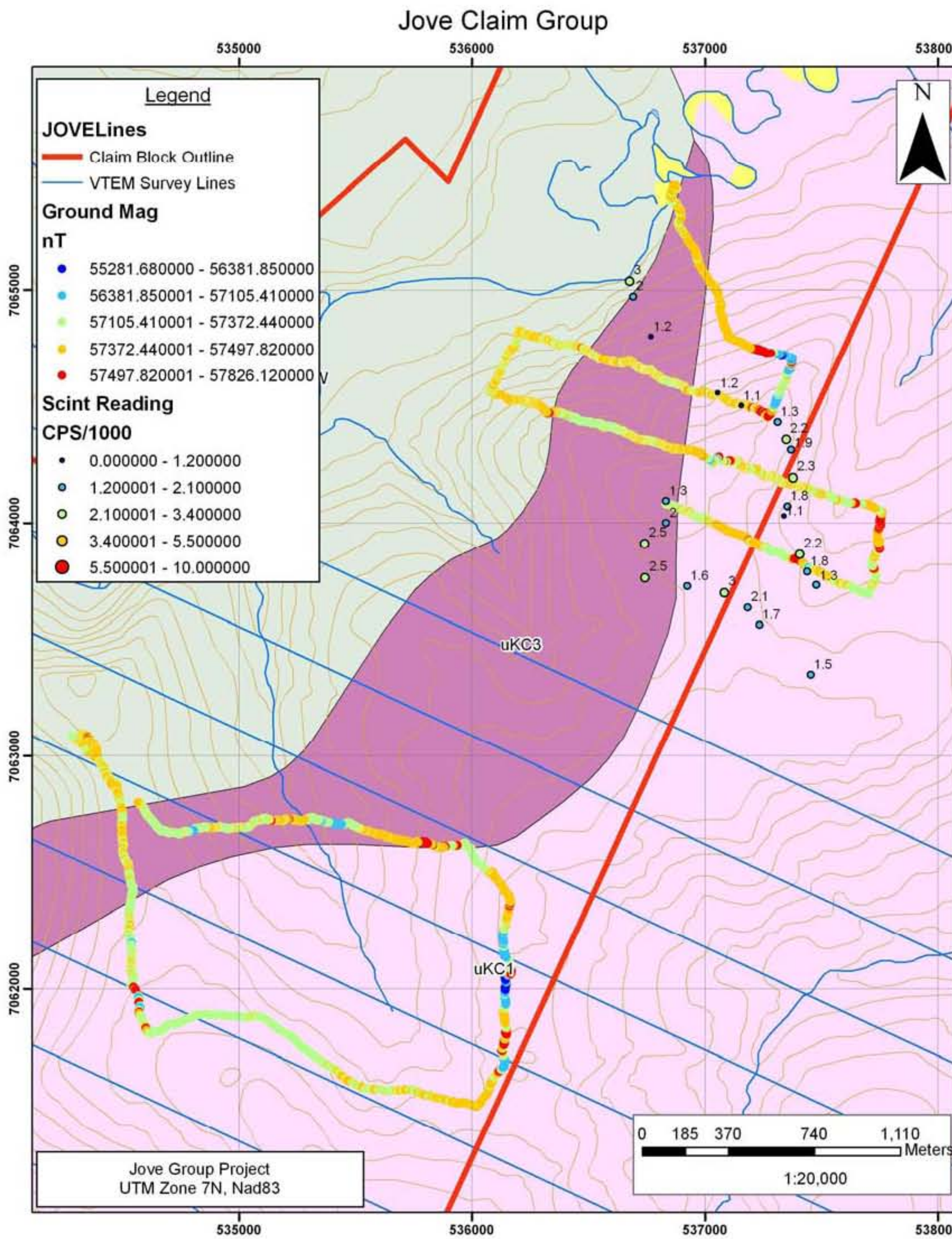
12. Field scintillometer locations, ground magnetics reading locations and approximate location of VTEM survey lines.



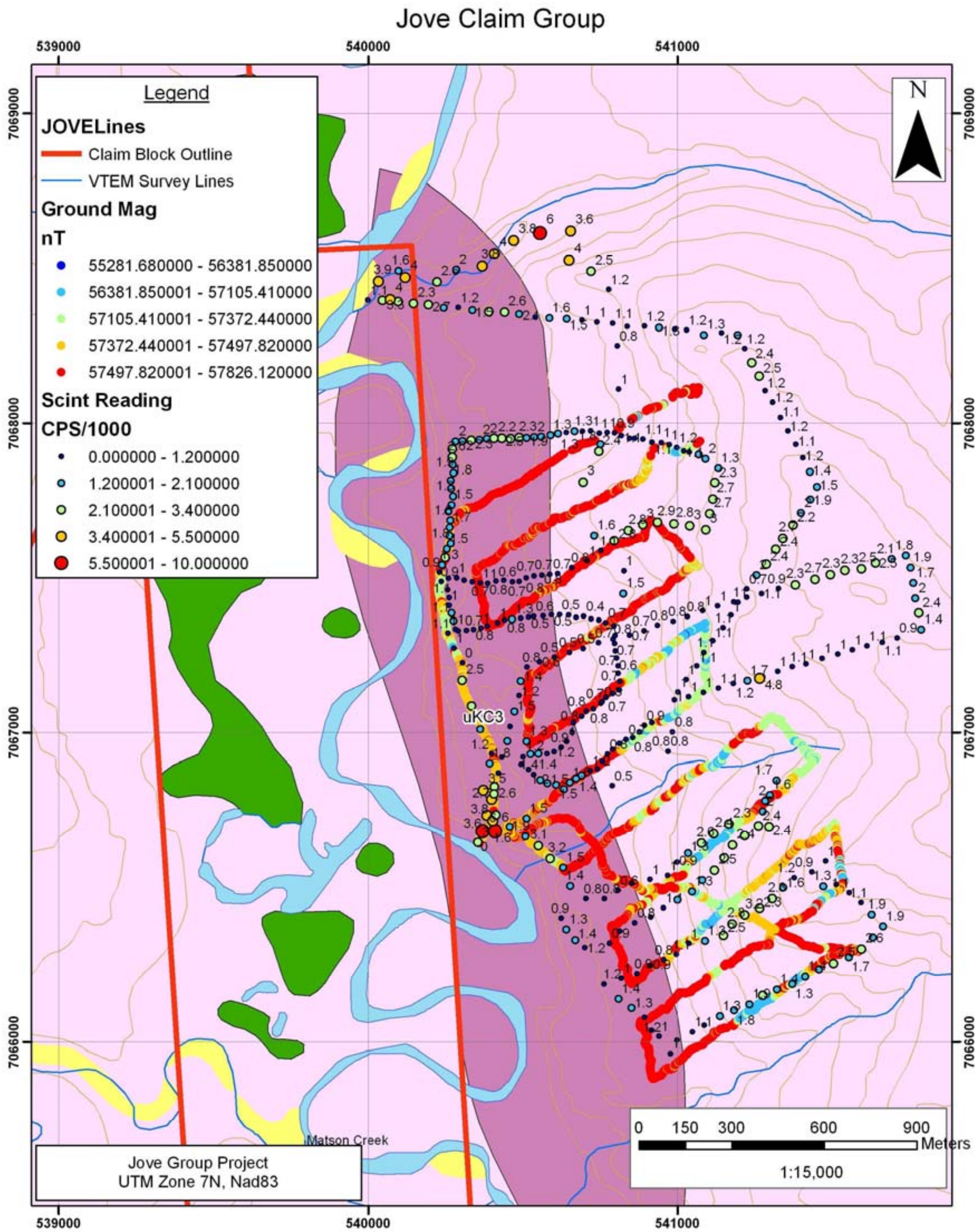
13. Field scintillometer and ground magnetics reading location with Geology- South



14. Field scintillometer and ground magnetics reading location with georeferenced trench and drill map from historical work on the Jove Claims - West



15. Field scintillometer and ground magnetics reading location with Geology – NE



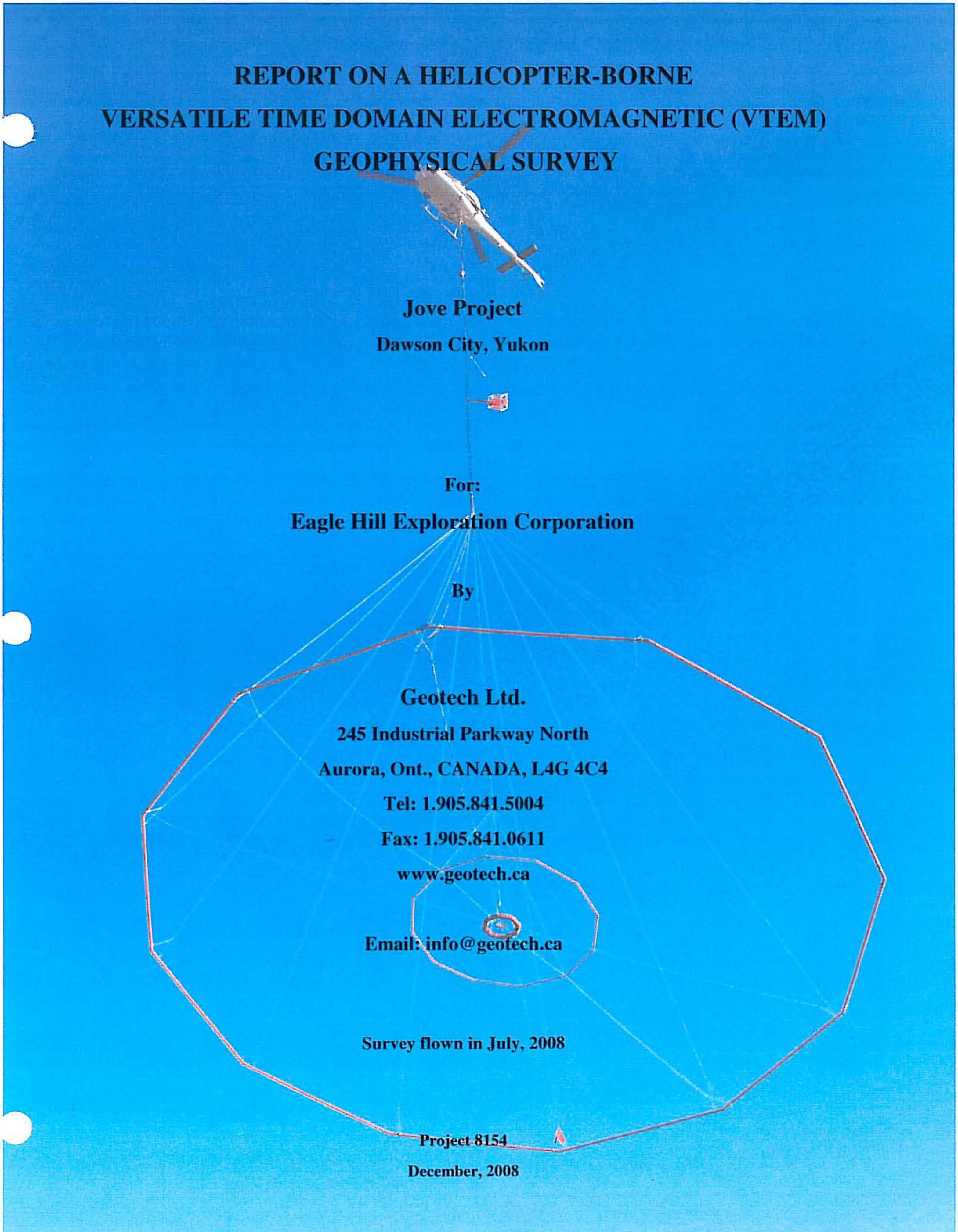
16. Field scintillometer and ground magnetics reading location with Geology – NE2

Appendix A: Selected Bedrock Unit Descriptions
(After Gordey & Makepeace, 2000)

TERTIARY AND QUATERNARY	**TQS: SELKIRK** Resistant, brown weathering, columnar jointed, vesicular to massive basalt flows; minor pillow basalt; basaltic tuff and breccia (Selkirk Volcanics).
EARLY TERTIARY	**ETN: NISLING RANGE SUITE** Regionally medium to coarse grained equigranular to porphyritic rocks of intermediate composition (g), fine to coarse grained, equigranular and porphyritic granitic rocks of felsic composition (q) and felsic dyke rocks (f). Locally, **ETqN** comprises leucocratic, biotite granite; miarolitic alaskite; saccharoidal textured, mafic-poor biotite granite; biotite-hornblende granite to leucocratic granodiorite with sparse, white, alkali feldspar phenocrysts; biotite quartz monzonite (Nisling Range Suite, Nisling Range Alaskite, Coffee Creek Granite, Annie Ned Granite).
UPPER CRETACEOUS	**uKC: CARMACKS GROUP** Regionally a volcanic succession dominated by basic volcanic strata (1), but including felsic volcanic rocks dominantly (?) at the base of the succession (2) and locally, basal clastic strata (3) (70 ma approx). **uKC1** is an augite olivine basalt and breccia; hornblende feldspar porphyry andesite and dacite flows; vesicular, augite phyric andesite and trachyte; minor sandy tuff, granite boulder conglomerate, agglomerate and associated epiclastic rocks (Carmacks Gp., Little Ridge Volcanics, Casino Volcanics). **uKC2** is an acid vitric crystal tuff, lapilli tuff and welded tuff including feeder plugs and necks; felsic volcanic flow rocks and quartz feldspar porphyries; green and purple massive tuff-breccia with feldspar phyric fragments (Carmacks Gp., Donjek Volcanics, some rocks formerly mapped as Mt. Nansen Gp.; the felsic part of the Carmacks Gp. is difficult to distinguish from similar Tertiary and mid-Cretaceous (Mt. Nansen) felsic volcanic strata). **uKC3** is a medium-bedded, poorly sorted, coarse- to fine-grained sandstone, pebble conglomerate, shale, tuff, and coal; massive to thick bedded locally derived granite or quartzite pebble to boulder conglomerate (Tantalus Formation?, Carmacks Gp.).

LATE CRETACEOUS TO TERTIARY	**LKP: PROSPECTOR MOUNTAIN SUITE** Regionally is grey, fine to coarse grained, massive, granitic rocks of felsic (q) intermediate (g) rarely mafic (d) composition and related felsic dykes (f). Locally, **LKgP** is hornblende-biotite granodiorite, hornblende diorite, and quartz diorite (Wheaton Valley Granodiorite).
EARLY JURASSIC	**EJL: LONG LAKE SUITE** Regionally is mostly felsic granitic rocks (q) but also grading to syenitic (y). Locally **EJqL** is massive to weakly foliated, fine to coarse grained biotite, biotite-muscovite and biotite-hornblende quartz monzonite to granite, including abundant pegmatite and aplite phases; commonly K-feldspar megacrystic (Long Lake Suite)
MIDDLE PERMIAN	**PqS: SULPHUR CREEK SUITE** This unit comprises moderately to strongly foliated biotite quartz monzonite gneiss (the Sulphur Creek Orthogneiss) and coarse grained, homogeneous, hornblende-biotite-bearing granite, granodiorite and quartz-monzonite with narrow foliated and mylonitic zones (the Ram Stock)**.**
CARBONIFEROUS AND PERMIAN	**CPK1: KLONDIKE SCHIST** Regionally a poorly understood assemblage of metamorphosed pelitic/volcanic rocks and minor marble, including phyllite of uncertain association. Locally **CPK1** it is tan to rusty and black weathering muscovitic and/or chloritic quartzite and quartz-muscovite-chlorite schist; quartz and/or feldspar augen-bearing quartz-muscovite (+/-chlorite) schist; includes augen gneiss and amphibolite**.**
	CPA: ANVIL Regionally a dominantly oceanic assemblage of mafic volcanics, ultramafics, chert and pelite, limestone and gabbroic rocks. Locally, **CPA1** comprises variably altered and foliated, locally augite-phyric basalt (local pillows), diorite and gabbro, chloritic greenstone, amphibolitic greenstone and amphibolite; minor metachert, siliceous argillite or siltstone, greywacke, tuff, and siliceous limestone. **CPA4** comprises dunite, peridotite, gabbro, pyroxenite, harzburgite and minor diorite, hornblendite and diabase; serpentinite, orange weathering quartz carbonate rock with minor green chromian muscovite, talc-carbonate schist and carbonatized ultramafic rocks

LATE DEVONIAN TO MISSISSIPPIAN	**DMPW: PELLY GNEISS SUITE - SOUTHWEST** Regionally are variably deformed granitic rocks of predominantly felsic (q) to intermediate composition (g) southwest of Tintina Fault. **DMqPW** comprises foliated equigranular medium-grained muscovite quartz monzonite; moderately to strongly foliated K-feldspar augen-hearing quartz monzonitic to granitic gneiss (S. Fiftymile Batholith, Mt. Burnham Orthogneiss). **DMgPW** comprises foliated medium grained, homogeneous biotite granite gneiss to biotite or hornblende granodiorite gneiss; massive to strongly foliated dioritic to granodioritic gneiss; includes interfoliated amphibolite, quartz-mica schist and phyllite (Selwyn Gneiss, Pelly Gneiss, N. Fiftymile Batholith, Moose Creek Orthogneiss).
DEVONIAN, MISSISSIPPIAN AND OLDER	**DMN: NASINA** Regionally variable and comprises graphitic quartzite and muscovite quartz-rich schist with interspersed marble. Locally, **DMN1** comprises dark grey to black, fine grained graphitic and non-graphitic quartzite, grey micaceous quartzite and quartz muscovite (+/-chlorite; +/- feldspar augen) schist, locally garnetiferous; minor graphitic stretched metaconglomerate and metagrit (Nasina assemblage). **DMN2 is** marble (Nasina assemblage). **DMN3** comprises quartzite, micaceous quartzite, quartz muscovite (+/-chlorite; +/- feldspar augen) schist, and minor metaconglomerate and metagrit. **DMN5** comprises black-weathering, massive, dark grey to black strongly graphitic quartzite with lesser grey micaceous quartzite and quartz mica schist; commonly shows alternating light and dark grey colour lamination (Nasina quartzite).
PROTEROZOIC AND PALEOZOIC	**PPa: AMPHIBOLITE** This unit comprises metamorphosed mafic rocks including amphibolite (1) and ultramafic rocks (2) of unknown association; i.e.) may belong in part or entirely to Nisling, Nasina, and Slide Mountain assemblages and (3), mafic-ultramafic intrusions within Nasina assemblage.



REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM) GEOPHYSICAL SURVEY

Jove Project

Dawson City, Yukon

For:

Eagle Hill Exploration Corporation

By

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Email: info@geotech.ca

Survey flown in July, 2008

Project 8154

December, 2008

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REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC SURVEY

Jove Project
Dawson City, Yukon, Canada

Executive Summary

During July 4th to July 5th, 2008 Geotech Ltd. carried out a helicopter-borne geophysical survey Eagle Hill Exploration Corporation over three (3) blocks (Block 1, Block 2 and Block 3) near Dawson City, Yukon, Canada

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM) system, and a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 282 line-kilometers were flown.

The survey operations were based in Dawson City, Yukon. In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The processed survey results are presented as electromagnetic stacked profiles, and as a color contour grid of the B-field EM late time channel, and total magnetic intensity

Digital data includes all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, processing, final image presentation and the specifications for the digital data set. No formal interpretation is included in this report.

1. INTRODUCTION

1.1 General Considerations

These services are the result of the Agreement made between Geotech Ltd. and Eagle Hill Exploration Corporation to perform a helicopter-borne geophysical survey over three blocks (Block 1, Block 2 and Block 3) over the Jove Project, situated near Dawson City, Yukon, Canada (Figure 1).

David Turner, acted on behalf of Eagle Hill Exploration Corporation during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM) system and aeromagnetics using a caesium magnetometer. A total of 282 line-km of geophysical data were acquired during the survey. The survey area is shown in Figure 2.

The crew was based near Dawson City, Yukon, for the acquisition phase of the survey. Survey flying started on July 4th and was completed on July 5th, 2008.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Final data processing and interpretation followed immediately after the end of the survey. Final reporting, data presentation and archiving were completed from the Aurora office of Geotech Ltd. in December, 2008.

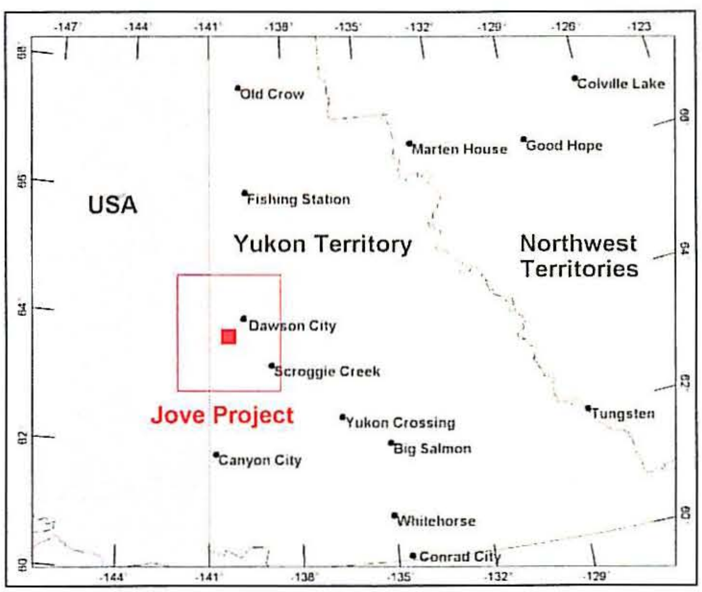


Figure 1 – Survey Blocks Location

1.2 Survey Location and Specifications

Jove Project is located approximately 65 kilometres south-east of Dawson City, Yukon, the base of operations for the survey.

Traverse lines were flown in the direction of N 138° E for Block 1 and N 43° E for Block 3, with same line separation of 400 m. The tie lines were flown perpendicular to the traverse line in the direction of N 49° E for Block 1 and 133° E for Block 3 with a spacing of 4000 meters for both blocks.

For Block 2, traverse lines were flown in the direction of N 115° E with line separation of 400 m. The tie lines were flown perpendicular to the traverse line in the direction of N 25° E with a spacing of 3900 meters. For more detailed information on the flight spacing and direction see Table 1.

1.3 Topographic Relief and Cultural Features

Topographically, the Jove Project exhibits a steep relief, with an elevation ranging from 397-1599 meters above sea level (Figure 2). The Jove project is approximately 36 kilometers east of the populated locality of Ogilvie and 83 kilometers south of Clinton Creek. This survey block is covered by NTS (National Topographic Survey) of Canada sheet 115N09, 115N10, 115N15, 115N16.

Figure 2 – Google Image of Survey Blocks

2. DATA ACQUISITION

2.1 Survey Area

The survey blocks (see Location map, Figure 2 and Appendix A) and general flight specifications are as follows:

Table 1 - Survey blocks

Survey blocks	Traverse/Tie Line spacing (m)	Area (km^2)	Planned Line-km's	Actual[1] Line-km's	Flight direction	Line numbers
Block 1	Traverse: 400	34.6	99.64	102.2	N 138° E	L1000 – L1080
	Tie: 4000				N 49° E	T1100 – T1120
Block 2	Traverse: 400	43.9	126.84	126.6	N 115° E	L2000 – L2060
	Tie: 3900				N 25° E	T2100 – T2140
Block 3	Traverse: 400	17.6	55.02	54	N 43° E	L3000 – L3060
	Tie: 4000				N 133° E	T3100 – T3110
	Total	96.1	281.5	282.8		

Survey blocks boundaries co-ordinates are provided in Appendix B.

2.2 Survey Operations

Survey operations were based out of Dawson City, Yukon from July 4th to July 5th, 2008. The following table summarizes the daily progress and survey timings.

Table 2 - Survey schedule

Date	Flight #	Flown km	Block	Crew location	Comments
04-July-08	1 - 4	282		Yukon	Production
05-July-08	5			Yukon	Ramming lines, reflights – JOB COMPLETE

1 Note: The Actual line kilometres displayed, which exceed the Planned line-km amount (282 km) as described in the NAV files, represent the total flown kilometres contained in the final database.

2.3 Flight Specifications

The helicopter was maintained at a mean height of 85 meters above the ground with a nominal survey speed of 80 km/hour. This allowed for a nominal EM sensor terrain clearance of 50 meters and a magnetic sensor clearance of 72 meters. The data recording rates of the data acquisition was 0.1 second for electromagnetics, and magnetometer and 0.2 second for altimeter and GPS. This translates to a geophysical reading about every 2 meters along flight track. Navigation was assisted by a CDGPS receiver and data acquisition system, which reports GPS co-ordinates as latitude/longitude and directs the pilot over a pre-programmed survey grid.

The operator was responsible for monitoring of the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic feature.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora, ON for daily quality assurance and quality control by qualified personnel, operating remotely.

2.4 Aircraft and Equipment

2.4.1 Survey Aircraft

The survey was flown using AS 350 B3, registration C-GTRK. The helicopter was operated TRK Helicopters Ltd. Installation of the geophysical and ancillary equipment was carried out by Geotech Ltd.

2.4.2 Electromagnetic System

The electromagnetic system was a Geotech Time Domain EM (VTEM) system. The configuration is as indicated in Figure 3 below.

Receiver and transmitter coils are concentric and Z-direction oriented. The coils were towed at a mean distance of 35 meters below the aircraft as shown in Figure 5. The receiver decay recording scheme is shown diagrammatically in Figure 4.

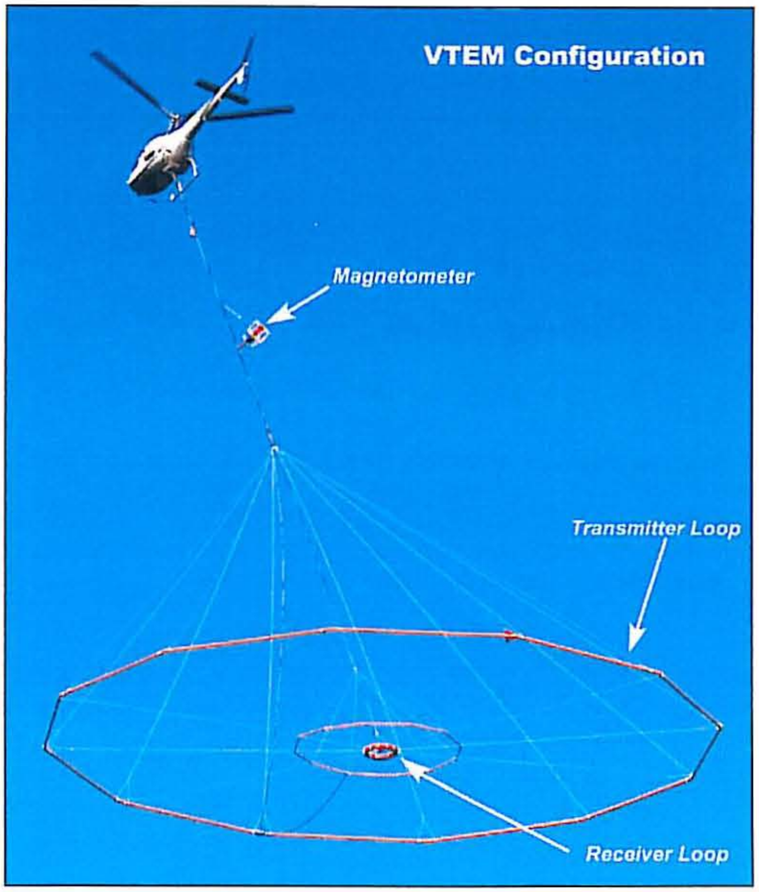


Figure 3 - VTEM Configuration

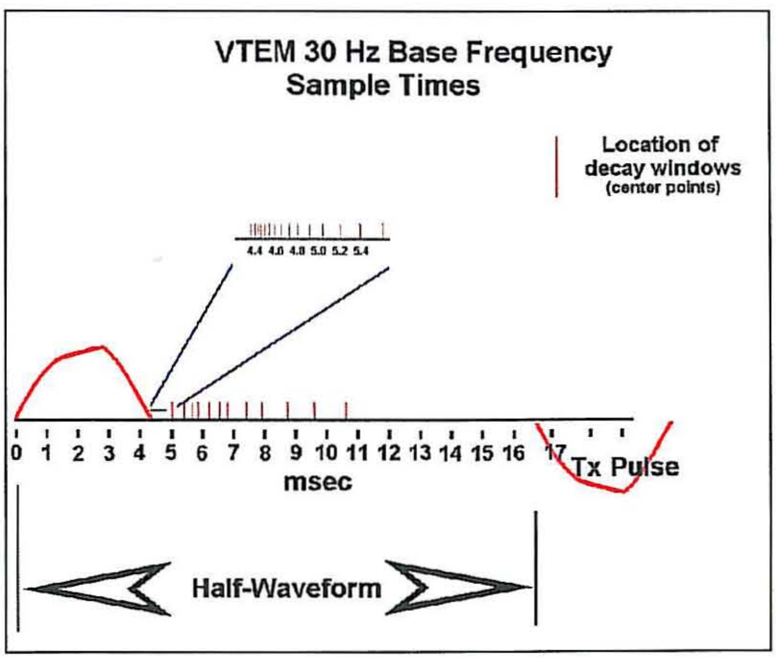


Figure 4 - VTEM Short Pulse Waveform & Sample Times.

The complete VTEM decay sampling scheme is shown in Table 3 below. Twenty-Six time measurement gates (channels 10 to 35) were used for the final data processing in the range from 120 to 9245 μ sec[1] as shown in Table 5.

Table 3 – Decay Sampling Scheme

VTEM Time Gates				
Array	Microseconds			
Index	Middle	Start	End	Width
0	0			
1	10	10	21	11
2	21	16	26	11
3	31	26	37	11
4	42	37	47	11
5	52	47	57	10
6	62	57	68	11
7	73	68	78	11
8	83	78	91	13
9	99	91	110	19
10	120	110	131	21
11	141	131	154	24
12	167	154	183	29
13	198	183	216	34
14	234	216	258	42
15	281	258	310	53
16	339	310	373	63
17	406	373	445	73
18	484	445	529	84
19	573	529	628	99
20	682	628	750	123
21	818	750	896	146
22	974	896	1063	167
23	1151	1063	1261	198
24	1370	1261	1506	245
25	1641	1506	1797	292
26	1953	1797	2130	333
27	2307	2130	2526	396
28	2745	2526	3016	490
29	3286	3016	3599	583
30	3911	3599	4266	667
31	4620	4266	5058	792
32	5495	5058	6037	979
33	6578	6037	7203	1167
34	7828	7203	8537	1334
35	9245	8537	10120	1584

1 Note: Measurement times-delays are referenced to time-zero marking the end of the transmitter current turn-off, as illustrated in Figure 4 and Appendix C

VTEM system parameters:

Transmitter Section
- Transmitter coil diameter: 26 m
- Number of turns: 4
- Transmitter base frequency: 30 Hz
- Peak current: 258 A
- Pulse width: 4.4 ms
- Duty cycle: 27%
- Peak dipole moment: 547,259 nIA
- Nominal terrain clearance: 50 m

Receiver Section
- Receiver coil diameter: 1.2 m
- Number of turns: 100
- Effective coil area: 113.04 m^2
- Wave form shape: trapezoid
- Power Line Monitor: 60 Hz

Magnetometer
- Nominal terrain clearance 72 m

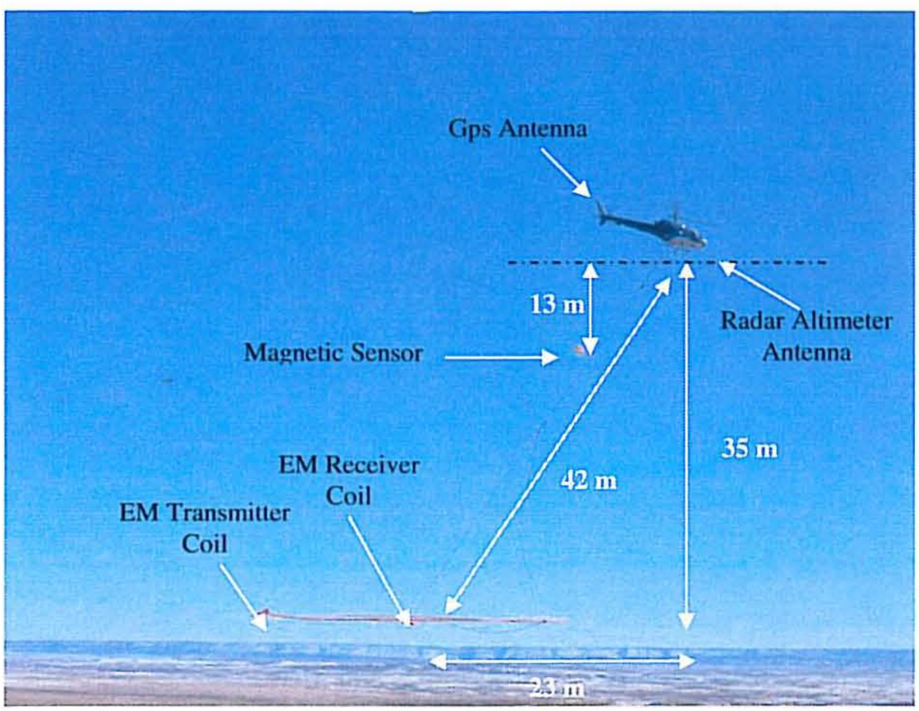


Figure 5 – VTEM system configuration

2.4.3 Airborne magnetometer

The magnetic sensor utilized for the survey was a Geometrics optically pumped caesium vapour magnetic field sensor, mounted in a separated bird, 13 metres below the helicopter, as shown in Figure 5. The sensitivity of the magnetic sensor is 0.02 nanoTesla (nT) at a sampling interval of 0.1 seconds. The magnetometer sends the measured magnetic field strength as nanoTesla to the data acquisition system via the RS-232 port.

2.4.4 Radar Altimeter

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 5).

2.4.5 GPS Navigation System

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel's CDGPS (Canada-Wide Differential Global Positioning System Correction Service) enable OEM4-G2-3151W GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and an NovAtel GPS antenna mounted on the helicopter tail (Figure 5). As many as 11 GPS and two CDGPS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with CDGPS active, it is 1.0 m. The co-ordinates of the block were set-up prior to the survey and the information was fed into the airborne navigation system.

2.4.6 Digital Acquisition System

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4.

Table 4 – Acquisition Sampling Rates

DATA TYPE	SAMPLING
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec

2.4.7 Base Station

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed in an isolated area approximately 100 meters behind Trans North Helipad (64°03'02.8"N, 139°25'50.2"W), away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

Field:

Project Manager:	Les Moschuk (office)
Data QC:	Nick Venter (office)
Crew chief:	Colin Lennox
Operator:	Matt Bernas

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – TRK Helicopters Ltd.

Pilot:	Roy Stevenson
Mechanical Engineer:	Andrew Hawkins

Office:

Preliminary Data Processing:	Nick Venter
Final Data Processing:	George Lev
Final Data QC:	Neil Fiset
Reporting/Mapping:	Kezia Au

Data acquisition phases were carried out under the supervision of Andrei Bagrianski, P. Geo, Surveys Manager. Processing phases were carried out under the supervision of Jean Legault, P. Geo, Manager of Processing and Interpretation. The overall contract management and customer relations were by Paolo Berardelli.

4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

4.1 Flight Path

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was projected into the NAD 83 UTM coordinate system (UTM Zone 7N) in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

4.2 Electromagnetic Data

A three stage digital filtering process was used to reject major sferic events and to reduce system noise. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events. The filter used was a 16 point non-linear filter.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength of less than roughly 1 second or 15 metres. This filter is a symmetrical 1 second linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for both B-field and dB/dt response. A grid of the B-field time channel, recorded 0.818 and 1.151 milliseconds after the termination of the impulse is also presented as contour colour image.

Generalized modeling results of VTEM data, written by consultant Roger Barlow and Nasreddine Bournas, P. Geo., are shown in Appendix E.

Graphical representations of the VTEM transmitter input current waveform and the output voltage of the receiver coil are shown in Appendix C.

4.3 Magnetic Data

The processing of the magnetic data involved the correction for diurnal variations by using the digitally recorded ground base station magnetic values. The base station magnetometer data were edited and merged into the Geosoft GDB database on a daily basis. The aeromagnetic data were corrected for diurnal variations by subtracting the observed magnetic base station deviations.

Tie line levelling was carried out by adjusting intersection points along traverse lines. A micro-levelling procedure was applied to remove persistent low-amplitude components of flight-line noise remaining in the data.

The corrected magnetic data were interpolated between survey lines using a random point gridding method to yield x-y grid values for a standard grid cell size of approximately 0.5 cm at the mapping scale. The Minimum Curvature algorithm was used to interpolate values onto a rectangular regular spaced grid.

5. DELIVERABLES

5.1 Survey Report

The survey report describes the data acquisition, processing, and final presentation of the survey results.

The survey report is provided in two paper copies and digitally in PDF format.

5.2 Maps

Final maps were produced at a scale of 1:20,000 for Block 1, Block 2 and Block 3. The coordinate/projection system used was NAD 83, UTM zone 7 north. All maps show the flight path trace and topographic data; latitude and longitude are also noted on maps.

The preliminary and final results of the survey are presented as EM profiles, a late-time gate gridded EM channel and a color magnetic contour map. The following maps are presented on paper;

- B-field profiles, Time Gates 0.234 – 9.245 ms in linear logarithmic scale, with TMI colour image.
- dB/dt profiles, Time Gates 0.234 – 9.245 ms in linear logarithmic scale.
- B-field mid time, Time Gate 0.818 ms or 1.151 ms colour image, and contours.
- Total magnetic intensity colour image, contours.

5.3 Digital Data

- Two copies of the data and maps on DVD-ROM were prepared to accompany the report. Each DVD -ROM contains a digital file of the line data in GDB Geosoft Montaj format as well as the maps in Geosoft Montaj Map format.

- Two copies of DVD-ROMs were prepared.

There are two (2) main directories,

Data	contains databases, grids and maps, as described below.
Report	contains a copy of the report and appendices in PDF format.

Databases in Geosoft GDB format, containing the channels listed in Table 5.

Table 5 – Geosoft GDB Data Format.

Channel Name	Description
Line:	Flight line number with flight number
X:	X positional data (meters – NAD 83, UTM zone 7 north)
Y:	Y positional data (meters –NAD 83, UTM zone 7 north)
Z:	GPS antenna elevation (meters - ASL)
Radar:	Helicopter terrain clearance from radar altimeter (meters - AGL)
Radarb:	EM Bird terrain clearance from radar altimeter (meters - AGL)
dem:	Digital elevation model (meters)
Gtime1:	GPS time (seconds of the day)
Mag1:	Raw Total Magnetic field data (nT)
Mag2:	Diurnal corrected Total Magnetic field data (nT)
Mag3:	Leveled Total Magnetic field data (nT)
Basemag:	Magnetic diurnal variation data (nT)
SF[10]:	dB/dt 120 microsecond time channel pV/(A*m^4)
SF[11]:	dB/dt 141 microsecond time channel pV/(A*m^4)
SF[12]:	dB/dt 167 microsecond time channel pV/(A*m^4)
SF[13]:	dB/dt 198 microsecond time channel pV/(A*m^4)
SF[14]:	dB/dt 234 microsecond time channel pV/(A*m^4)
SF[15]:	dB/dt 281 microsecond time channel pV/(A*m^4)
SF[16]:	dB/dt 339 microsecond time channel pV/(A*m^4)
SF[17]:	dB/dt 406 microsecond time channel pV/(A*m^4)
SF[18]:	dB/dt 484 microsecond time channel pV/(A*m^4)
SF[19]:	dB/dt 573 microsecond time channel pV/(A*m^4)
SF[20]:	dB/dt 682 microsecond time channel pV/(A*m^4)
SF[21]:	dB/dt 818 microsecond time channel pV/(A*m^4)
SF[22]:	dB/dt 974 microsecond time channel pV/(A*m^4)
SF[23]:	dB/dt 1151 microsecond time channel pV/(A*m^4)
SF[24]:	dB/dt 1370 microsecond time channel pV/(A*m^4)
SF[25]:	dB/dt 1641 microsecond time channel pV/(A*m^4)
SF[26]:	dB/dt 1953 microsecond time channel pV/(A*m^4)
SF[27]:	dB/dt 2307 microsecond time channel pV/(A*m^4)
SF[28]:	dB/dt 2745 microsecond time channel pV/(A*m^4)
SF[29]:	dB/dt 3286 microsecond time channel pV/(A*m^4)
SF[30]:	dB/dt 3911 microsecond time channel pV/(A*m^4)
SF[31]:	dB/dt 4620 microsecond time channel pV/(A*m^4)
SF[32]:	dB/dt 5495 microsecond time channel pV/(A*m^4)
SF[33]:	dB/dt 6578 microsecond time channel pV/(A*m^4)
SF[34]:	dB/dt 7828 microsecond time channel pV/(A*m^4)
SF[35]:	dB/dt 9245 microsecond time channel pV/(A*m^4)
BF[10]:	B-field 120 microsecond time channel (pVms)/(Am^4)
BF[11]:	B-field 141 microsecond time channel (pVms)/(Am^4)

Channel Name	Description
BF[12]:	B-field 167 microsecond time channel (pVms)/(Am^4)
BF[13]:	B-field 198 microsecond time channel (pVms)/(Am^4)
BF[14]:	B-field 234 microsecond time channel (pVms)/(Am^4)
BF[15]:	B-field 281 microsecond time channel (pVms)/(Am^4)
BF[16]:	B-field 339 microsecond time channel (pVms)/(Am^4)
BF[17]:	B-field 406 microsecond time channel (pVms)/(Am^4)
BF[18]:	B-field 484 microsecond time channel (pVms)/(Am^4)
BF[19]:	B-field 573 microsecond time channel (pVms)/(Am^4)
BF[20]:	B-field 682 microsecond time channel (pVms)/(Am^4)
BF[21]:	B-field 818 microsecond time channel (pVms)/(Am^4)
BF[22]:	B-field 974 microsecond time channel (pVms)/(Am^4)
BF[23]:	B-field 1151 microsecond time channel (pVms)/(Am^4)
BF[24]:	B-field 1370 microsecond time channel (pVms)/(Am^4)
BF[25]:	B-field 1641 microsecond time channel (pVms)/(Am^4)
BF[26]:	B-field 1953 microsecond time channel (pVms)/(Am^4)
BF[27]:	B-field 2307 microsecond time channel (pVms)/(Am^4)
BF[28]:	B-field 2745 microsecond time channel (pVms)/(Am^4)
BF[29]:	B-field 3286 microsecond time channel (pVms)/(Am^4)
BF[30]:	B-field 3911 microsecond time channel (pVms)/(Am^4)
BF[31]:	B-field 4620 microsecond time channel (pVms)/(Am^4)
BF[32]:	B-field 5495 microsecond time channel (pVms)/(Am^4)
BF[33]:	B-field 6578 microsecond time channel (pVms)/(Am^4)
BF[34]:	B-field 7828 microsecond time channel (pVms)/(Am^4)
BF[35]:	B-field 9245 microsecond time channel (pVms)/(Am^4)
Lon:	Longitude data (degree – NAD83)
Lat:	Latitude data (degree – NAD83)
PLM:	60 Hz power line monitor

Electromagnetic B-field and dB/dt data is found in array channel format between indexes 10 – 35, as described above.

- Database of the VTEM Waveform "waveform.gdb" in Geosoft GDB format, containing the following channels:

Time:	Sampling rate interval, 10.416 microseconds
RX_Volt:	Output voltage of the receiver coil (volt)
TX_Curr:	Output current of the transmitter (amps)

- Grids in Geosoft GRD format, as follow,

**_mag3:	Total magnetic intensity (nT)
** _bf:	B-Field Channel 21 or 23 (Time Gate 0.818 or 1.151 ms.)

Where ** is represents the block name. (ie: block1_mag3.grd)

A Geosoft .GRD file has a .GI metadata file associated with it, containing grid projection information. A grid cell size of 50 meters was used for the grids.

- Maps at 1:20,000 in Geosoft MAP format, as follows:

**_TMI_BF:	B-field profiles, Time Gates 0.234 – 9.245 ms in linear logarithmic scale, with TMI colour image.
**_dBdt:	dB/dt profiles, Time Gates 0.234 – 9.245 ms in linear logarithmic scale.
** _BF:	B-field mid time, Time Gate 0.818 or 1.151 colour image.
** _TMI:	Total magnetic intensity colour image and contours.

Where ** is represents the block name. (ie: Block1_BF.map)

1:50,000 topographic vectors were taken from the NRCAN Geogratis database at; http://geogratis.gc.ca/geogratis/en/index.html.

- Google Earth files flightpath_b1_In.kml, flightpath_b2_In.kml, and flightpath_b3_In.kml showing the flight path of the blocks.

  Free version of Google Earth software can be downloaded from, http://earth.google.com/download-earth.html

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

A helicopter-borne versatile time domain electromagnetic (VTEM) geophysical survey has been completed over Block 1, Block 2 and Block 3 near Dawson City, Yukon, Canada

The total area coverage is 96.1 km^2. Total survey line coverage is 282 line kilometres. The principal sensors included a Time Domain EM system and a caesium magnetometer. Results have been presented as stacked profiles and contour colour images at a scale of 1:20,000.

6.2 Recommendations

Based on the geophysical results obtained, a number of EM and magnetic anomaly groupings were identified across the property. We recommend a more detailed interpretation of the EM and magnetic data, in conjunction with the known geology, using 2-D, 3-D inversion and modelling techniques to better characterize the observed anomalies and to more accurately determine their parameters (depth, conductance, dip, etc.) prior to ground follow-up and drill testing.

Respectfully submitted[1]

Kezia Au
Geotech Ltd.

Jean Legault, P. Geo, P. Eng
Geotech Ltd.

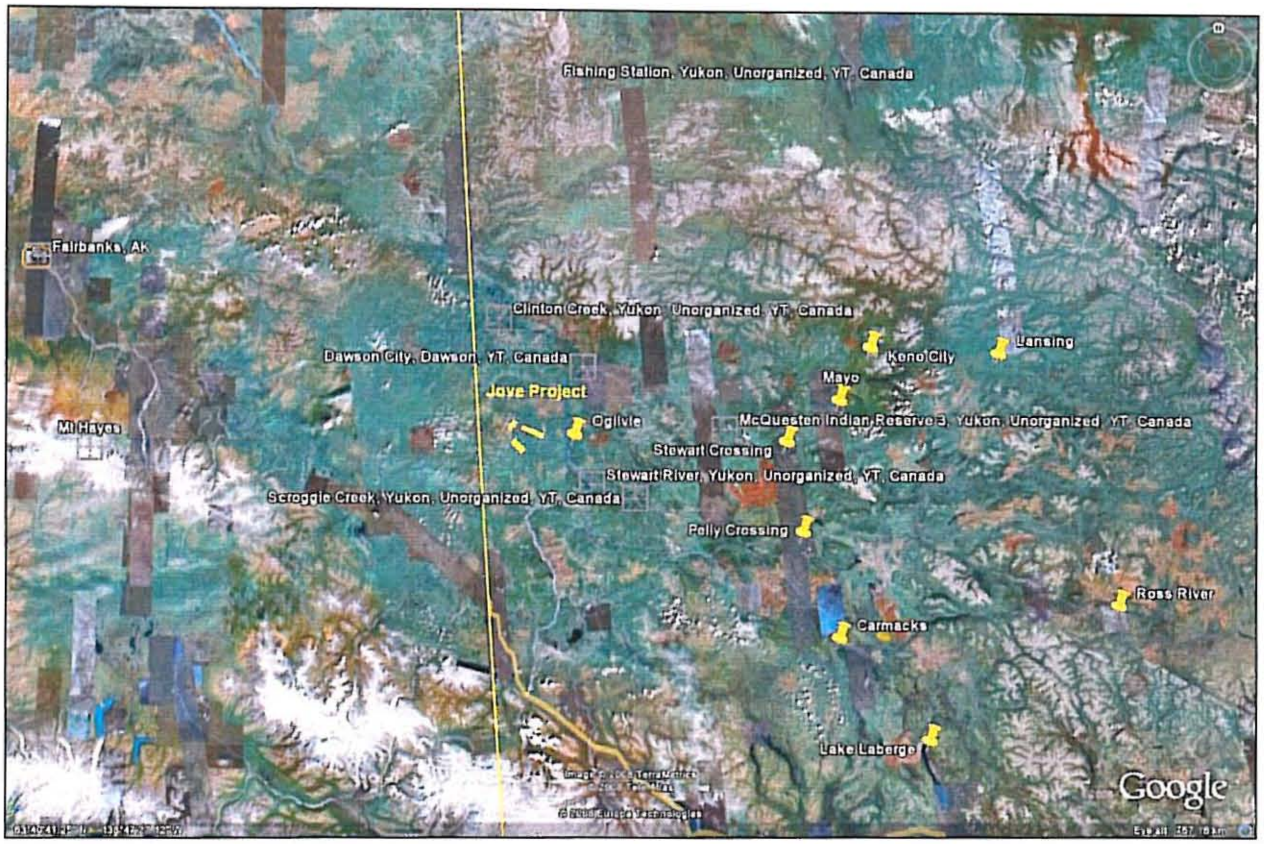
George Lev
Geotech Ltd.

December 2008

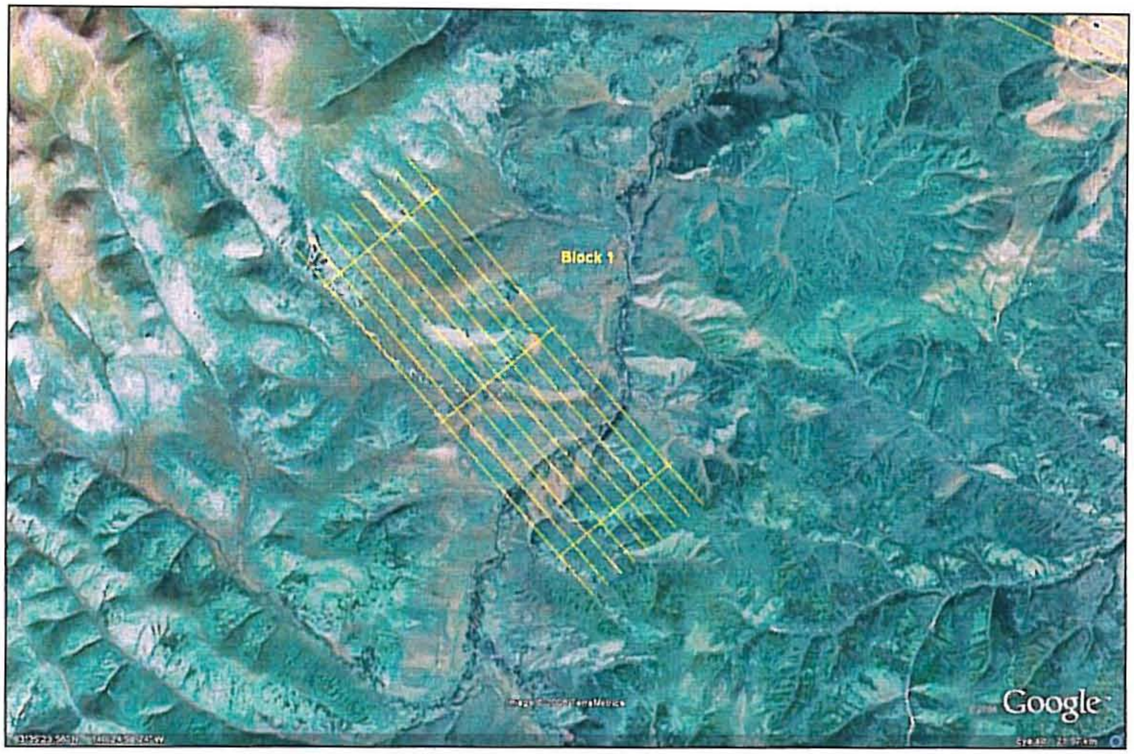
[1]Final data processing of the EM-magnetic geophysical data were carried out by George Lev, from the office of Geotech Ltd. in Aurora, Ontario, under the supervision of Jean Legault, P. Geo, Manager of Data Processing and Interpretation.

APPENDIX A

SURVEY BLOCK LOCATION MAPS



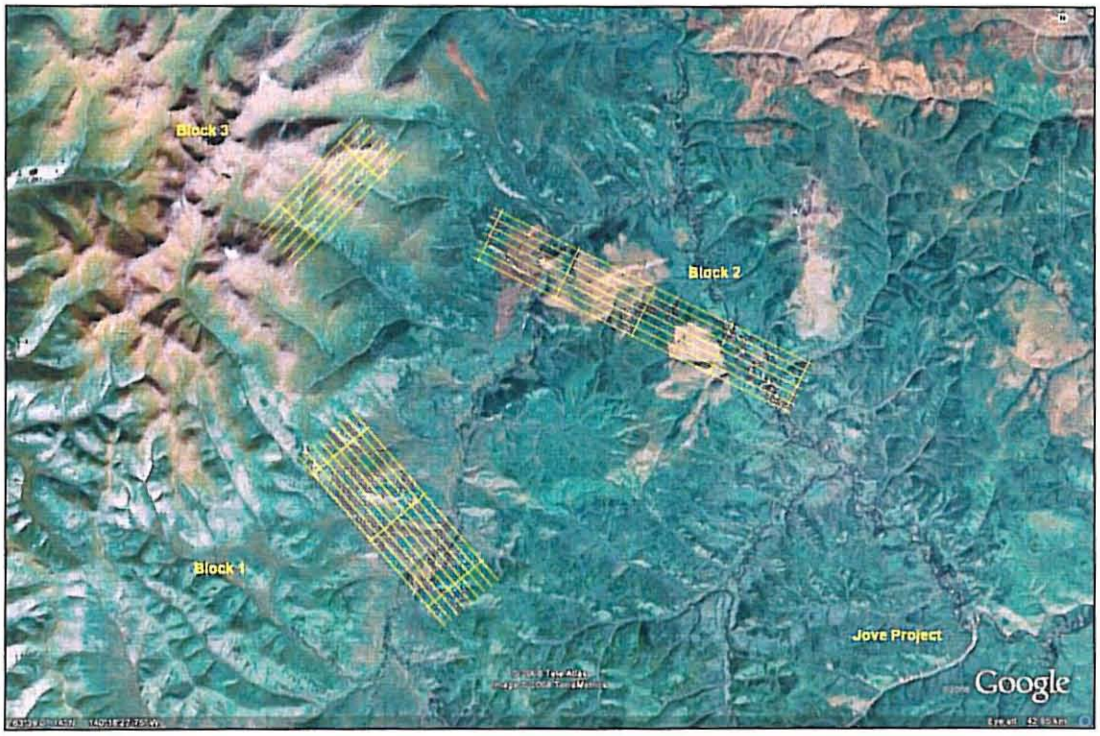
Location map for Jove Project



Google Earth Imagery

Google Earth Imagery

Google Earth Imagery



Google Earth Imagery

APPENDIX B

SURVEY BLOCKS COORDINATES

(NAD 83, UTM zone 7 north)

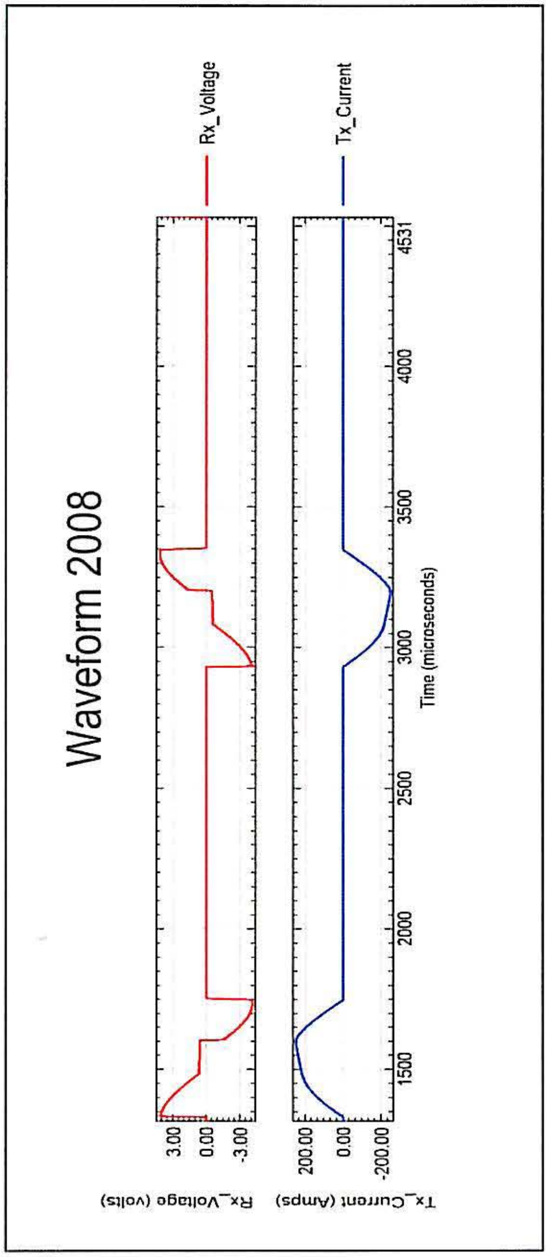
Block 1	
X	Y
525361	7056194
532027	7048741
529602	7046608
522946	7054061

Block 2	
X	Y
531742.4	7065496
546234	7058749
545220	7056554
530747	7063302

Block 3	
X	Y
525525	7069587
527293	7067954
522521	7062824
520762	7064457

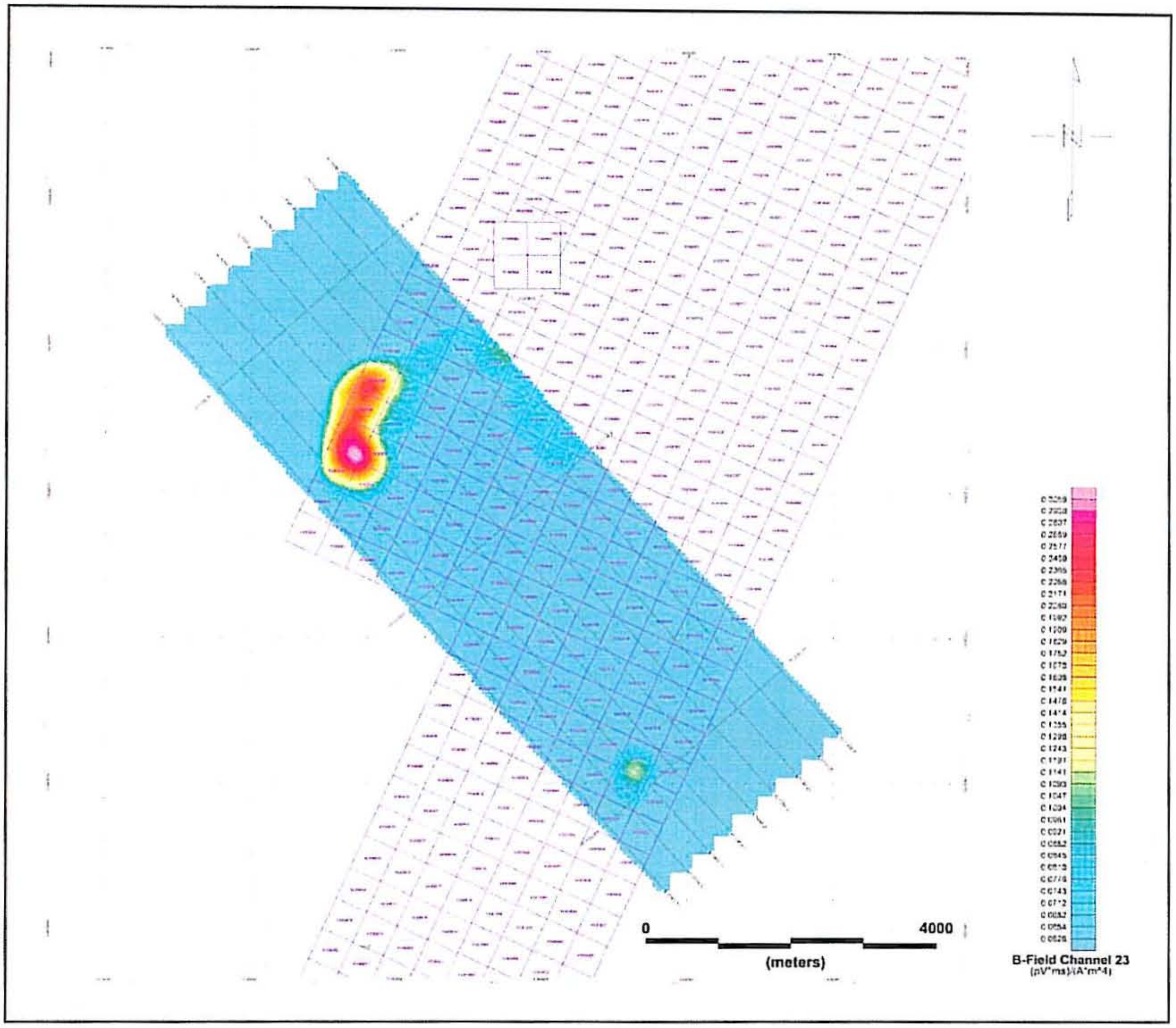
APPENDIX C

VTEM WAVEFORM



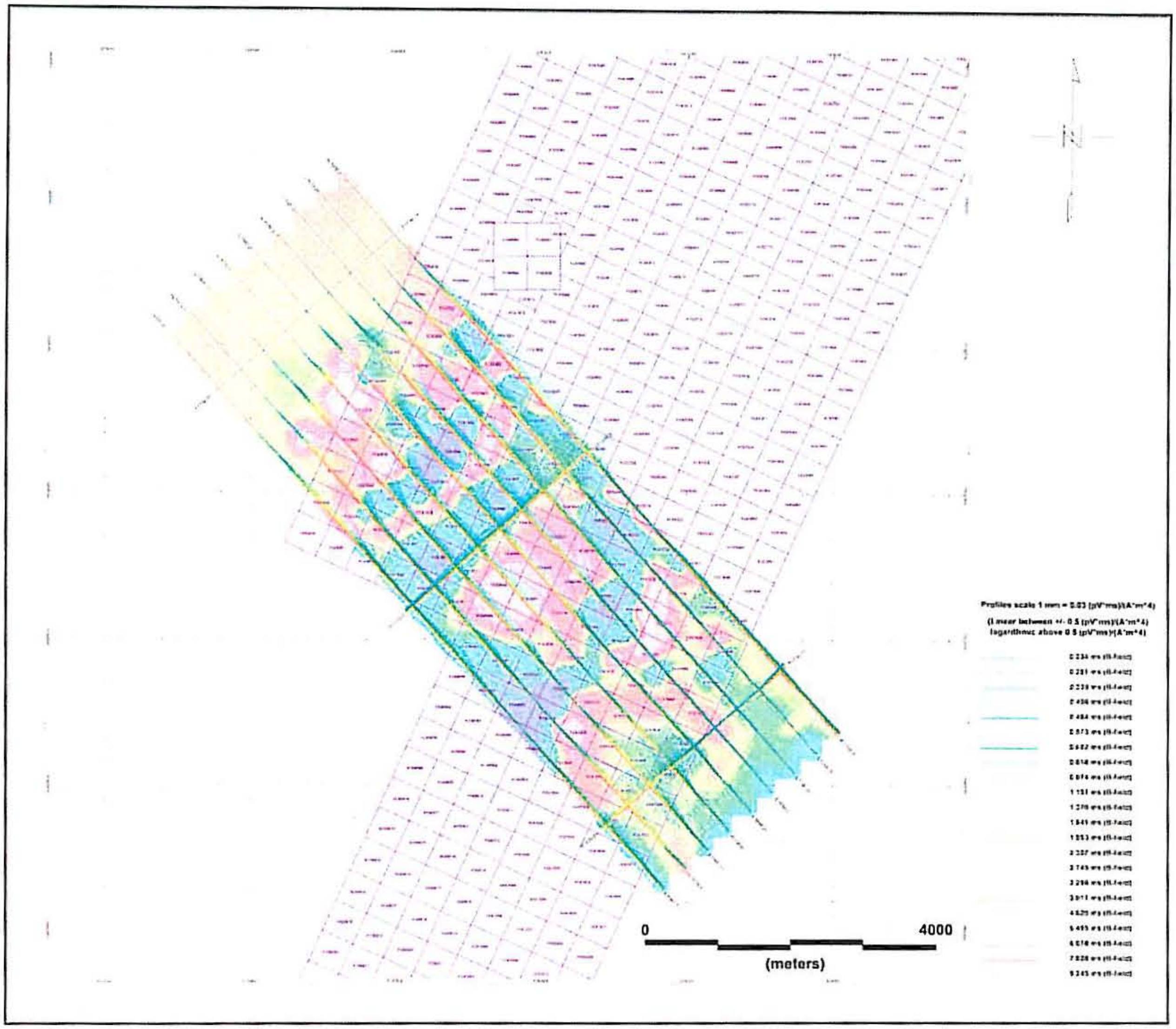
APPENDIX D

GEOPHYSICAL MAP[1]

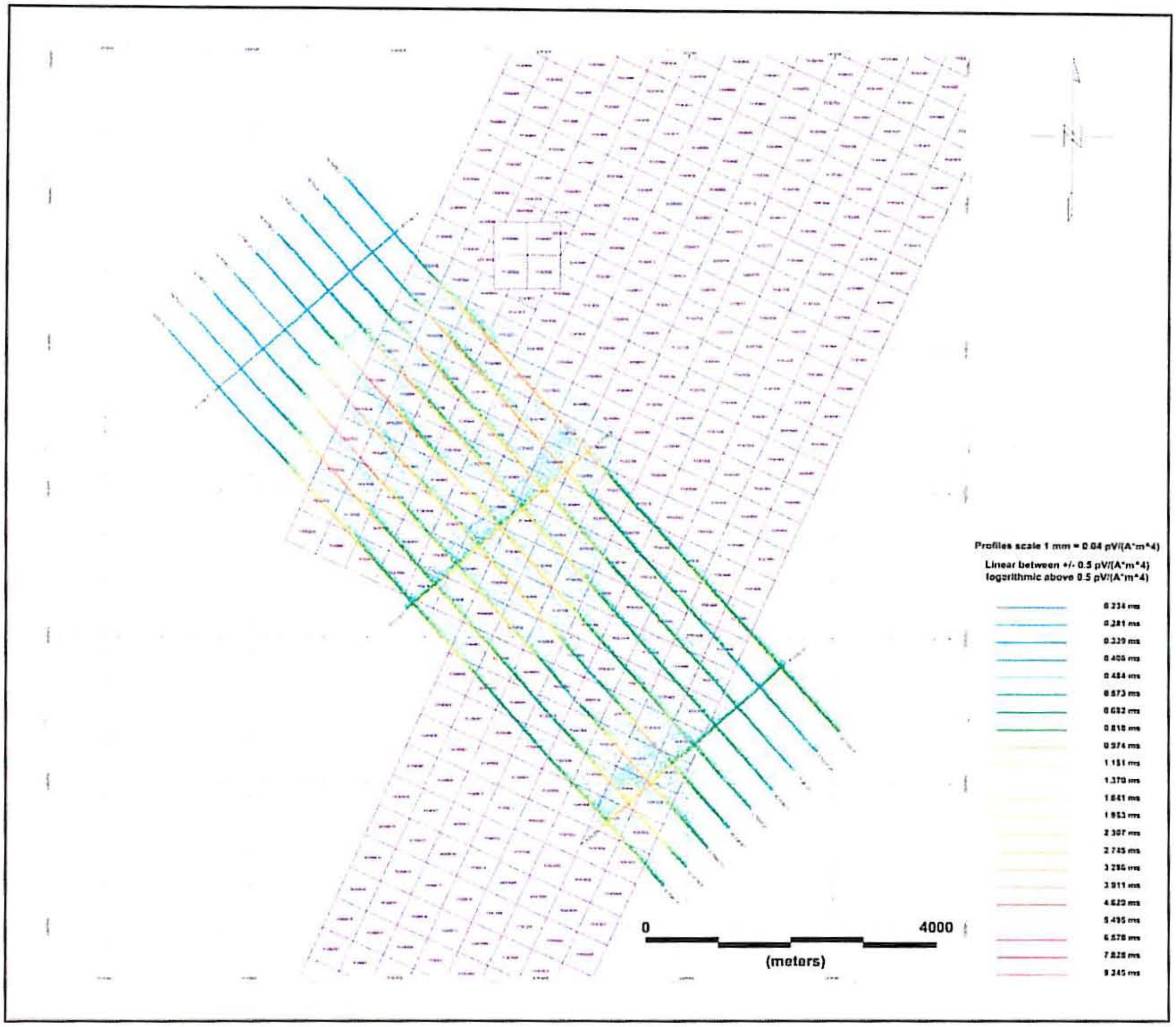


Block 1, VTEM B-Field Time Gate 1.151 ms

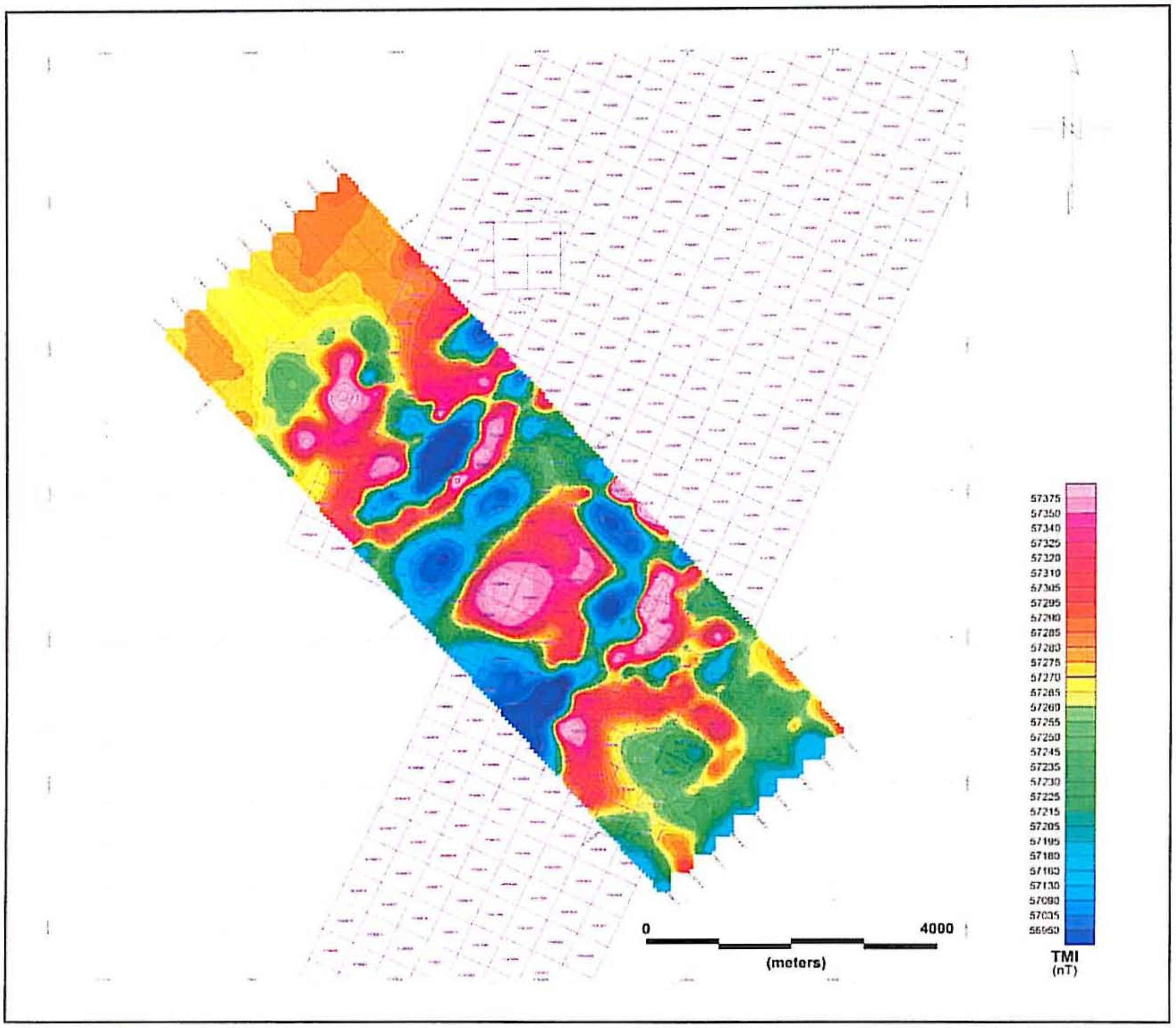
1 Present maps are a selection of the final geophysical maps. Full size geophysical maps are also available in PDF format on the final CD.



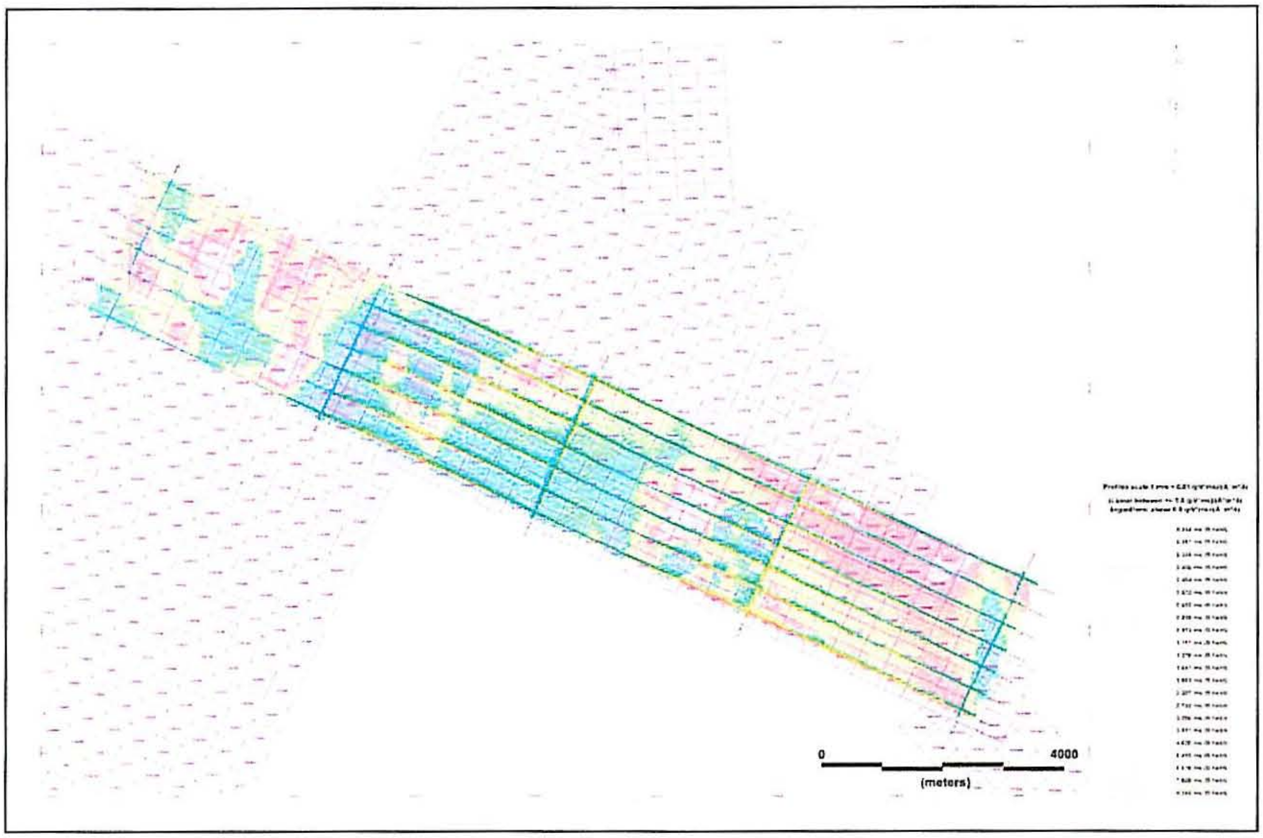
Block 1, VTEM B-Field Profiles over TMI image
– Time Gates 0.234 to 9.245 ms



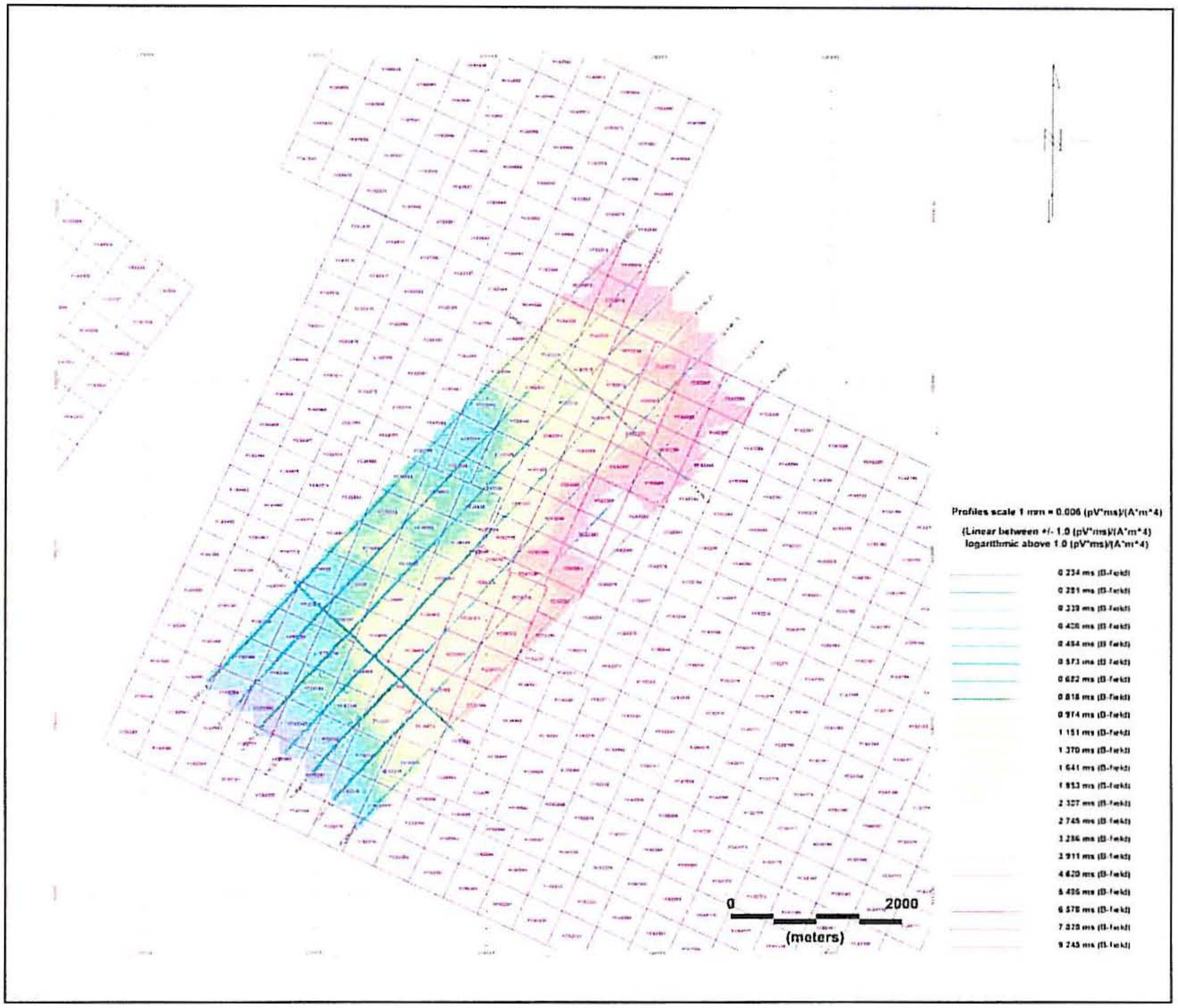
Block 1, VTEM dB/dt Profiles – Time Gates 0.234 to 9.245 ms



Block 1, Total Magnetic Intensity (TMI)



Block 2, VTEM B-Field Profiles over TMI image
– Time Gates 0.234 to 9.245 ms



Block 3, VTEM B-Field Profiles over TMI image
– Time Gates 0.234 to 9.245 ms

APPENDIX E

GENERALIZED MODELING RESULTS OF THE VTEM SYSTEM

Introduction

The VTEM system is based on a concentric or central loop design, whereby, the receiver is positioned at the centre of a 26.1 meters diameter transmitter loop that produces a dipole moment up to 547,259 nIA at peak current. The wave form is a bi-polar, modified square wave with a turn-on and turn-off at each end. With a base frequency of 30 Hz, the duration of each pulse is approximately 4.4 milliseconds followed by an off time where no primary field is present.

During turn-on and turn-off, a time varying field is produced (dB/dt) or B-field and an electro-motive force (emf) is created as a finite impulse response. A current ring around the transmitter loop moves outward and downward as time progresses. When conductive rocks and mineralization are encountered, a secondary field is created by mutual induction and measured by the receiver at the centre of the transmitter loop.

VTEM measurements are made partly during the transmitter On but primarily during the Off-time, when only the secondary fields representing the conductive targets encountered in the ground are present. The secondary fields are displayed both as dB/dt and calculated B-field responses.

Efficient modeling of the results can be carried out on regularly shaped geometries, thus yielding close approximations to the parameters of the measured targets. The following is a description of a series of common models made for the purpose of promoting a general understanding of the measured results.

General Modeling Concepts

A set of models has been produced for the Geotech VTEM® system with explanation notes (see models C1 to C18). The reader is encouraged to review these models, so as to get a general understanding of the responses as they apply to survey results. While these models do not begin to cover all possibilities, they give a general perspective on the simple and most commonly encountered anomalies.

When producing these models, a few key points were observed and are worth noting as follows:

- For near vertical and vertical plate models, the top of the conductor is always located directly under the centre low point between the two shoulders in the classic **M** shaped response.

- As the plate is positioned at an increasing depth to the top, the shoulders of the **M** shaped response, have a greater separation distance.

- When faced with choosing between a flat lying plate and a prism model to represent the target (broad response) some ambiguity is present and caution should be exercised.

- With the concentric loop system and Z-component receiver coil, virtually all types of conductors and most geometries are most always well coupled and a response is generated. Only concentric loop systems can map these varieties of target geometries.

The Maxwell ™ EM modeling program (EMIT Technology Ltd. Pty., Midland WA, AU) used to generate the following dB/dt and B-field off-time responses all assume a conductive plate in an infinitely resistive half-spaced host rock

Variation of Plate Depth

Geometries represented by plates of different strike length, depth extent, dip, plunge and depth below surface can be varied with characteristic parameters like conductance of the target, conductance of the host and conductivity/thickness and thickness of the overburden layer.

Diagrammatic models for a vertical plate are shown in Figures C-1 & C-2 and C-5 & C-6 at two different depths, all other parameters remaining constant. With this transmitter-receiver geometry, the classic **M** shaped response is generated. Figures C-1 and C-2 show a plate where the top is near surface. Here, amplitudes of the duel peaks are higher and symmetrical with the zero centre positioned directly above the plate. Most important is the separation distance of the peaks. This distance is small when the plate is near surface and widens with a linear relationship as the plate (depth to top) increases. Figures C-5 and C-6 show a much deeper plate where the separation distance of the peaks is much wider and the amplitudes of the channels have decreased.

Variation of Plate Dip

As the plate dips and departs from the vertical position, the peaks become asymmetrical. Figures C-3 & C-4 and C-7 and C-8 show a near surface plate dipping 80° at two different depths. Note that the direction of dip is toward the high shoulder of the response and the top of the plate remains under the centre minimum.

As the dip increases, the aspect ratio (Min/Max) decreases and this aspect ratio can be used as an empirical guide to dip angles from near 90° to about 30°. The method is not sensitive enough where dips are less than about 30°. For example, for a plate dipping 45°, the minimum shoulder starts to vanish. In Figures C-9 & C-10 and C-11 & C-12, a flat lying plate is shown, relatively near surface. Note that the twin peak anomaly has been replaced by a symmetrical shape with large, bell shaped, channel amplitudes which decay relative to the conductance of the plate.

In the special case where two plates are positioned to represent a synclinal structure. Note that the main characteristic is that the centre amplitudes are higher (approximately double) compared to the high shoulder of a single plate. This model is very representative of tightly folded formations where the conductors where once flat lying.

Variation of Prism Dip

Finally, with thicker, prism models, another algorithm is required to represent current on the plate. A plate model is considered to be infinitely thin with respect to thickness and incapable of representing the current in the thickness dimension. A prism model is constructed to deal with this problem, thereby, representing the thickness of the body more accurately.

Figures C-13 & C-14 and C-15 & C-16 show the same prism at the same depths with variable dips. Aside from the expected differences asymmetry prism anomalies show a characteristic change from a double-peaked anomaly to single peak signatures.

I. THIN PLATE

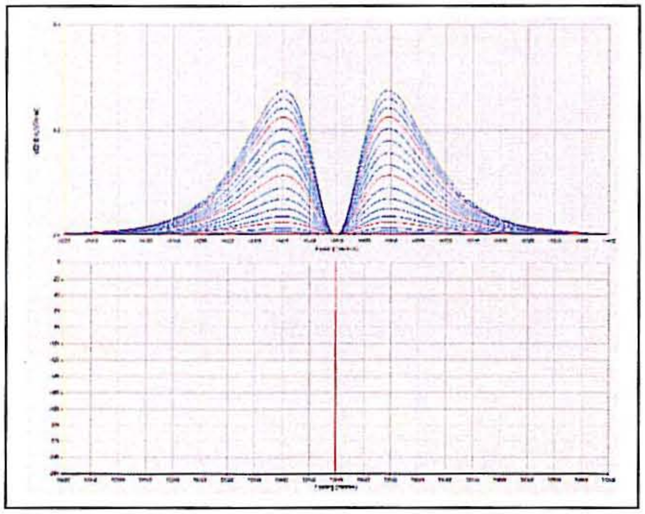


Figure C-1: dB/dt response of a shallow vertical thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

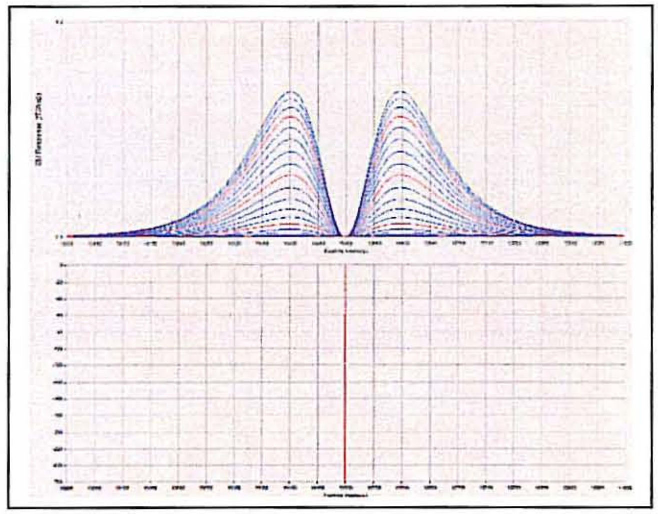


Figure C-2: B-field response of a shallow vertical thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment.

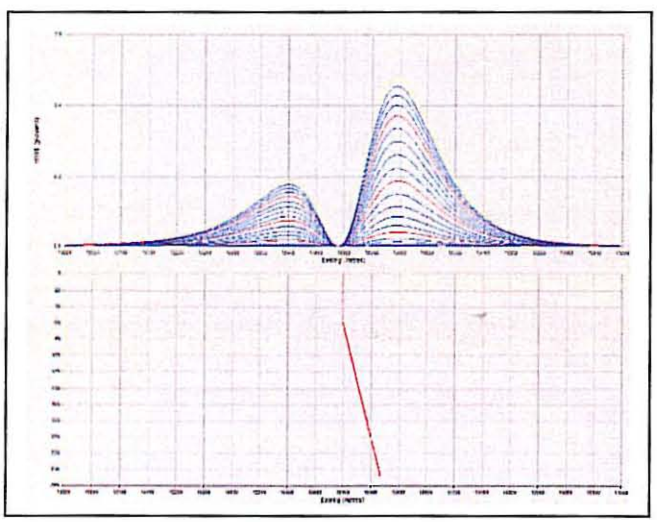


Figure C-3: dB/dt response of a shallow skewed thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

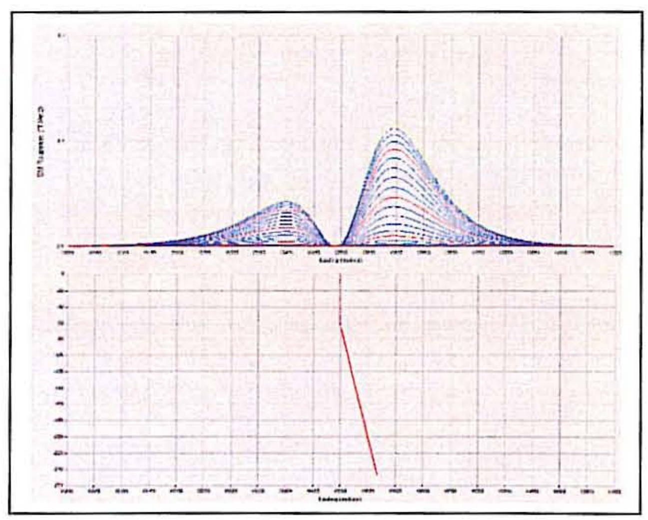


Figure C-4: B-field response of a shallow skewed thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment.

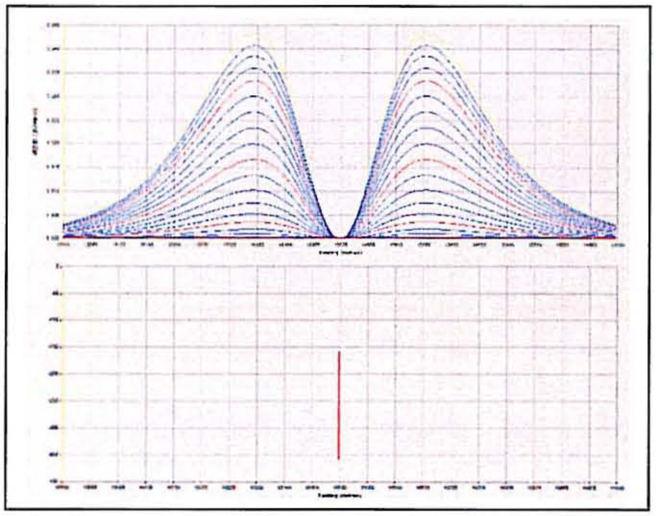


Figure C-5: dB/dt response of a deep vertical thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

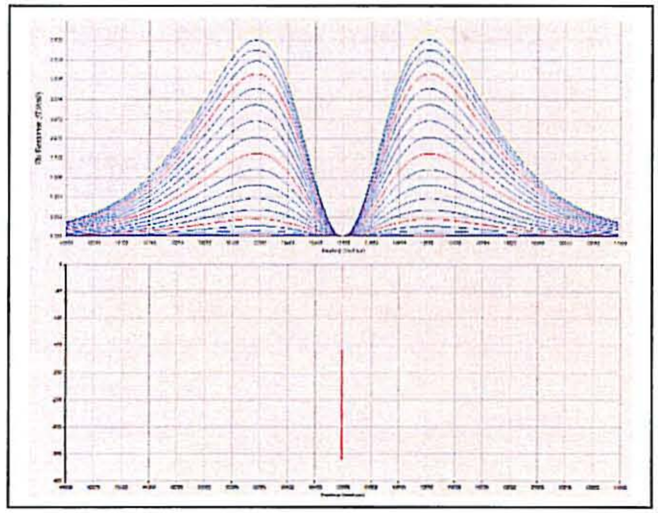


Figure C-6: B-Field response of a deep vertical thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment.

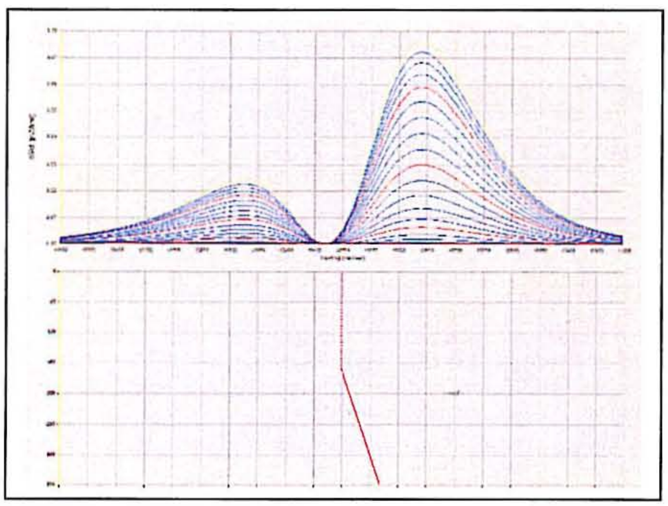


Figure C-7: dB/dt response of a deep skewed thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

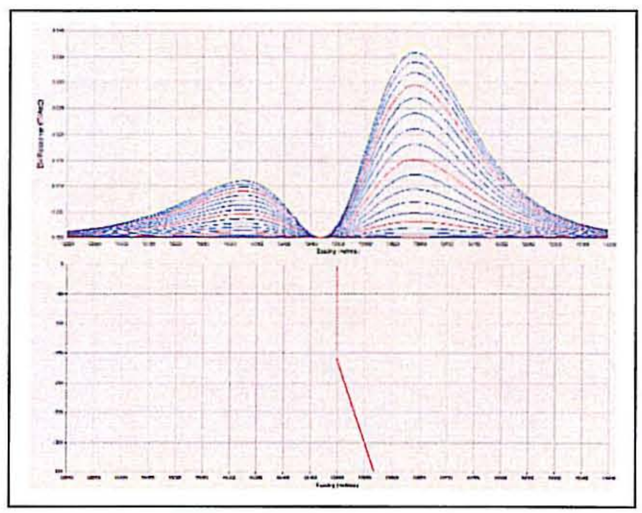


Figure C-8: B-field response of a deep skewed thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment.

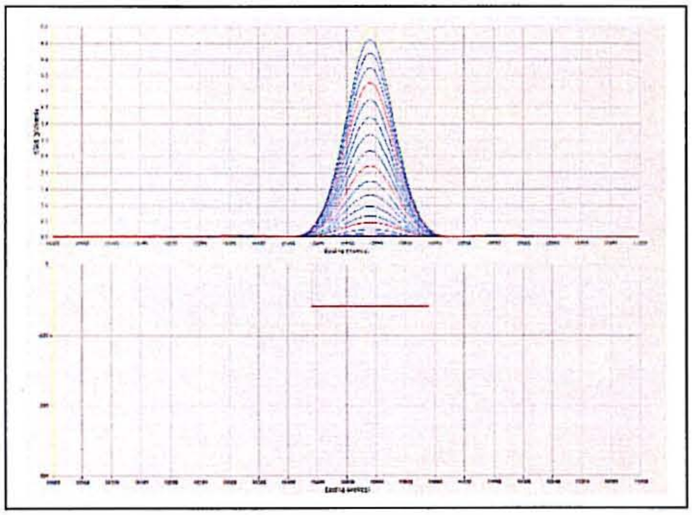


Figure C-9: dB/dt response of a shallow horizontal thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

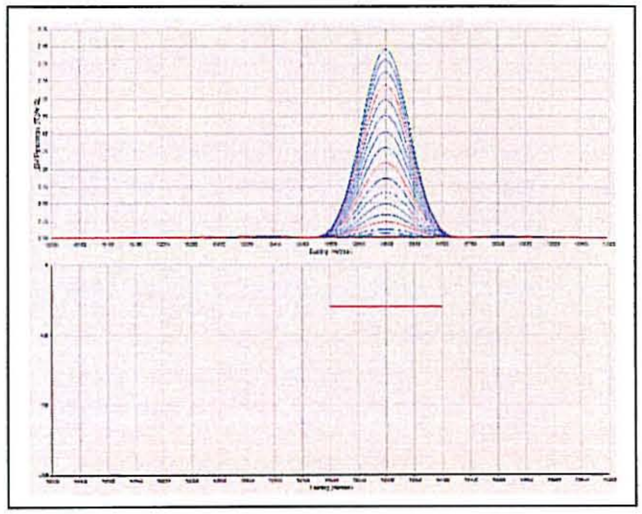


Figure C-10: B-Field response of a shallow horizontal thin plate. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment.

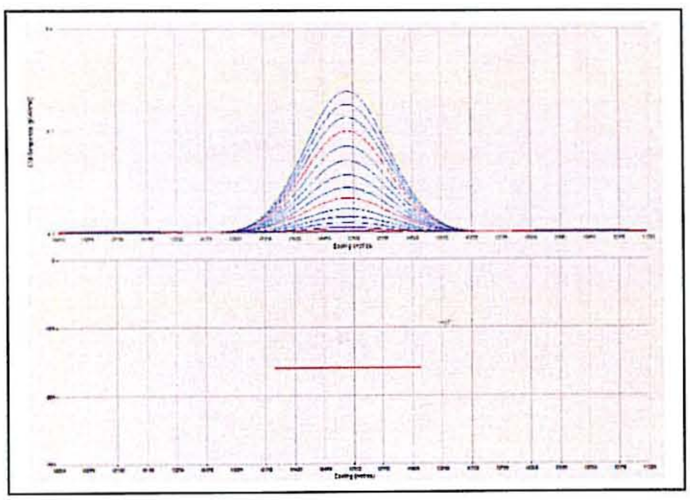


Figure C-11: dB/dt response of a deep horizontal thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

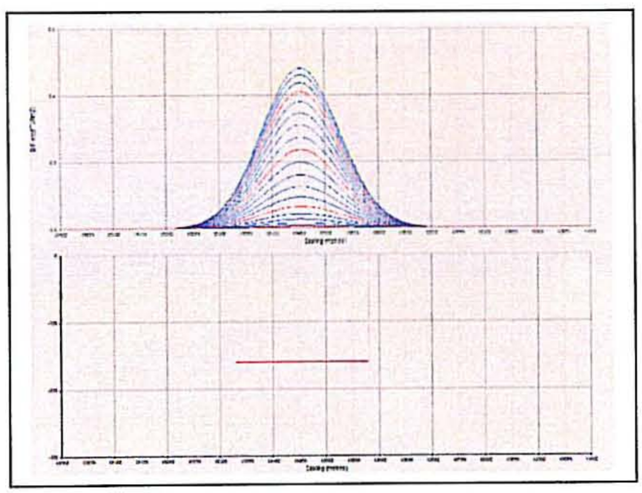


Figure C-12: B-Field response of a deep horizontal thin plate. Depth=200 m, CT=20 S. The EM response is normalized by the dipole moment.

II. THICK PLATE

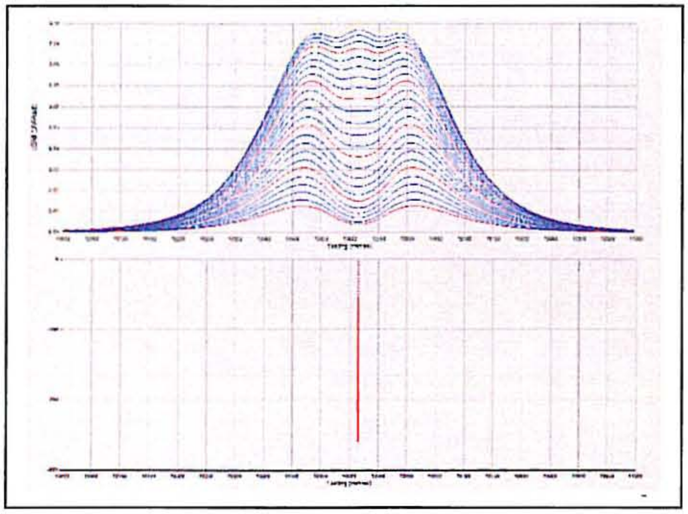


Figure C-13: dB/dt response of a shallow vertical thick plate. Depth=100 m, C=12 S/m, thickness=20 m. The EM response is normalized by the dipole moment and the Rx area.

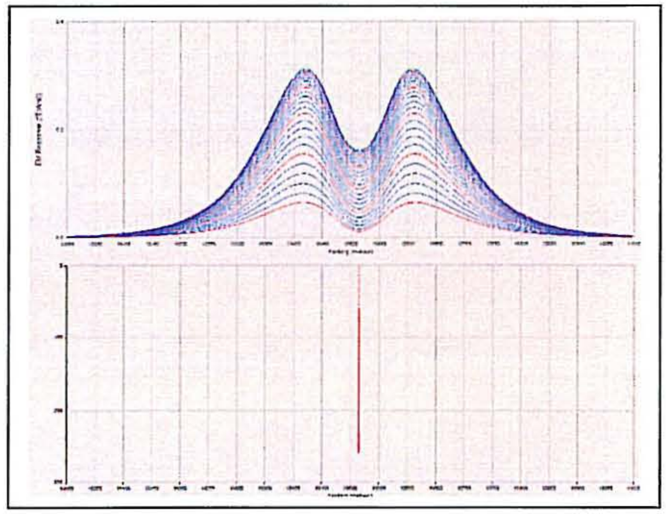


Figure C-14: B-Field response of a shallow vertical thick plate. Depth=100 m, C=12 S/m, thickness= 20 m. The EM response is normalized by the dipole moment.

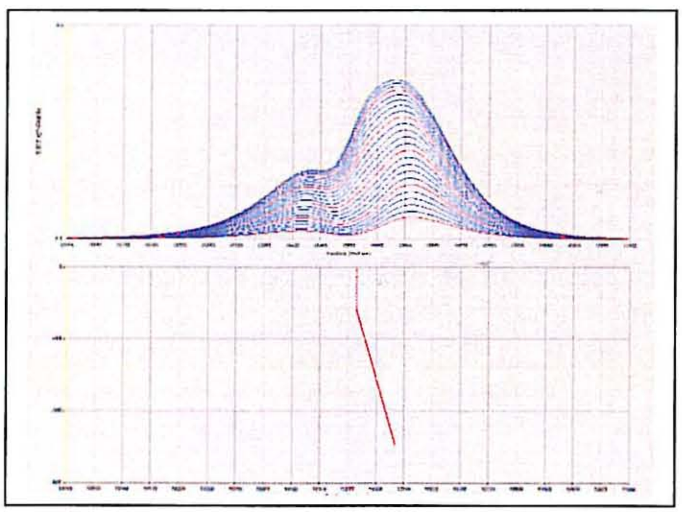


Figure C-15: dB/dt response of a shallow skewed thick plate. Depth=100 m, C=12 S/m, thickness=20 m. The EM response is normalized by the dipole moment and the Rx area.

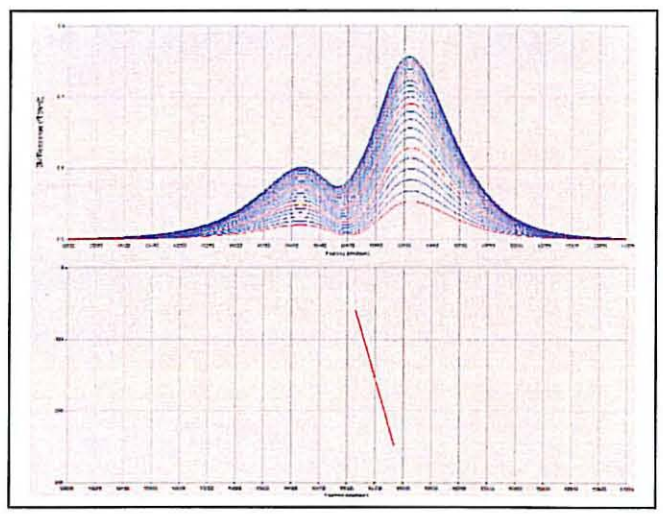


Figure C-16: B-Field response of a shallow skewed thick plate. Depth=100 m, C=12 S/m, thickness=20 m. The EM response is normalized by the dipole moment.

III. MULTIPLE THIN PLATES

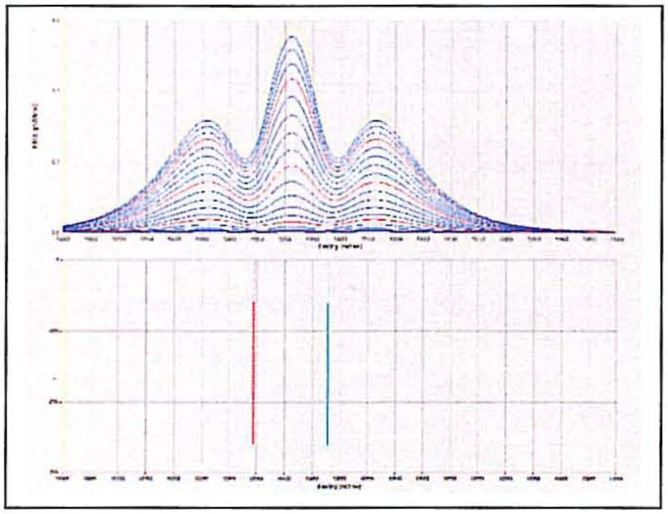


Figure C-17: dB/dt response of two vertical thin plates. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment and the Rx area.

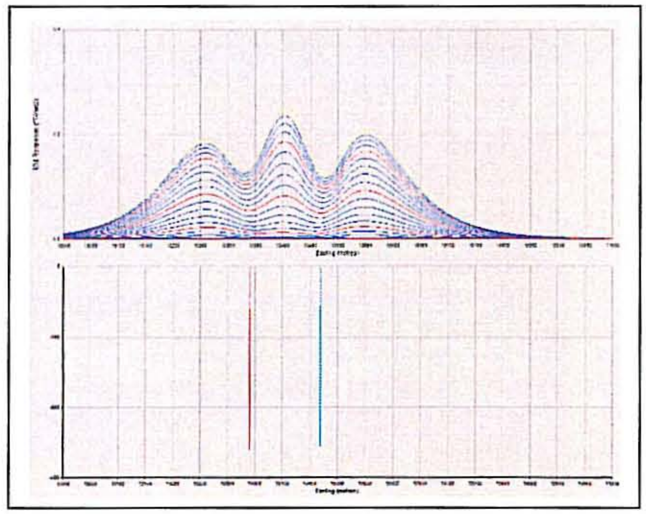


Figure C-18: B-Field response of two vertical thin plates. Depth=100 m, CT=20 S. The EM response is normalized by the dipole moment.

General Interpretation Principals

Magnetics

The total magnetic intensity responses reflect major changes in the magnetite and/or other magnetic minerals content in the underlying rocks and unconsolidated overburden. Precambrian rocks have often been subjected to intense heat and pressure during structural and metamorphic events in their history. Original signatures imprinted on these rocks at the time of formation have, it most cases, been modified, resulting in low magnetic susceptibility values.

The amplitude of magnetic anomalies, relative to the regional background, helps to assist in identifying specific magnetic and non-magnetic rock units (and conductors) related to, for example, mafic flows, mafic to ultramafic intrusives, felsic intrusives, felsic volcanics and/or sediments etc. Obviously, several geological sources can produce the same magnetic response. These ambiguities can be reduced considerably if basic geological information on the area is available to the geophysical interpreter.

In addition to simple amplitude variations, the shape of the response expressed in the wave length and the symmetry or asymmetry, is used to estimate the depth, geometric parameters and magnetization of the anomaly. For example, long narrow magnetic linears usually reflect mafic flows or intrusive dyke features. Large areas with complex magnetic patterns may be produced by intrusive bodies with significant magnetization, flat lying magnetic sills or sedimentary iron formation. Local isolated circular magnetic patterns often represent plug-like igneous intrusives such as kimberlites, pegmatites or volcanic vent areas.

Because the total magnetic intensity (TMI) responses may represent two or more closely spaced bodies within a response, the second derivative of the TMI response may be helpful for distinguishing these complexities. The second derivative is most useful in mapping near surface linears and other subtle magnetic structures that are partially masked by nearby higher amplitude magnetic features. The broad zones of higher magnetic amplitude, however, are severely attenuated in the vertical derivative results. These higher amplitude zones reflect rock units having strong magnetic susceptibility signatures. For this reason, both the TMI and the second derivative maps should be evaluated together.

Theoretically, the second derivative, zero contour or color delineates the contacts or limits of large sources with near vertical dip and shallow depth to the top. The vertical gradient map also aids in determining contact zones between rocks with a susceptibility contrast, however, different, more complicated rules of thumb apply.

Concentric Loop EM Systems

Concentric systems with horizontal transmitter and receiver antennae produce much larger responses for flat lying conductors as contrasted with vertical plate-like conductors. The amount of current developing on the flat upper surface of targets having a substantial area in this dimension, are the direct result of the effective coupling angle, between the primary magnetic field and the flat surface area. One therefore, must not compare the amplitude/conductance of responses generated from flat lying bodies with those derived from near vertical plates; their ratios will be quite different for similar conductances.

Determining dip angle is very accurate for plates with dip angles greater than 30°. For angles less than 30° to 0°, the sensitivity is low and dips can not be distinguished accurately in the presence of normal survey noise levels.

A plate like body that has near vertical position will display a two shoulder, classic **M** shaped response with a distinctive separation distance between peaks for a given depth to top.

It is sometimes difficult to distinguish between responses associated with the edge effects of flat lying conductors and poorly conductive bedrock conductors. Poorly conductive bedrock conductors having low dip angles will also exhibit responses that may be interpreted as surfacial overburden conductors. In some situations, the conductive response has line to line continuity and some magnetic correlation providing possible evidence that the response is related to an actual bedrock source.

The EM interpretation process used, places considerable emphasis on determining an understanding of the general conductive patterns in the area of interest. Each area has different characteristics and these can effectively guide the detailed process used.

The first stage is to determine which time gates are most descriptive of the overall conductance patterns. Maps of the time gates that represent the range of responses can be very informative.

Next, stacking the relevant channels as profiles on the flight path together with the second vertical derivative of the TMI is very helpful in revealing correlations between the EM and Magnetics.

Next, key lines can be profiled as single lines to emphasize specific characteristics of a conductor or the relationship of one conductor to another on the same line. Resistivity Depth sections can be constructed to show the relationship of conductive overburden or conductive bedrock with the conductive anomaly.

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Roger Barlow
Consultant

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Nasreddine Bournas, P. Geo.
Geophysicist
Geotech Ltd.

December 2008

JOVE CLAIM GROUP

Radon Survey

by

GeoXplor Corp
3655 West Anthem Way
Suite #109-293
Anthem, Az 85086

on behalf of

EAGLE HILL EXPLORATION CORP.

Vancouver, B.C.

Table of Content

Introduction

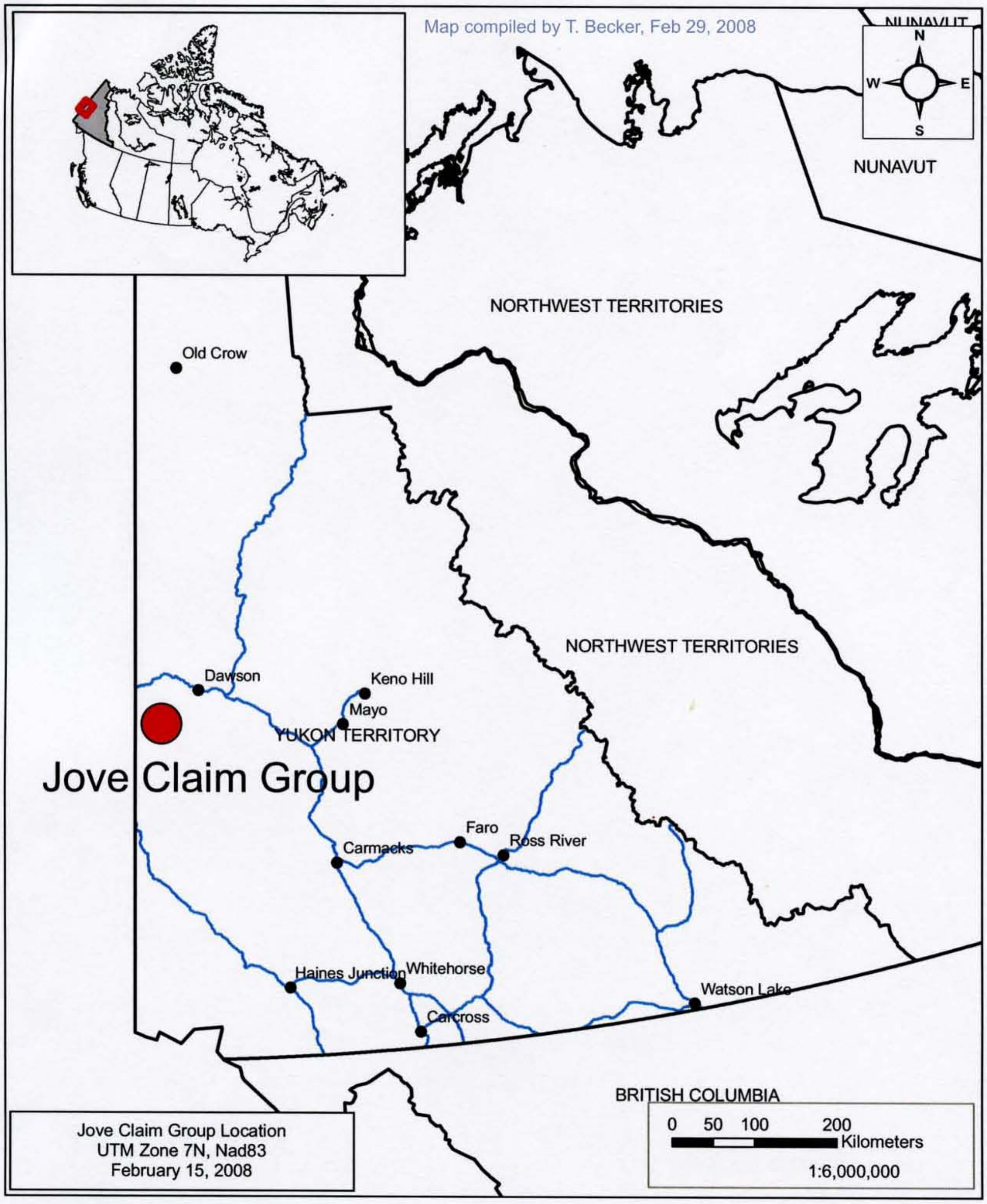
Four radon surveys grids were completed on the Jove Claim Group located in the western Yukon Territory, Canada. The claim block is located approximately 65 km southwest of Dawson City, Yukon Territory, Canada. The claim block contains over 1,400 contiguous claims and covers an area of 27,000 hectares.

Access to the claim block was accomplished by helicopter due to the lack of roads that are passable by vehicles at this time.

The 4 surveys were conducted during July 5 – 14, 2008. The objective of the radon surveys was to provide information about the distribution of radioactive elements and provide data to define the geology, structure and alteration that relates to uranium mineralization.

The radon surveys were designed to create a profile and determine the potential for subsurface uranium mineralization and define radiation halos or seepage anomalies that may occur within the survey grid. The two grid locations were selected by the geological staff of Eagle Hill Exploration Corp.

Figure 1. Jove Group Claim Location Map



Property History

The Jove Claim group history has been described in a geological report by T. Becker which states "*In the late 70's and early 80's the Jove property was staked by Eldorado Nuclear Limited and Occidental Petroleum Limited on the basis of geochemical anomalies. Drilling (total ˜2000 m) and trenching (23 lines) programs were conducted in successive years following up anomalous zones identified during initial radiometric and geochemical surveys (Deklerk & Traynor, 2004). The Jove property was eventually dropped and left unworked until 2004 when it was staked by a private group. In 2005, Matson Uranium gained full control of the claim group. Due to the forest fires of 2005, drill core on the property could not be salvaged for down-hole information and no intact drill core from this program exists in the government-run H.S. Bostock Core Library in Whitehorse.*

There have been three phases of recent government mapping in the area of the Stewart River map sheet (115N). The first was undertaken by Templeman-Kluit in 1974 and over twenty years passed before the next investigation by Mortensen (1996), who updated some regions of the area and published a compilation Map. A larger NATMAP/NATGAM program commenced in the early 2000's and comprised geological mapping and airborne geophysical surveys. The mapping culminated with Gordey et al. (2006) and the geophysical survey resulted in a compilation GSC Open File led by RBK Shives (2002b).

Geology and Mineralization

The geological setting and uranium mineralization within the Jove Claim group has been described in detail by T. Becker, B. Sc., P. Geo. in his report "Geological Report on the Jove Claim Group" February 29, 2008,

Figure 5 - Jove Claim Group - Geological Setting

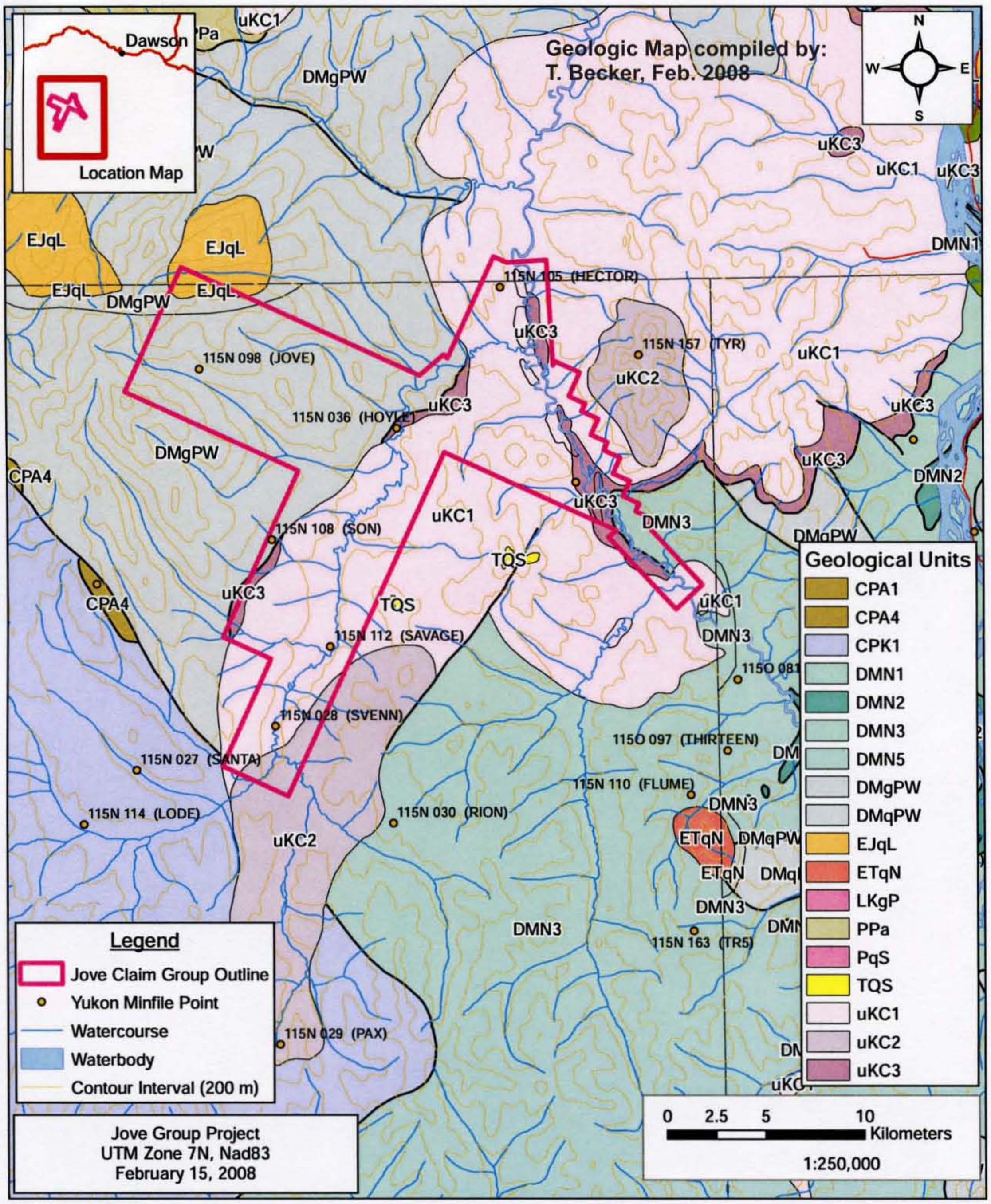
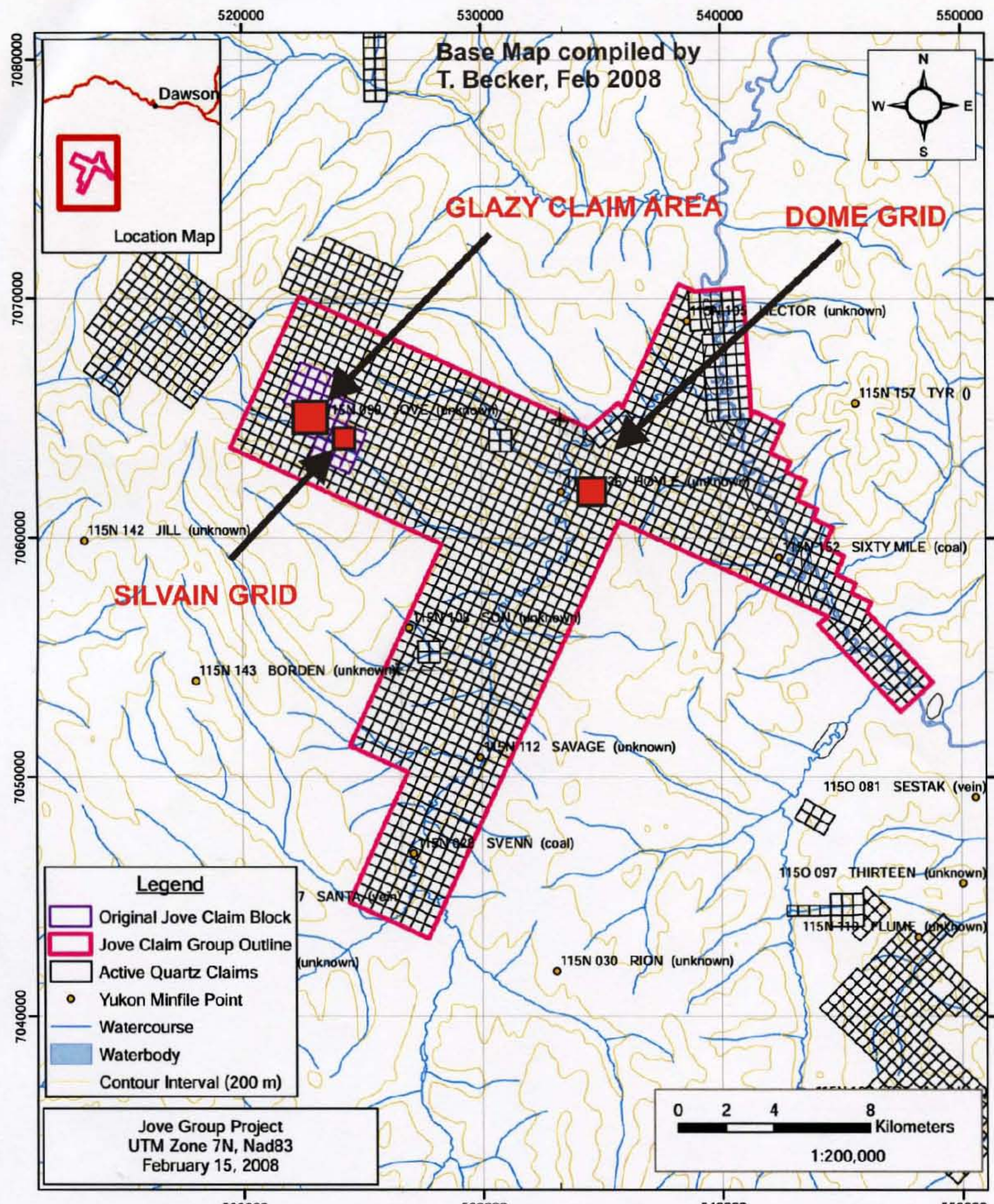


Figure 3. Jove Claim Group - Local Claim Map



RADON SURVEY

The possibility of using radon measurement as a uranium prospecting technique was first suggested in 1927. Radon, being a noble gas does not combine with other element which facilitates its free migration through pore spaces in rock and soil and its dispersion over considerable distances by groundwater and surface water. Radon occurs naturally as three isotopes with mass numbers 222, 220, and 219 which are member of the ^{238}U, ^{232}Th and ^{235}U decay series. After formation by radioactive decay, a radon atom diffuses through the enclosing mineral and diffuses through the ground air or groundwater present in pore spaces. In arid areas with little or no topsoil there is almost complete continuity between ground and atmospheric air and comes under the influence of meteorological variables. Low barometric pressure and strong winds tend to draw ground air out of the pore spaces and fractures of the near surface layers, thus reducing the radon concentration within them causing an upward movement of gas from depth. Calm conditions on the other hand reduce the rate of radon escape to atmosphere and result in a build up within the ground. Rainfall also restricts the upward flow of radon but has varying effects depending upon the soil profiles. Where soil is absent the rain water penetrates deeply and seals off the pore spaces in depth, producing a temporary reduction in near surface radon concentration. It is therefore emphasized that radon prospecting is part of a dynamic system depending upon a number of variables and the interpretation of the data must consider all the radon characteristics and geological environment of the survey area.

The theory of GeoXplor Corp's radon soil surveys are based on the element radon which is a radioactive daughter product of uranium decay. Radon is produced by the radioactive decay of radium, a product of uranium and thorium decay in rocks and soils. Theoretically, radon-222 concentrations in soil should be directly related to the uranium content of the minerals in the soil and rocks. Radon is a daughter product of uranium-238 and a non-reactive, highly mobile gas that migrates away from the site of its uranium parent by diffusion and advection along joints, faults, and intergranular permeable pathways.

The magnitude of a radon anomaly associated with a parent concentration of uranium will be due to the size and grade of the parent body. Dispersion and dilution along the pathways to the surface increase the size of the radon footprint but also reduce the magnitude. The location of the anomaly relative to the uranium body will be strongly influenced by the orientation of the pathways to the surface.

The radon survey utilizes a system that measures the radon by an ion chamber with electrically charged Teflon, called an electret, located inside an electrically conducting plastic chamber of known air volume. The electrets serve as a source of high voltage needed for the chamber to operate as an ion chamber. It also serves as a sensor for the measurement of ionization in air. The ions produced inside the sensitive volume of the chamber are collected by the electrets causing a depletion of charge. The measurement of the depleted charge during the exposure period is a measure of integrated ionization during the measurement period. The electrets charge is read before and after the exposure using a specially built non-contact electret voltage reader.

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RADON SURVEY RESULTS

Glazy Claim (523175x7063940) Radon Survey

The First Glazy Claim radon survey consisted of 212 stations with 182 filtered radon readings. The minimum reading was 0.37 dV and a maximum reading of 151.69 dV. The mean value was 35.58 dV with a midrange reading of 76.03 dV. The standard deviation was 32.82 dV.

The grid is presented on a point basis and contoured utilizing Surfer Software. The grid consisted of 300 meters in an east-west direction and 1,600 meters in a north-south direction and covers a 480,000 square meter area.

The Glazy Claim survey grid results were then plotted, contoured, and presented on the following pages.

Glazy Claim (526000x7054400) Radon Survey

The second Glazy radon survey grid consisted of 93 stations with 91 filtered radon reading. The minimum reading was 0.3167 dV and a maximum reading of 50.4656 dV. The mean value was 4.96 dV with a midrange reading of 25.39 dV. The standard deviation was 8.75 dV.

The grid is presented on a point basis and contoured utilizing Surfer Software. The grid consisted of 1,000 meters in an east-west direction and 300 meters in a north-south direction and covers a 300,000 square meter area.

The Glazy Claim survey grid results were then plotted, contoured, and presented on the following pages.

Dome Radon Survey

The Dome radon survey consisted on 77 stations with 73 filtered radon readings. The minimum readings was 0.43 dV and a maximum reading of 59.33 dV. The mean value was 9.11 dV with a midrange of 29.84 dV. The standard deviation for the radon readings was 8.75 dV.

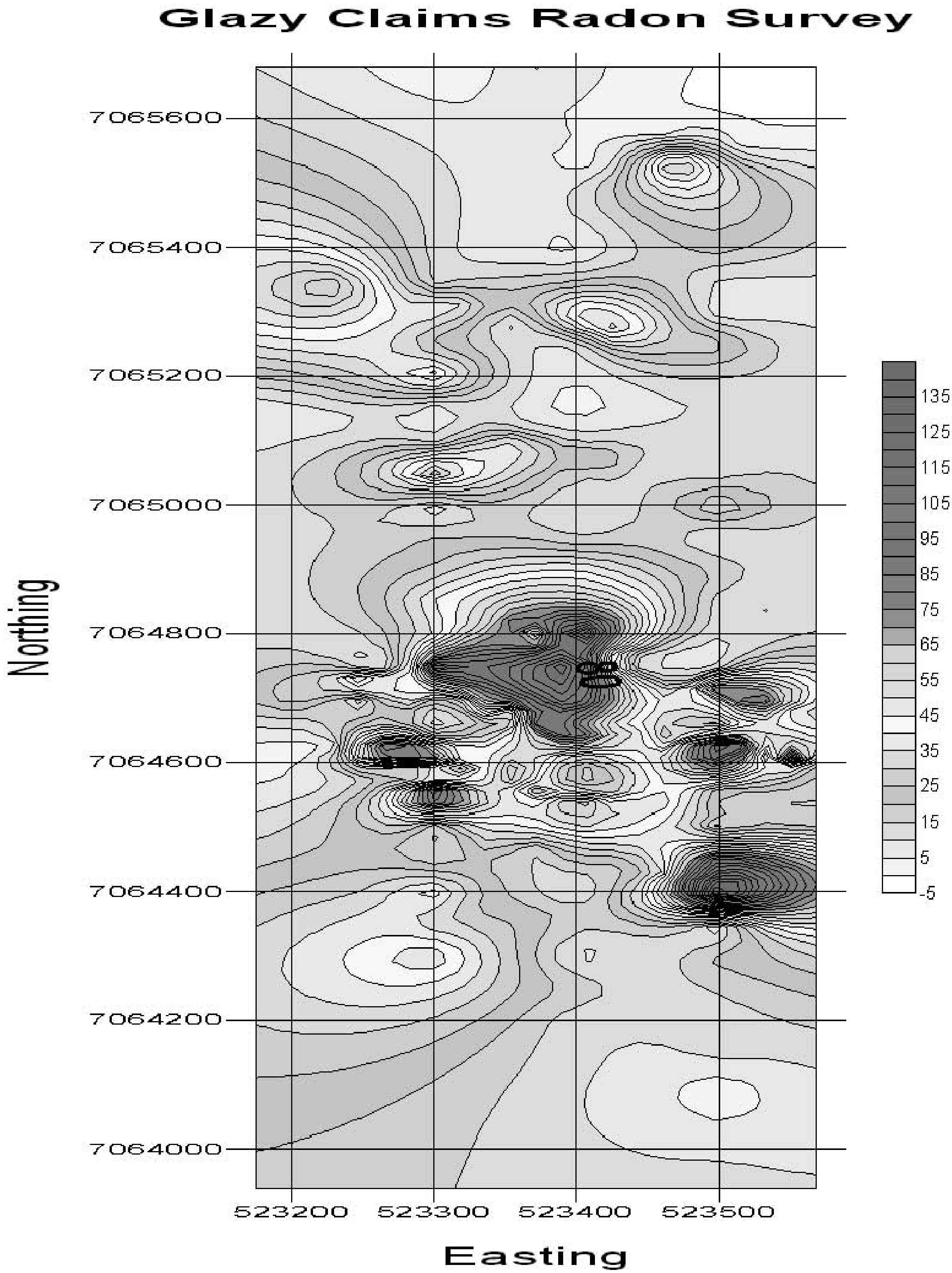
The grid is presented on a point basis and contoured utilizing Surfer Software. The grid consisted of 400 meters in an east-west direction and 700 meters in a north-south direction and covers a 280,000 square meter area.

The Dome Claim survey grid results were then plotted, contoured, and presented on the following pages.

Silvain Grid

The Silvain Grid radon survey consisted on 41 stations with 38 filtered radon readings. The minimum readings were 5.94 dV and a maximum reading of 75.92dV. The mean value was 29.92 dV with a midrange of 40.93 dV. The standard deviation for the radon readings was 20.28 dV.

The radon survey consisted of 41 stations in two areas of the Silvain grid. The grid created for contouring is 300 meters in an east-west direction and 1,000 meters in a north-south direction. The data created from the Radon Survey was then contoured utilizing Surfer Software. The Silvain Grid Radon survey results were then plotted, contoured, and presented on the following pages.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7064800
7064600
7064400
7064200
7064000
Northing
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523300
523400
523500
Easting
135
125
115
105
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75
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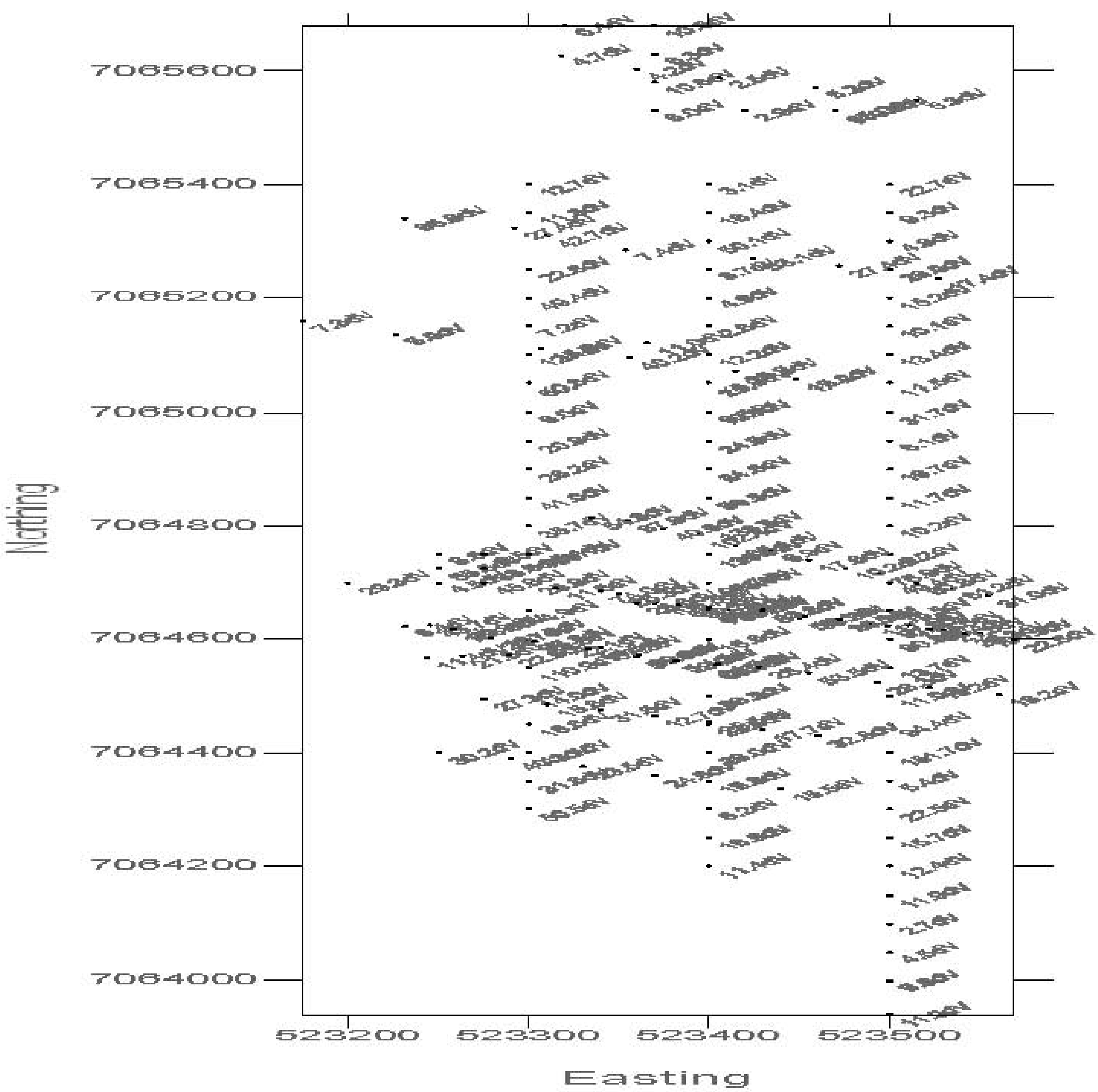
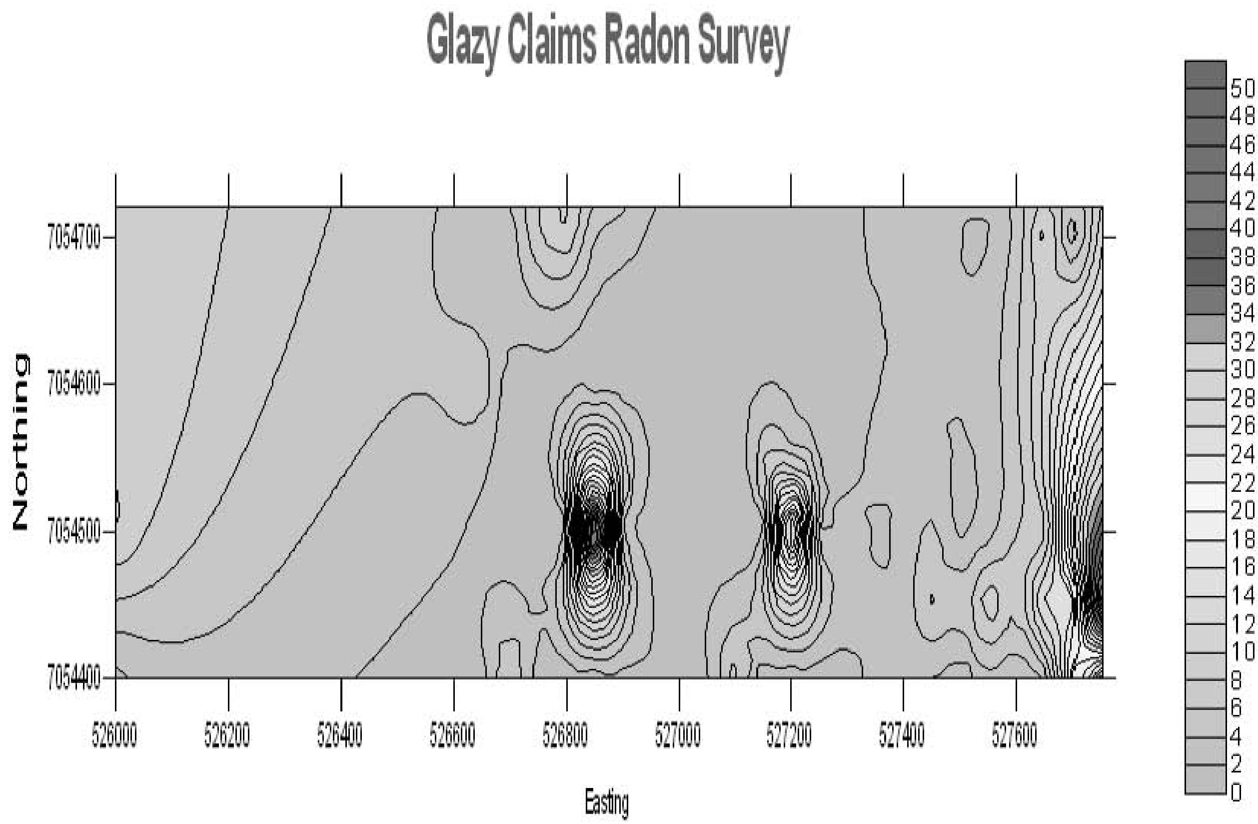
-5
80

Glazy Claims Sample Location Map

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526600
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527600
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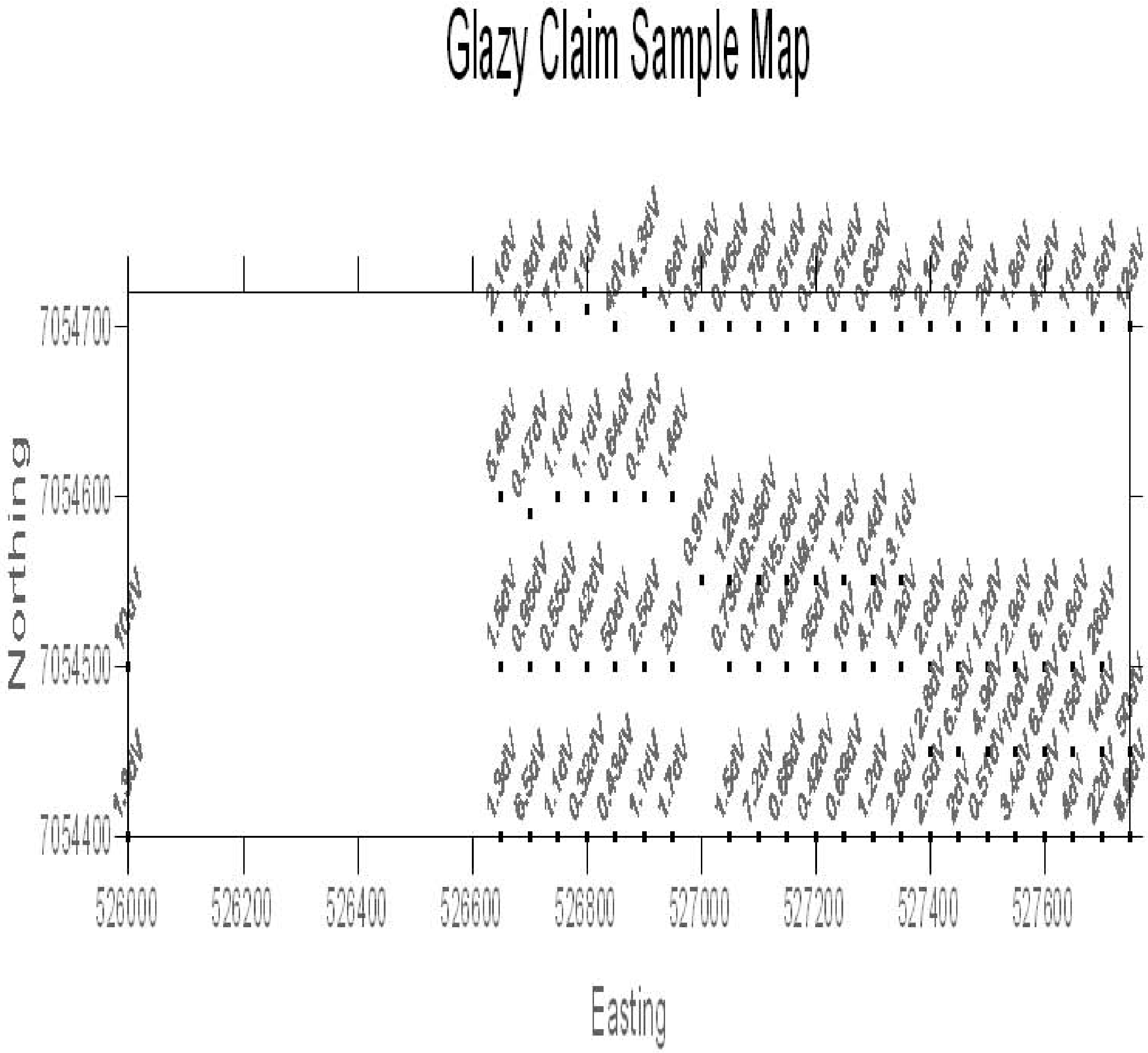
Glazy Claim Sample Map
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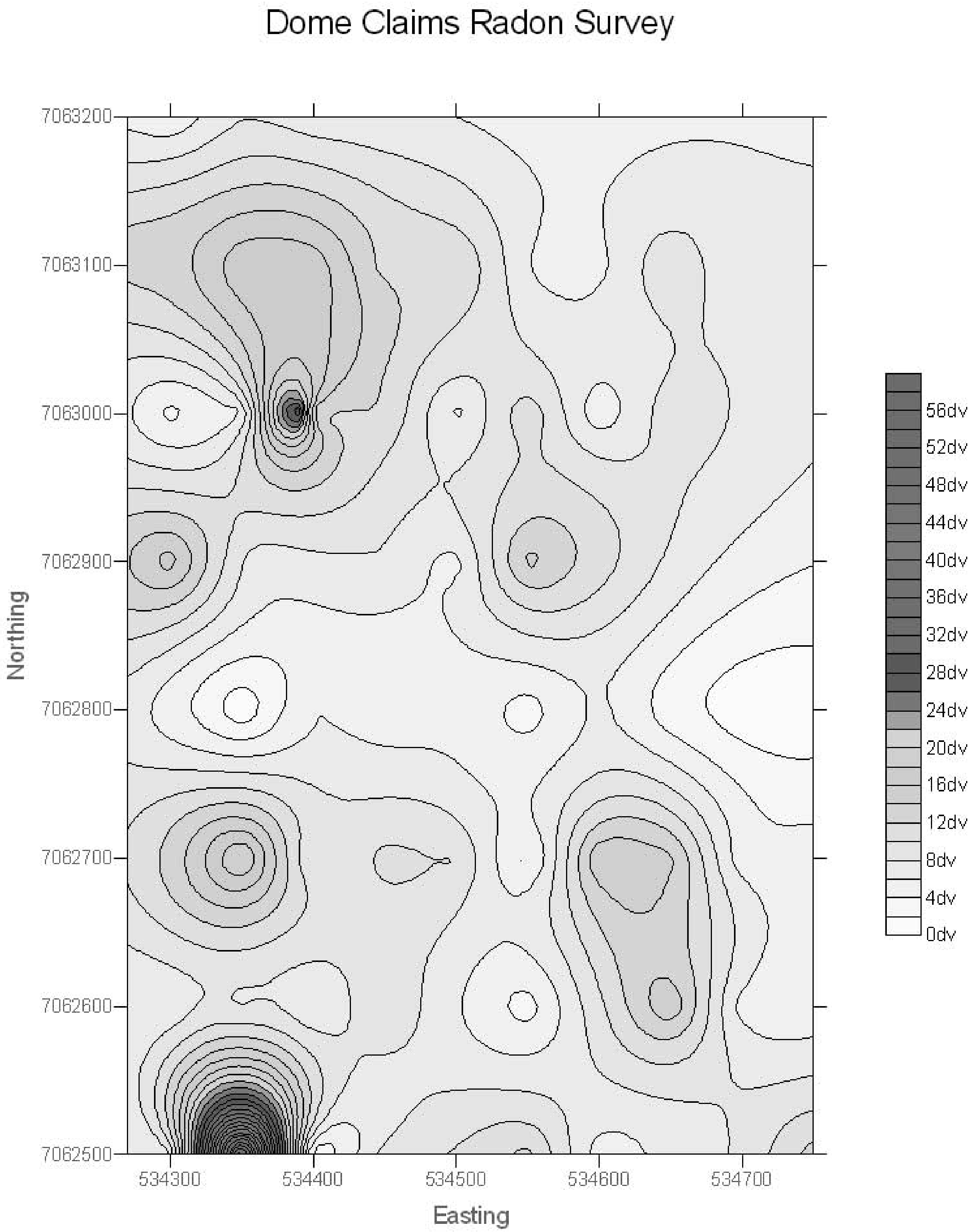
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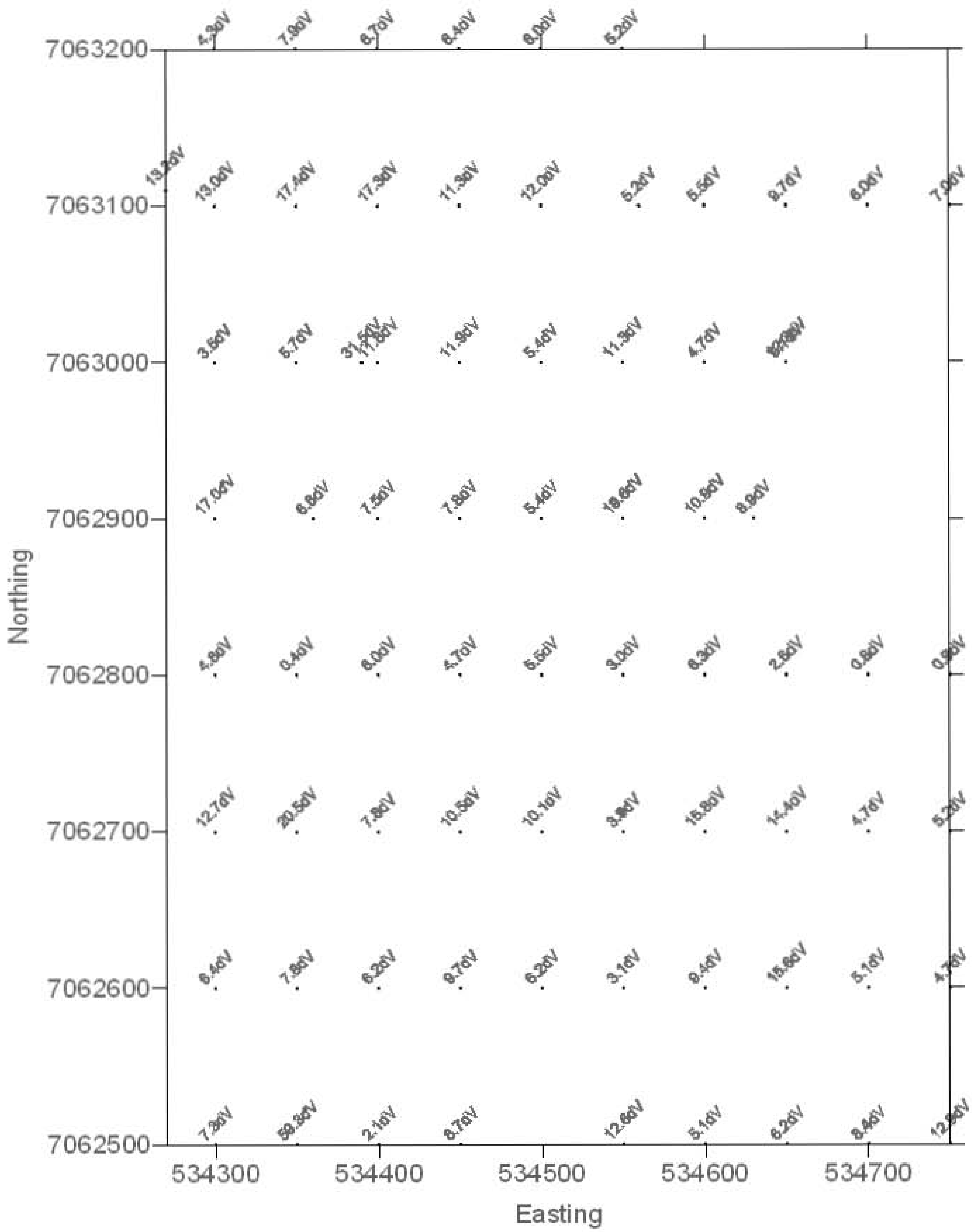
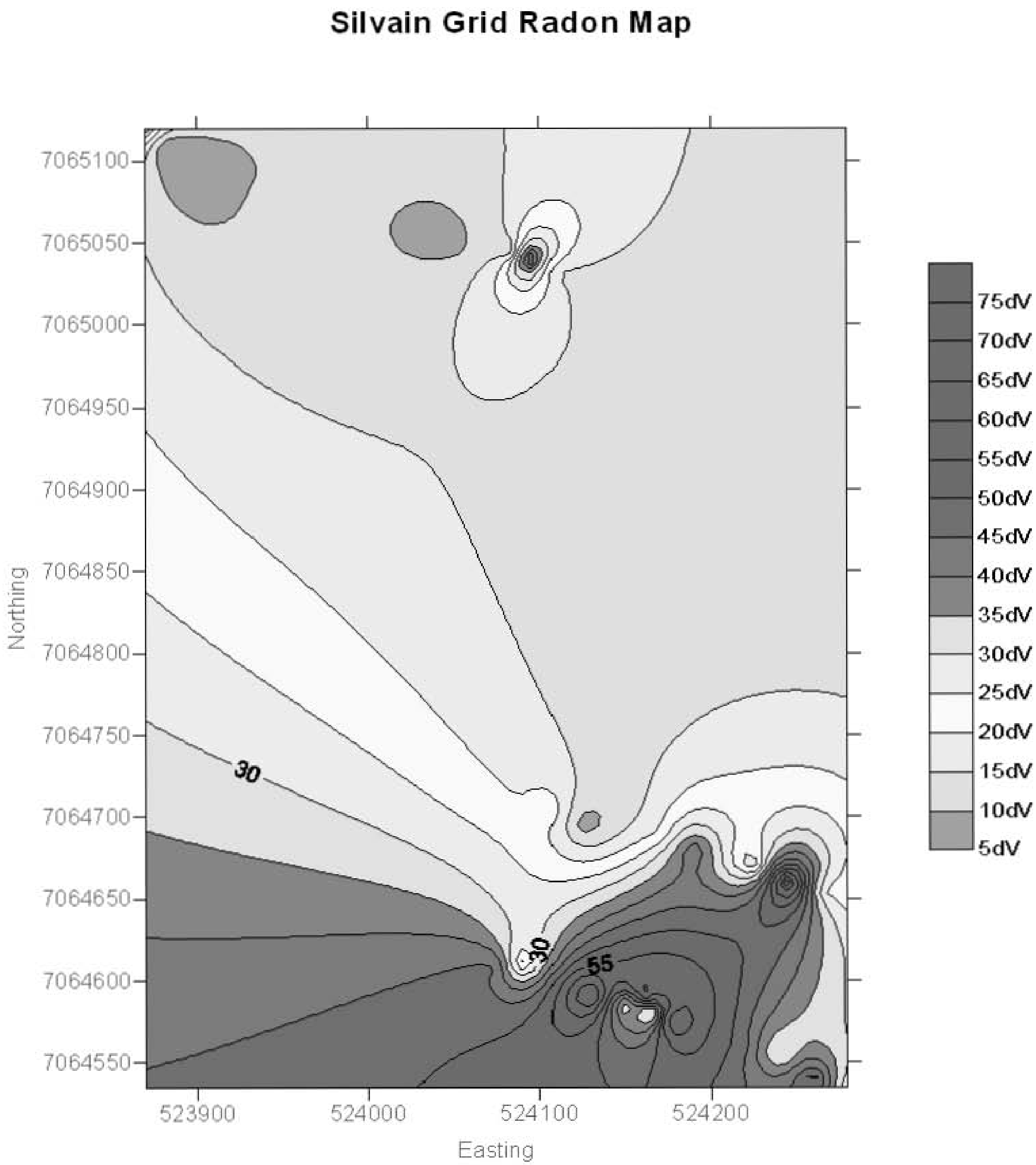
Dome Claims Sample Location Map

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524200
Easting
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70dV
65dV
60dV
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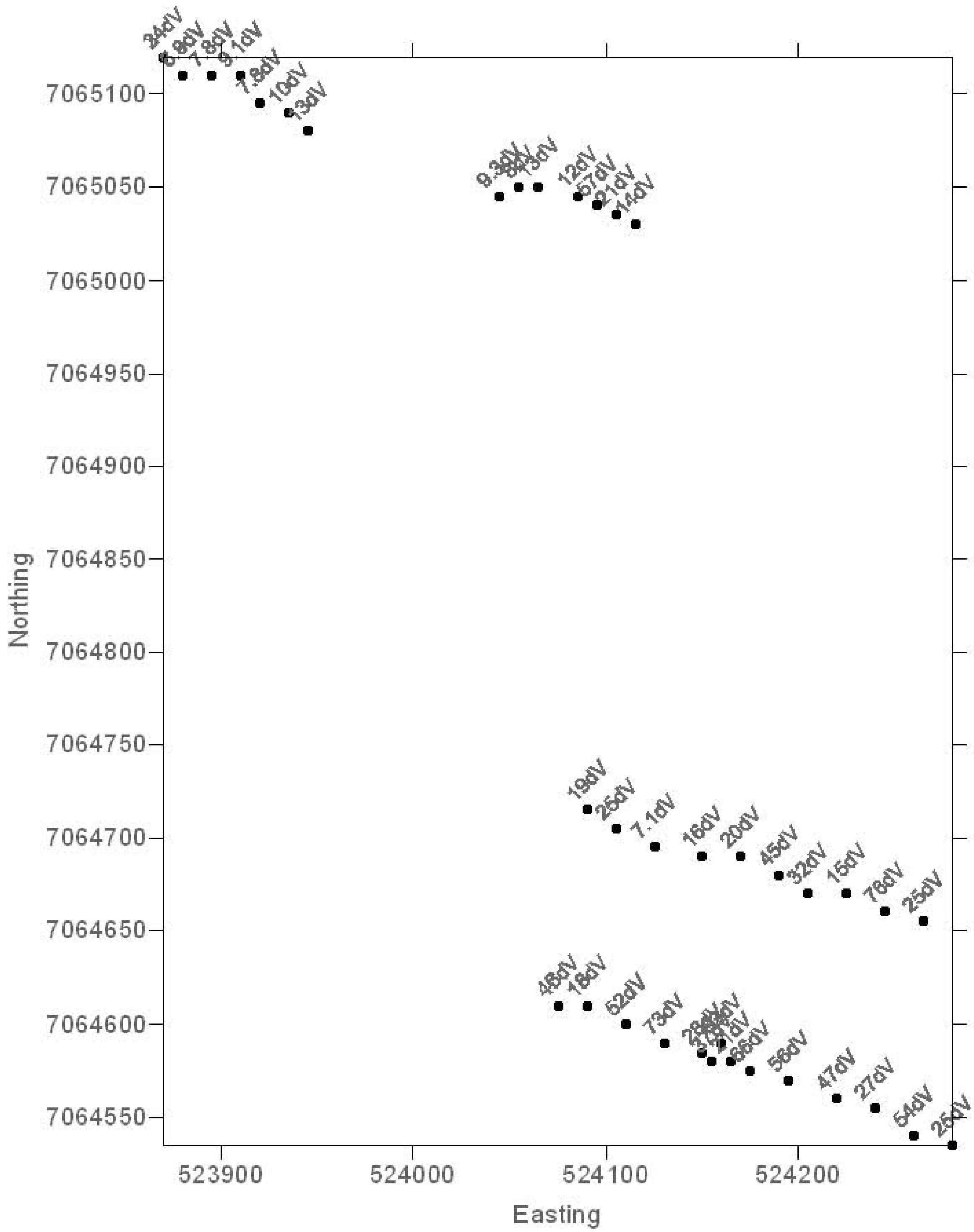
Silvain Grid Sample Map



CONCLUSIONS

Glazy Claim (523175x7063940) Radon Survey

The Glazy Claim (523175x7063940) Radon Survey has defined a lineal zone of anomalous radon gas in the 7064600 – 7064800N area of the Borden Creek grid. The anomalies ranged in dV from 60 to over 150 dV. This may indicate the presence of a structural feature (fault zone or trough) where uranium has concentrated or where the radon gas has a conduit from subsurface uranium mineralization to the surface. Additional areas north of the lineal feature have lower anomalous radon gas readings and suggests the area may have widespread uranium mineralization and should be investigated by a detailed ground or airborne radiometric survey,

Glazy Claim (526000x7054400) Radon Survey

Two areas in the center of the grid indicate anomalous radon gas readings. The preliminary data indicates the anomalous area may extend to the eastern region of the grid. This may indicate a lineal anomalous feature in this area. Recommendations are made to extend the grid to the east and try to delineate the anomalous area of uranium mineralization.

Dome Claims Radon Survey

The Dome Claim grid consisted of eight lines on 100 meter intervals and readings on 50 meter spacing. The survey defined 6 areas of anomalous radon gas occurrences. The highest reading was obtained on the southwest corner of the grid which indicates the uranium mineralization may extend to the south of the completed grid. Recommendations are made to continue the grid the south and try to define the area of anomalous uranium mineralization.

Silvain Grid

Within the Silvain Radon Survey two areas were selected by the geological staff of Eagle Hill Exploration for radon gas investigations. Twenty-three stations were established in the southeast region of the Silvain Grid. Results from the program delineated a highly anomalous area of radon gas. The reduction in electret voltage exceeded 75 dV which indicated an area of uranium mineralization. Strong recommendations are made to establish a large grid in this area to define the area of uranium mineralization. This would also create drill targets to determine the grade and depth of uranium mineralization.

References

Becker, T.C., 2006: Geological Evaluation of the Jove Property, Yukon Territory, **28 pp**

Becker, T., 2008: Geological Report on the Jove Claim Group, **39 pp**

Turner, D., & Brand, A., August 2007: Report on Field Activities on the Jove, Cap, Hec, and Son Properties, Yukon Territory, Canada, **14 pp**

Professional Statement

I do hereby certify in the County of Maricopa, State of Arizona that:

1. This report is based on my personal examination of the radon data and pertinent, relative documents related to the Jove Claim Group, Yukon Territory, Canada.

2. I am a geologist with a business address at 3655 West Anthem Way, Suite 109-293, Anthem, Arizona 85086

3. I received a Bachelor of Science degree (Geology) from the University of Oregon (1970)

4. I received a Master of Science degree (Geology) from the University of Oregon (1971)

5. I have practiced my Geological Profession for more than 35 years.

Dated in the County of Maricopa, State of Arizona, on the 3th day of October, 2008.

John O. Rud
Geologist, M. Sc.

APPENDIX

9-Oct-08

Alex Stewart Geochemical
ECO TECH LABORATORY LTD.
10041 Dallas Drive
KAMLOOPS, B.C.
V2C 6T4

ICP CERTIFICATE OF ANALYSIS AW 2008-8359

Eagle Hill Exploration
789 W Pender St Suite 1000
Vancouver, BC
V6C 1H2

Phone: 250-573-5700
Fax : 250-573-4557

No. of samples received: 3
Sample Type: Rock
Project: Jove
Shipment #: Bag 5
Submitted by: Chris Davis

Values in ppm unless otherwise reported

Et #.	Tag #	Ag ppm	Al %	As ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
1	08-LVA 0047	<0.1	0.77	7.2	333.0	0.08	0.23	0.11	7.2	66.0	3.06	1.64	4.1	15	0.11	18.0	0.12	1129	1.92	0.065	5.3	801.0	5.46	<0.02	0.28	3.4	0.1	14.5	<0.02	5.2	0.005	0.12	0.5	14	0.2	76.3
2	08-LVA 0052	<0.1	0.98	2.2	123.5	0.48	0.28	0.13	6.1	108.5	7.70	2.44	4.6	<5	0.09	12.0	0.23	615	2.59	0.051	14.1	851.0	6.90	<0.02	0.06	1.1	0.2	17.0	0.02	6.0	0.003	0.06	1.2	18	0.2	56.1
3	08-LVA 0053	<0.1	0.69	1.0	75.0	0.82	0.07	0.04	3.2	103.0	7.13	2.19	4.4	<5	0.07	12.0	0.11	347	1.05	0.058	6.0	471.0	2.35	<0.02	0.08	1.1	0.2	17.5	<0.02	6.6	0.001	0.06	2.9	16	0.2	26.6
QC DATA:																																				
Repeat: 1	08-LVA 0047	<0.1	0.80	6.9	330.5	0.08	0.22	0.10	7.3	66.5	3.05	1.64	4.2	10	0.11	17.5	0.13	1147	1.87	0.068	5.3	829.0	5.23	<0.02	0.28	3.5	0.1	15.0	<0.02	5.4	0.005	0.12	0.5	14	0.1	77.4
Resplit:																																				
1	08-LVA 0047	<0.1	0.77	6.9	341.5	0.08	0.21	0.12	7.8	57.0	2.95	1.61	4.2	10	0.11	17.5	0.12	1207	1.47	0.063	5.0	832.0	5.38	<0.02	0.28	3.6	0.1	14.5	<0.02	5.5	0.004	0.12	0.5	12	0.1	78.8
Standard:																																				
PB129a		12.1	0.76	6.2	72.0	0.40	0.48	65.31	5.0	11.5	1430.00	1.64	2.4	75	0.07	4.5	0.62	394	1.99	0.046	5.7	417.0	6184.00	0.74	18.96	0.6	0.2	29.0	0.26	0.9	0.029	0.04	0.1	16	0.2	>10000

ECO TECH LABORATORY LTD.
Jutta Jealouse
B.C. Certified Assayer

JJ/nw
df/msr1275as
XLS/07

9-Oct-08

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