

MAR 19950009: MOUNT WATT

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**1995 Exploration Report On
Paul A. Hawkins & Associates Ltd. and Cherovan Investments Ltd.'s**

Mount Watt Project

Metallic Minerals Permits

High Level, Alberta

July 10, 1995.

This report covers the 45,329.86 acres in 2 Metallic Minerals Permits listed below, held by Paul A. Hawkins & Associates Ltd. centred on 58° 41' north 116 ° 25' west in N.T.S. Sheet 84K.

**9393040035
9393040038**

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Report #95-041-2

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Executive Summary

Mount Watt Project

The Mount Watt Project is located just north of High Level in the Northern Alberta Diamond Play. The property is located on the upper slopes of Mount Watt about 615 km. NNW of Edmonton on the margin of the Buffalo Head Sub-craton. Mount Watt raises 410 m. above the wide Peace River Valley as an anomalous butte feature.

Exploration activity by Monopros during 1991-93 in the Peace River area had attracted the author's attention. Reports of a past placer gold and diamond discovery prompted the property's acquisition during the diamond staking rush of 1992.

In the property area, Archean basement features overprint the Cretaceous age rocks and influenced the development of structural and sedimentary features. These structural features or faults are believed to be the pre-existing conduits for kimberlitic intrusion at the close of the Cretaceous. The butte like nature of Mount Watt suggested a possible volcanic association.

The Mount Watt Property is located near several significant major fault intersections and near a magnetic low. Most of the property area is road accessible and exploration will be cost-effective compared with more remote locations.

Limited heavy mineral sampling conducted in 1993 yielded two G-5 garnets (kimberlitic indicators), eleven ilmenites, two hematite, one spinel and two unclassified amphiboles. A multi-phase work program is recommended to further explore this diamond property of merit in Northern Alberta.

1.0 Introduction

In 1988 a prospector (Cumiski, 1988) had reported to the author the recovery of fine placer gold, diamonds and other precious stones from a prospecting trip by an associate into the Mount Watt area of Northern Alberta. At that time no follow-up was conducted based on the decline of industry interest in placer gold, lack of serious interest in diamonds and the cost prohibitive nature of mineral exploration regulations in Alberta at that time.

In early December 1992, with the expanding of the diamond staking rush into Alberta, the initial report was reviewed with the prospector (Cumiski, 1992) in light of recent developments near Peace River and the current understanding of the diamond exploration model. Data compilation was initiated to assess the potential of the Mount Watt area, however on December 9, 1992 the staking of several large blocks extended the Peace River Diamond Play to High Level which was just south of the reported discovery.

It was apparent on December 9, 1992 that a land position had to be acquired shortly to prevent the loss of the prospect even before the prospect had been fully worked up. Nine permit applications were made on December 11 and 14. Shortly thereafter the property was completely surrounded by other stakers.

This report covers exploration work conducted on the property between December 1992 and present. The property was originally held 100% by Cherovan Investments Ltd. with Paul A. Hawkins & Associates as operator. Cherovan elected not to fund further exploration in late 1993 and is now being diluted out by the operator. As of April 12, 1995 Cherovan held a 50% interest with the remaining 50% held by Paul A. Hawkins & Associates Ltd.

In early May 1993, Paul A. Hawkins & Associates Ltd. was directed by Doug Johnson, a Director of Cherovan Investments Ltd. to prepare a report compiling a concise summary of available data and evaluate the merits of the acquired property for a possible vend-in to a public company. Due to the decline of interest in diamond properties in Alberta the Vend-in was never completed.

The author has specifically examined the Mount Watt property on the ground between August 28-30, 1993. The author has visited the Peace River area 285 km. to the south on numerous occasions between 1992 and present. The High Level area has a similar geological setting to the Peace River area. The author supervised an overburden drilling program (Hawkins, 1994) to obtain till samples for diamond indicator mineral analysis between January 17 - 23, 1993 for an unrelated client 39 km. NE of Peace River. Comments made in this report are based on personal observation in the field and compilation of available government data.

1.1 Location and Access

The High Level Area is located 615 km. (382 miles) NNW of Edmonton in northern Alberta, as shown on Drawing A95-041-01. The 9 Metallic Minerals Permits as shown on Drawing A95-041-02. which make up the original property are centred on 58° 41' north and 116° 25' west. They also occur within Townships 111 to 114 and Ranges 19 to 22 west of the Fifth Meridian.

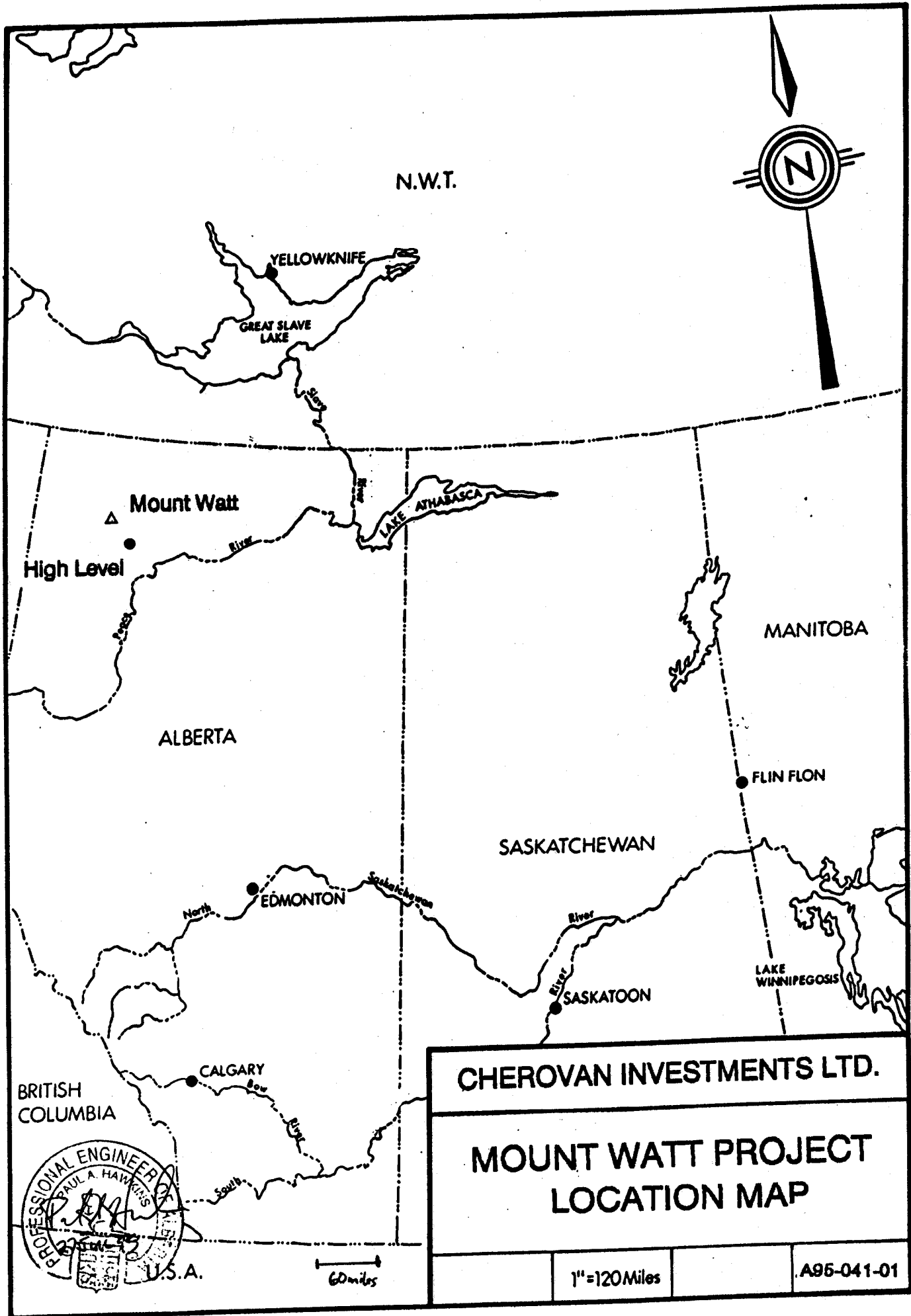
The property area is characterized by rounded upland hills above broad valley bottoms. Elevations range from 304 m. (1100 ft.) at Footer Lake to 762 m. on top of Mount Watt. The relatively flat valleys average 335 m. (1100 ft.) with the uplands above ranging between 609 to 914 m. (2000-3000ft.). Some creeks cut deep incised valleys near the edge of the upland areas. The property area is largely forested. Some of the adjacent broad flat valleys are largely cleared and farmed. A forestry look-out and several radio towers are located on the top of Mount Watt.

Streams, rivers, lakes and swamps are relatively numerous in the study area. The Peace River and Hay River Valleys near High Level are relatively broad. The Peace River ranges in width from 300 m. to 1500 m. and was once used as a major transportation route for steamers into British Columbia and the north in the early 1900's.

The High Level area is accessible by paved all weather highway from Edmonton which connects to the north with the Mackenzie Highway as shown on Drawing A95-041-03. Peace River is also served by the Northern Alberta Resource Railway branch of the C.N.R. Daily Turbo-prop service also connects High Level with the south. The area is well serviced in the energy sectors by Alberta Power and Natural Gas Companies. The infrastructure developed in the area, partly as a result of the oil & gas developments in the High Level Area, provides an excellent base for any future mineral development in the area.

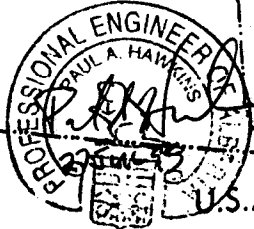
A limited road access network exists in most areas of the High Level area. In forested areas like the permit block, concession roads are poorly developed. A forestry fire tower access road up Mount Watt will provide some access. Most areas are, however, covered with many seismic lines and winter roads. This will provide good winter access for other areas without good gravel roads. Between spring and fall some areas of the property may be only accessible by all terrain vehicle or helicopter.

The High Level area has a mean annual rainfall of 406 mm. with an annual mean temperature of -2°C. Winters are cold with temperatures to -40°C while summers can be very hot with temperatures to +30°C. On the whole, however, they are generally cool when compared to Edmonton. The long daylight hours due to its northern location makeup for the cooler temperatures and the shorter growing season.



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**MOUNT WATT PROJECT
LOCATION MAP**

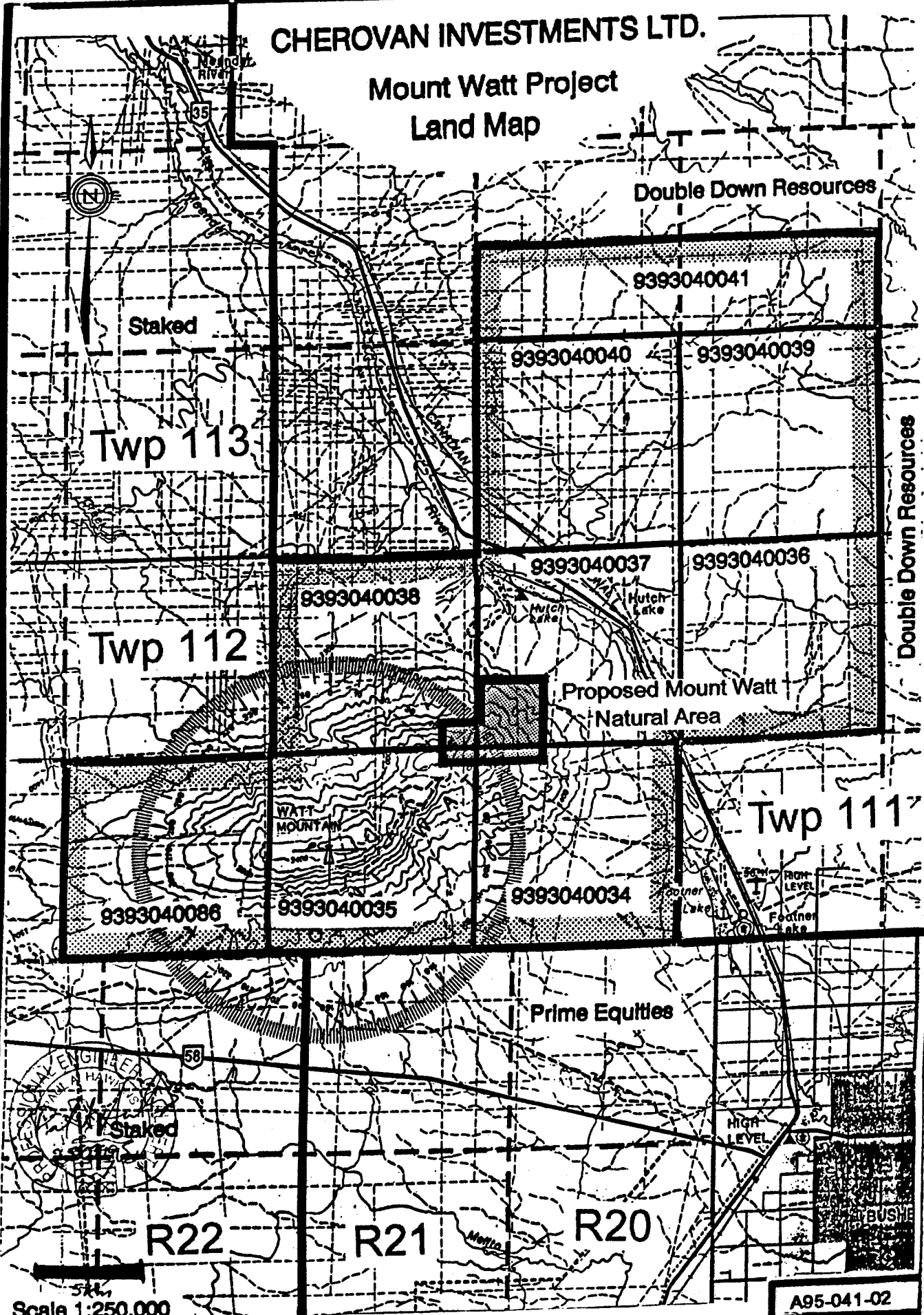


1"=120 Miles

A95-041-01

CHEROVAN INVESTMENTS LTD.

Mount Watt Project Land Map



Staked

Twp 113

Twp 112

Twp 111

9393040086

9393040035

9393040034

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Proposed Mount Watt
Natural Area

Prime Equities

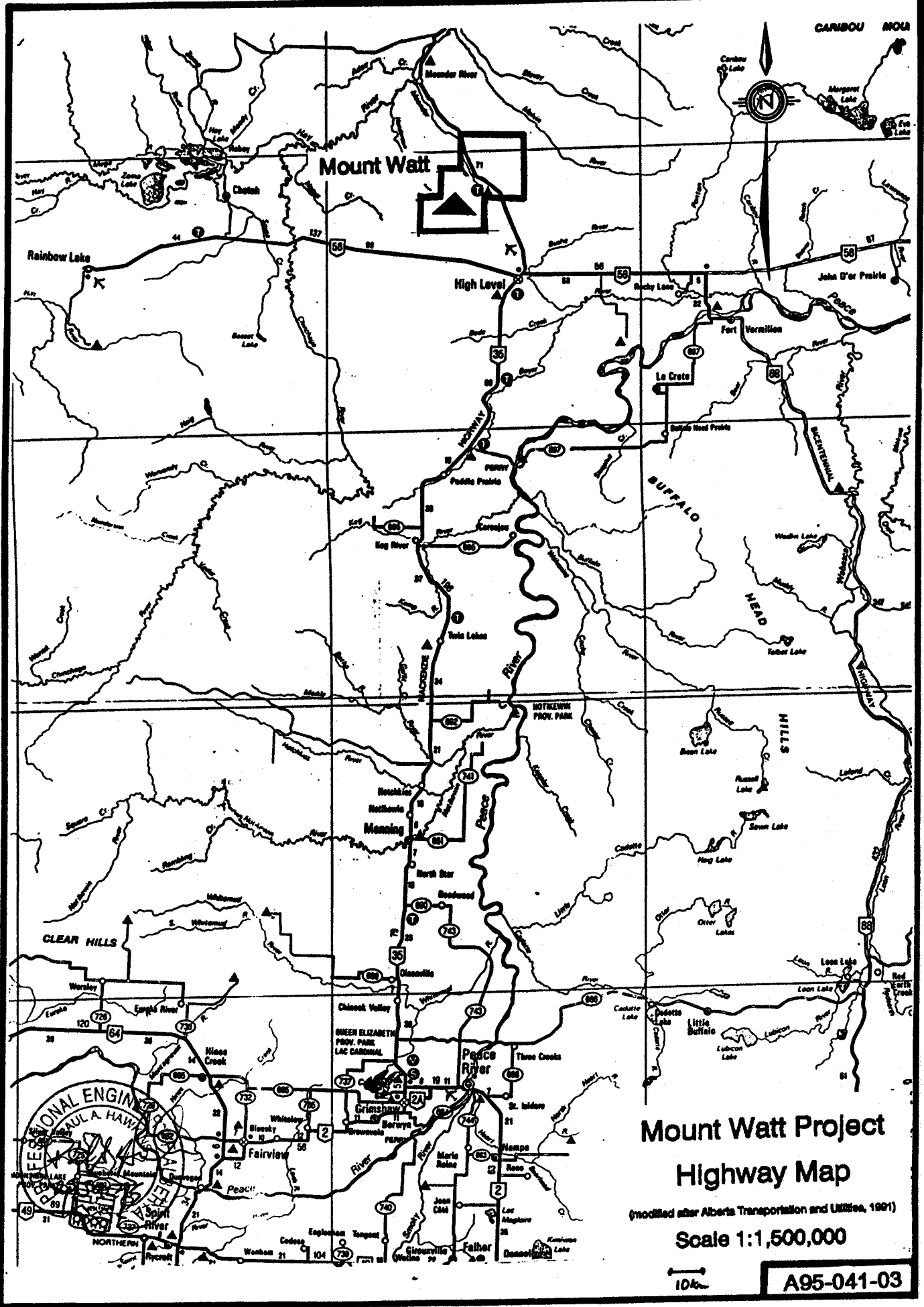
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Scale 1:250,000

A95-041-02



Mount Watt

**Mount Watt Project
Highway Map**

(modified after Alberta Transportation and Utilities, 1991)

Scale 1:1,500,000

10km

A95-041-03

1.2 Licence Tabulation

The original 9 Metallic Minerals Permits making up the property comprised 81,958.698 hectares (204,896.739 acres) in one contiguous permit block and are shown on drawing A95-041-02. The permits have now been reduced to a much smaller area of two permits making up 2,216.993 hectares (5,478.117 acres) as listed below in Table 1.

The Metallic and Industrial Minerals Regulation allows the deposition of metallic minerals (including diamonds) that are vested in or belonging to the Crown in right of Alberta by means of Metallic Minerals Permits. Permits are acquired by paper staking. Under the new regulations (Alberta 6/93) a permit would have a term of ten years and require assessment work of \$5.00 per hectare for the first two years (\$2.50 per year), in the third and fourth years \$10.00 per hectare (\$5.00 per year), in the fifth and sixth years \$10.00 per hectare (\$5.00 per year), in the seventh and eighth years \$15.00 per hectare (\$7.50 per year) and in the ninth and tenth years \$15.00 per hectare (\$7.50 per year).

All the property area is Crown Mineral Lands. No free hold lands are apparent in the property area. A small proposed Nature Area Park is proposed for the east side of Mount Watt as shown on Drawing A95-041-02. Although the area of the Park was excluded from the block, no major negative impact is expected in the near term. Some of the surface rights on the property may be held privately. A compilation of surface rights holders within the project area is beyond the scope of this report.

Expenditures in the amount of \$ 11,231.40 were applied to the property allowing an additional two year term. Exploration expenditures in the amount of \$ 22,169.93 must be made before April 14, 1997 to retain these areas beyond the next two year term.

Table 1.

Mount Watt Permits

Permit #	Original Area (Hectares)	Reduced Location	Reduced Area (Hectares)	Work	Surplus
9393040035	9,151.25	5-21-111 S25-27; S34-35; S36S,NP	1471.250	\$ 7,635.25	\$ 146.43
9393040038	9,193.743	5-21-112 S1N,SW, SEP; 2-3	745.743	\$ 3,728.72	

1.3 General Geology

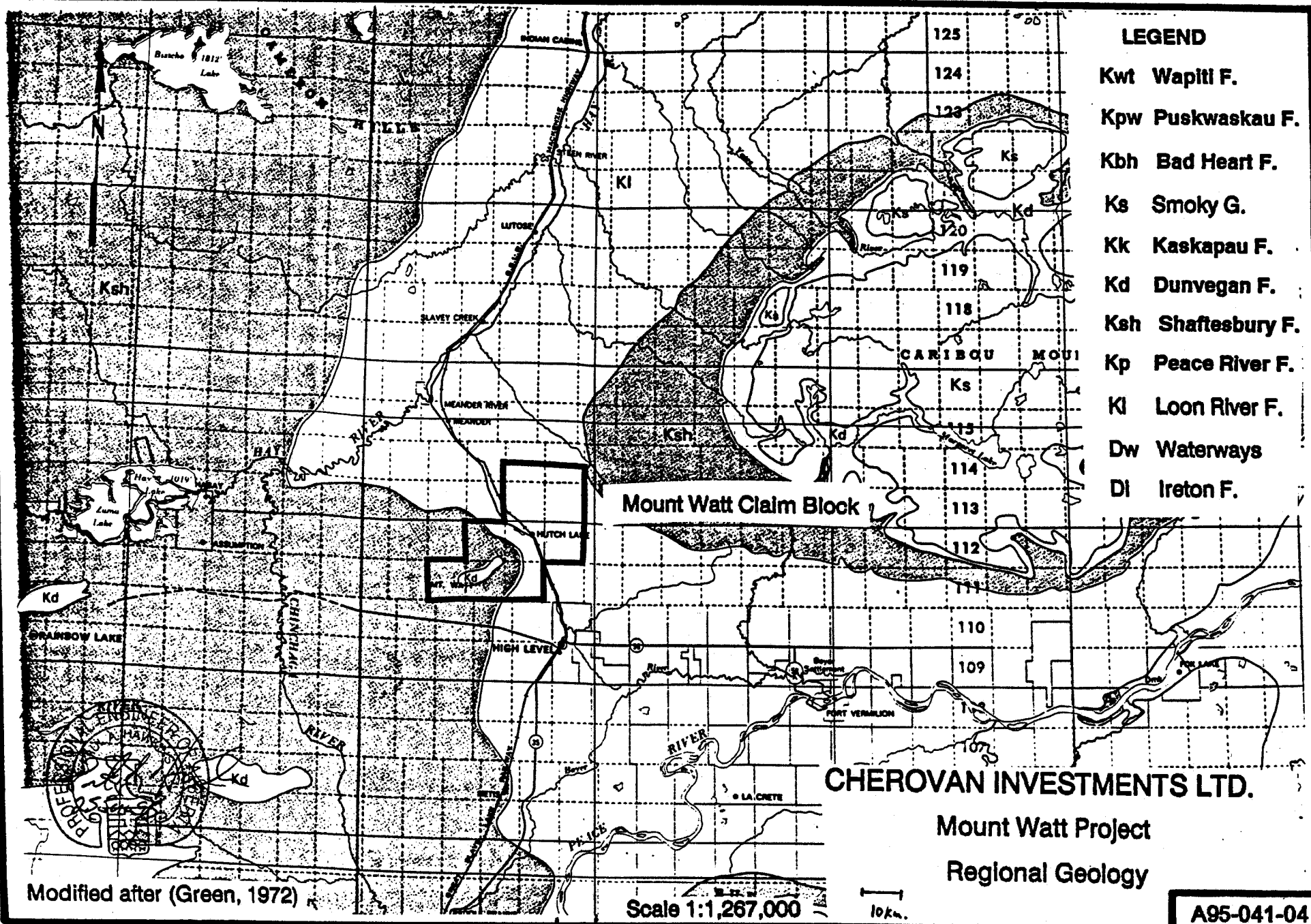
The underlying crystalline basement of the High Level Area is made up of a series of Archean and Proterozoic tectonic domains as shown on Drawing A95-041-04. The Buffalo Head domain is interpreted as being a complex region of cratonic fragments with origins in the Archean. The Chinchaga contains meta-sedimentary and plutonic rocks separate from the Buffalo Head. It was likely accreted to the Buffalo Head in the early Proterozoic. The available Proterozoic basement ages from deep oil well drill core are a reflection of younger shallow crust which have been built on older Archean crust. This is supported by crustal residence dates of Archean age (Theriault & Ross, 1991).

The tectonic history of the western Canadian craton is still not well understood but it appears that the Archean and Proterozoic domains were accreted to the shield 2.0 billion years ago. Previous to that, the Buffalo Head sub-craton may have been part of the Slave before being faulted off by the Hay River Fault. The Buffalo Head Archean tectonic sub-craton is the focus of diamond exploration in the Northern Alberta and the High Level area.

The underlying exposed bedrock strata in the property area is almost all of Cretaceous age. The various shallow sandstone and shale formations present are chiefly exposed along the valleys of the major rivers and in outcrops along roads. A Table of Formations is provided in Table 2. Regional geology is shown on Drawing A95-041-05. The deeper formations are only exposed in drill cuttings or core from the large number of wells drilled in the area.

The structure of the High Level area appears dominated by basement features. The superposition of modern drainage networks on the paleo-drainage network shows remarkable coincidence, suggesting an underlying structural control. Major structures appear oriented NE, and E-W and minor structures NW and WNW. The area has seen several periods of uplift and reactivation of NE and NW trending structures. This repeated reactivation provides good structural preparation for later kimberlitic intrusion at the close of the Cretaceous.

A mantle of varying thickness of superficial Pleistocene and recent deposits cover the study area. These deposits are thickest in buried old channels and in present day channels. Some stratified drift is evident but no detailed mapping has been undertaken. Reworked gravels are present along several old channel ways. Overburden ranges in thickness from very shallow (less than 1 m.) to in excess of 300 m. but averages perhaps 20 m in flat areas.



LEGEND

- Kwt Wapiti F.
- Kpw Puskwaskau F.
- Kbh Bad Heart F.
- Ks Smoky G.
- Kk Kaskapau F.
- Kd Dunvegan F.
- Ksh Shaftesbury F.
- Kp Peace River F.
- Ki Loon River F.
- Dw Waterways
- Di Ireton F.

Mount Watt Claim Block

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Mount Watt Project
Regional Geology

Modified after (Green, 1972)

Scale 1:1,267,000



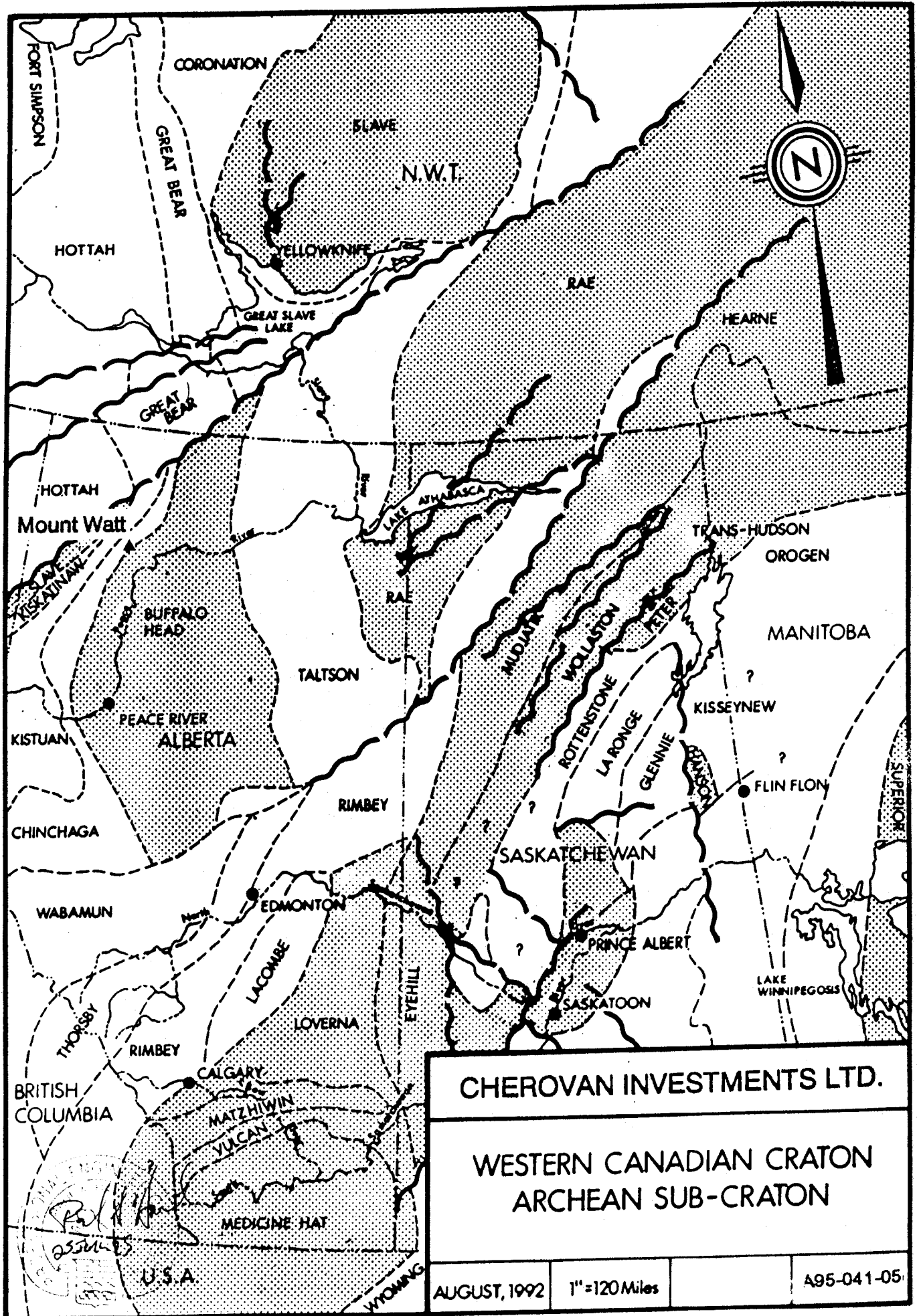
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Table 2.
High Level Area
Table of Formations

Age	Sym	Formation	Age	Member	Description
Pleistocene	Qsg			Overburden	Unconsolidated Sand & Gravel
Tertiary			65		
Cretaceous		MONTANA GROUP ?			
	Kwt	Wapiti F			gray brown clays with massive SST, ironstone nodules, thin clay seams, scattered coal beds, nonmarine
		SMOKY GROUP			
	Ks	Smoky Group			dark gray shale and silty shale, ironstone partings and concretions
	Kpw	Paskwaskau F.			
	1WS				First White Spec Zone
		COLORADO GROUP ?			
	Kbh	Bad Heart F			brown SST, medium to fine grained, fossiliferous, marine
	Kk	Kaskapau F.			Shale, dark to black, thin bedded, some sandstone
		FORT ST. JOHN GROUP			
	Kd	Dunvegan F			grey fine grained feldspathic SST, alternating SST/shale SST beds to 60ft., detrit to marine
	Ksh	Shaftesbury F.			
	Kshu			Upper Member	dark gray fish scale bearing shale,
	BSFC			Base of Fish Scales ??	numerous nodules with thin beds of Fe
	Kshl			Lower Member	silty and sandy shale
Kp	Peace River F.			massive SST	
Kpc			Paddy	fluvial deposits	
Kph			Cadotte Member	quartzose SST, shale, conglomerate	
Kpn			Harmon Member	dark gray silty shale	
			Notikewin Member	fine grained glauconitic SST	
Ksr	Spirit River F.				
			Father	sandstone, shale, coal	
			Wirich	Shale	
Bfsc			Base of the Fish Scale??		
		MANNVILLE/BULL HEAD GROUP			
		Cadomin F.	106		conglomerate
		Gething F.			SST, shale, oil sands
Kb	Bluesky F.		Basal Cretaceous		sandstone, shale, oil sands
Devonian	Dw	Ireton F.			grey and green shale and argillaceous limestone; marine
	Di	Waterways F.			grey green shale, calcareous shale and siltstone; marine

(modified after Green, 1972.)



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WESTERN CANADIAN CRATON
ARCHEAN SUB-CRATON

AUGUST, 1992

1" = 120 Miles

A95-041-05

2.0 Exploration History of Diamonds in Canada

The development and dissemination of knowledge regarding diamond exploration and associated technology to distinguish between productive diamondiferous and barren diatremes has changed the diamond exploration field dramatically (GSC, 1990). This knowledge is no longer only possessed by De Beers and a few other individuals but more widely held. The practical application of this technology in exploration is only now being seen with the new discoveries in the N.W.T. and Saskatchewan.

Ten years ago the only well known diamond ore body model was the classical South African Model and associated mineral assemblage. Since then, the public domain knowledge has increased dramatically. Several scientific advances in the last decade have altered our understanding of models, age, origin and emplacement mechanism of diamonds (Kirkley et al, 1991). The discovery of the Argyle Mine in Australia demonstrated that related lamproites also are an important source of diamonds. The Argyle deposit has a significantly different geochemical signature than that of the South African Model and many of the established indicators used may not be applicable to lamproites. Up until recently, the exploration that had taken place in Canada was largely confined to exposed Archean shield areas. Research into the make-up of the North America craton has shown much larger areas of Archean under the Phanerozoic cover of the prairies. These areas are now also considered prospective.

2.1 Geology of Diamonds

Diamonds in commercial quantities are found in kimberlite pipes (including related lamproites) and associated alluvial deposits. Kimberlite pipes consist of ultrabasic intrusive magmas and xenoliths. These ultrabasic magmas originate from depths of in excess of 150 km, and are emplaced during explosive volcanism. Xenoliths in kimberlites and lamproites are fragments of wall rock adjacent to the intrusion that have broken off and have been incorporated into the magma as it works its way along fractures or cracks to the surface. Diamonds are believed to be formed at depth under extremes of temperature and pressure prior to the intrusion of the kimberlite. The diamonds are not genetically related to the magma. Not all kimberlites contain diamonds. Diamonds or diamond-bearing xenoliths are only transported to the surface by kimberlite magmas.

The kimberlite when it picks up fragments of wall rock at depth effectively samples deep crustal formations. If the sampled formations are within the diamond stability field, the kimberlite may successfully carry the diamonds to the surface if the pressure/temperature conditions of the magma remain within the diamond stability field during transport. The occurrence of diamonds at surface is also controlled by the diamond grade of the pre-existing diamond bearing host rock at depth, the transport efficiency in bringing it to the surface and diamond preservation during transport.

The occurrence of kimberlites appears largely confined to regions of continental crust that are Archean cratons. A craton is part of the earth's crust that has attained relative stability and has undergone little deformation over the last 1.5GA (1.5 billion years ago). Craton includes both the exposed shield areas like the Canadian Shield and adjacent sedimentary platform areas covered with generally flat lying sediments and occasional minor volcanics. These platforms are covered extensions of the shield.

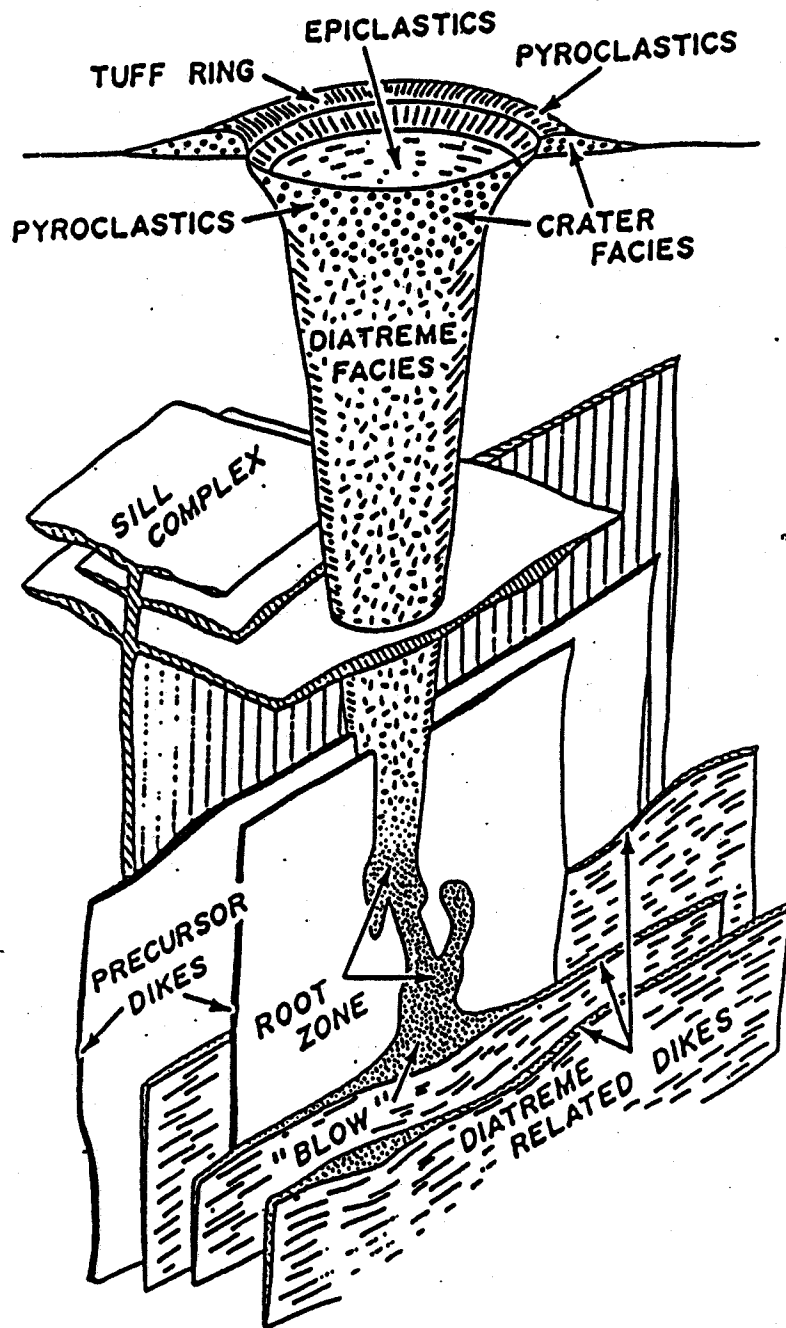
Cratons are the nuclei of all continents. Most present day continents are made up of more than one sub-craton which usually have different ages of formation resulting in composite aged cratons. In Western Canada these sub-cratons were accreted to the shield area during Proterozoic collisions resulting from continental drift. These collisions involved juvenile magmatic arcs, extensively deformed and reworked passive margins and other Archean sub-cratonic areas.

Suture lines of these sub-cratonic areas can be traced through Phanerozoic cover sediments by discrete gravity and magnetic signatures. Much of the Western Canadian Shield is overlain by sedimentary rocks of the interior platform which largely obscured the cratonic make-up. Recent compilation of gravity, magnetic, age dating of oil well drill core and remote sensing data has started to better define the cratonic make-up of Western Canada. This has specific important applications in diamond exploration.

Diamond bearing kimberlites and lamproites occur primarily on Archean cratons where deep mantle roots or keels have not been subjected to pressure/temperatures in excess of the diamond stability field. Diamond preservation requires a relatively low density and low temperature mantle root. Off craton kimberlites, where roots have never existed or never were intersected or where they were eroded prior to kimberlite emplacement, will have low to nil diamond content. The age, thickness of craton and cratonic make-up of an area therefore have a major control on the occurrence of economic grades of diamonds in kimberlites located there.

Kimberlite pipes are vertical carrot-shaped intrusions as shown in Drawing A95-041-06. In this idealized kimberlite model, all facies rocks are shown, however individual kimberlites may be eroded or otherwise deformed. The pipes may also have multiple phases of intrusion and post-intrusive dikes. The pipes usually intrude along pre-existing zones of weakness and may be localized by structural intersections.

Typically kimberlites occur in clusters of 6 to 50 pipes which can cover an area of up to 50 km. in diameter. They have never been found in isolation. Pipes may or may not carry diamonds and of those that carry diamonds only a few will be economic, perhaps 1 in 30. Some clusters are totally barren, because of their tectonic position. Several clusters of pipes may occur within one craton separated by several hundred kilometres. Diamonds in most kimberlites generally tend to be evenly distributed though the upper portion of a pipe. Distribution is less homogeneous at depth.



Model of an idealised kimberlite magmatic system, illustrating the relationship between crater, diatreme, and hypabyssal facies rocks (not to scale). Hypabyssal facies rocks include sills, dykes, root zone and "blow".

(Reproduced from G.S.C. Open File # 2124.)

The determination of the value or grade of a kimberlite is complex. The value will vary according to the ratio of gem quality diamonds (high value) to other grades of stones (low value). Value is therefore a combination of grade, generally stated in carats per 100 tonnes, and average value per carat. Average South African and Siberian gem quality stones range in value from US\$50 to US\$120 per carat, while exceptional quality stones have been sold for over US\$25,000 per carat at auction. Industrial grade stones average about US\$1 per carat. Typical South African Mine grades range from 10 to several hundred carats per hundred tonnes with a range of gem content of 15 to 50%.

The kimberlite mineral assemblage consists of olivine, Mg-ilmenite (picro-ilmenite), chrome diopside, enstatite, titanium-poor phlogopite, spinels, perovskite, apatite, monticellite, calcite and serpentine. Hand specimens range from green to blue in colour and resemble concrete. Samples can be very soft. Diopside and garnets usually stand out in this nondescript rock. Classical kimberlite weathers to an ochre yellow to medium brown. The upper crater facies may resemble a sandstone and contain brecciated material. Microscopic mineral analysis is usually required to confirm the kimberlitic source of any sample.

The particular mineral assemblages of kimberlites provide a heavy mineral signature in the secondary environment that can be used to locate kimberlites. Heavy mineral sampling of overburden relies on identifying stable to semi-stable indicator minerals. These minerals include pyrope garnets, spinels, picro-ilmenite and chrome diopside. These indicator minerals may also be used to assess the diamond potential of the source. Research has established criteria for comparing the chemical composition of these indicator minerals with inclusions within diamonds themselves from productive pipes and other standards. The identification of garnets and chromites of specific compositions is also an important diamond indicator. These indicators yield data to determine if the kimberlitic magma sampled diamond bearing units, how well diamonds were preserved during transport and how efficiently the diamonds were transported to the surface.

2.2 Diamond Exploration Technology

Diamond exploration in Canada is still in the early stages of development. With the several Canadian discoveries, information will be more widely disseminated, weakening De Beers edge in diamond exploration technology. Recent discoveries have widened the knowledge and experience of home grown geologists. The activity of juniors who are required to make more timely disclosure of their results, will put more of the exploration results in the public domain.

Diamond-bearing kimberlites appear restricted to thick stable Archean cratons. The principal reason for this restriction is the pressure/temperature constraints of the diamond stability field where the diamondiferous rock at depth must remain relatively cool through time until transported to surface by a kimberlite or other related event. Archean shield areas

represent just such cool thick crust areas. Crustal areas affected by hot igneous events such as the Mackenzie igneous event may cause prospective terranes like the northern Slave to be heated beyond the diamond stability field and to be without diamonds. The southern Slave with its Mackenzie dikes is still within the diamond stability field because the dike intruded laterally, probably entirely within the brittle upper part of the crust, leaving the diamondiferous crustal roots preserved.

The evolution of the large scale tectonic picture now indicates that large areas of Western Canada covered by Phanerozoic Basin are of Archean age and therefore prospective for the occurrence of diamonds.

A classical diamond exploration program in Canada would focus on the collection of heavy minerals for the identification of the indicator minerals (chromites, High-Cr garnets, ilmenite, High-Cr clinopyroxene and Low-Cr clinopyroxene). Specific compositions of these minerals are known to occur only in kimberlites. Some pyrope garnets are considered direct indicators of diamondiferous kimberlites. These indicators would normally be traced in overburden to a bedrock source. It is, however, sometimes possible to evaluate the source before its discovery by the geochemistry of these indicator minerals. For this reason, heavy mineral sampling is the preferred exploration tool. This procedure is a slow process.

In areas of glaciation, where ice direction is not well understood or where multiple till sheets exist, the exact location of the source of the indicator heavy minerals may not be found without additional work. Programs such as airborne geophysics, remote sensing, ground geophysics and drilling may help in locating the diamondiferous source. Once a prospective region has been identified, analysis of the structural framework may suggest potential areas for closer examination. This examination could consist of the study of Landsat imagery, aerial photography, industry activity, available geological data and geophysical data.

3.0 Recent Activity in Northern Alberta

Diamond Exploration activity in Northern Alberta has been focused on the Peace River Diamond Play, which surrounds the town of Peace River Alberta, 350 km. (220 miles) north of Edmonton. Monopros has held ground in the area since 1990 and has been carrying out an exploration program of airborne and ground geophysics, heavy minerals sampling and drilling. Monopros has located a portable processing plant in Grande Prairie to process samples both from Peace River and Lac De Gras. Monopros has released no results from these programs.

Monopros original holdings in the Peace River area consist of two large blocks north and south of Peace River. The two blocks cover 650,000 hectares (1,600,000 acres). Monopros at the time of acquisition would have had to post a \$6,500,000.00 bond. This bonding requirement is no longer required, making land acquisition much easier.

Monopros has been very quiet about their activity in this area. Prior to August 1992 no other companies were active in this area, however in August, Consolidated Carina Resources Ltd., Ridgeway Petroleum Corp. and several other companies acquired ground in the area on the basis of area geology, magnetics, gravity, satellite imagery and geochronology of Precambrian basement rocks.

In December 1992 with further positive results in the Lac De Gras play in the N.W.T., interest spilled over into Alberta partly based on the recognition of Archean craton. Numerous companies staked large tracts of land on speculation alone. At that time the author was compiling data on an old reported diamond discovery near High Level. Nine permit applications were filed during the early part of the staking rush to cover the general area of the reported find and interesting geophysical targets near Mount Watt.

Subsequent to the rush, many companies found themselves land rich but cash poor. Only a small number of these companies carried out field programs. Several companies (Carina/Curie Rose, TUL Petroleum and Ultrasonic Industrial Sciences) conducted regional heavy mineral sampling of their properties near the town of Peace River. Carina/Curie Rose sampled two oil wells near Carmon Lake (Hawkins, 1993) and discovered pyrope garnets and chrome diopsides in a buried channel. Carina/Curie also completed ground magnetometer surveys on two targets near Harmon Valley and Northstar (Hawkins, 1995). TUL Petroleum conducted ground geophysics on one target in the Whitemud Hills Area. Ridgeway Petroleum carried out an airborne survey over their block north and east of Peace River and drilled several geophysical targets early in 1995. Ridgeway drilling failed to intersect any clearly kimberlitic material. One hole intersected tuffaceous material similar to distal facies kimberlite.

In late 1994 Monopros dropped the greater portion of their holdings in the Peace River Area retaining only one block near Mountain Lake (Twp74 R23 W5) where they carried out drill programs in the winters of 1993 & 1994. In dropping their other permits, Monopros was relieved from disclosing their past drill and other exploration results on their large holdings.

The diamond play has therefore never been fully explored because of the lack of an announced discovery. Interest by other stake holders has been waning with the lack of any significant positive results. In spite of this, we carried out between 1992 and 1995 a modest program of regional studies (prospecting, mapping, data compilation), heavy mineral sampling and microprobe analysis on the Mount Watt Project.

3.1 Peace River Model

The Peace River Diamond Play is based on the application of a conceptual model developed by a number of workers (Clifford, 1970; Janse, 1991; Kirkley et al, 1991; and Helmstaedt & Gurney, 1991.). The model is based on the identification of where diamonds are formed (at depth in Archean Crust), preserved (thick and cool crust), the mechanism that transports them to surface (kimberlites) and the conduits they follow (faults). The practical application of this model in northern Alberta led to the development of the Peace River Diamond Play.

The Peace River and the High Level Areas (Buffalo Head and Chinchaga sub-cratons) are suggested to be underlain by Archean Crust (Theriault & Ross, 1991) which likely represents an Archean Mantle Root which should be within the diamond stability field. Reactivation of Archean and Proterozoic faults in the area has disturbed the thick accumulation of sedimentary units developing the conduits for kimberlite/lamproite intrusions to follow.

The bedrock surface lithology within the property area is Upper Cretaceous in age. The potential kimberlitic intrusives are thought to be Cretaceous in age, comparable to those reported in Saskatchewan (Gent, 1992) and therefore the kimberlites should be exposed close to the current bedrock surface under the overburden.

The drainage pattern present in the area appears to be a reflection of underlying structure. The deep structures propagate through the thick sedimentary sequence by repeated reactivation. The application of remote sensing techniques such as: satellite imagery, airborne geophysics and gravity (Rheault et al, 1991) assists in defining the regional structural framework.

In the High Level area and the property area specifically, major structures appear oriented NE, E-W, NW and WNW. Kimberlites or lamproites may intrude along these structures and could have been localized at fault intersections.

A number of high gradient (pipe-like) magnetic features occur in close proximity to major basement structures which propagate through the thick sedimentary sequence of the property area and appear localized by fault intersection.

The High Level area lies 285 km. north of Peace River within the same prospective sub-craton and geological setting. The above factors, when applied to the conceptual model define a large previously unpublicized grassroots diamond play of merit which extends from Peace River north to High Level and beyond. The unconfirmed report of the recovery of diamonds from placer gold concentrates at Mount Watt suggests that kimberlites may be present in the area and highlight the potential of the property area.

3.2 Prospector's Discovery

In 1988 a prospector (Cumiski, 1988) had reported to the author the recovery of fine placer gold, diamonds and other precious stones from a prospecting trip by an associate into the Mount Watt area of Northern Alberta. At that time (Aug. 1988) no follow-up was conducted based on the decline of industry interest in placer gold, lack of serious interest in diamonds and the cost prohibitive nature of mineral exploration regulations in Alberta at that time.

In early December 1992, with the expanding of the diamond staking rush into Alberta, the initial report was reviewed with the prospector (Cumiski, 1992) in light of recent developments near Peace River and the current understanding of the diamond exploration model. Data compilation was initiated to assess the potential of the Mount Watt area, however on December 9, 1992 the staking of several large blocks extended the Peace River Diamond Play to High Level which was just south of the reported discovery.

It was apparent on December 9, 1992 that a land position had to be acquired shortly to prevent the loss of the prospect even before the prospect had been fully worked up. Nine permit applications were made on December 11 and 14. Shortly thereafter the property was completely surrounded by other stakers.

Cumiski's associate was an experienced oil field geologist who was also involved in placer gold prospecting in his spare time. During a trip into the High Level area around 1977, the associate had recovered fine placer gold, diamonds and other precious stones from sluicing clay bank material from a stream on the north east side of Mount Watt near Hutch Lake. The heavy mineral concentrate recovered from the sluice contained diamond indicator minerals such as chrome diopside and garnets which are gem stones in their own right.

This unconfirmed report of the recovery of diamonds is highly speculative and requires confirmation. It is reported here as one of the basis on which the Mount Watt Diamond prospect was developed. The recovered diamonds or other precious stones have not been seen by the author but the source of the information is believed reliable.

3.3 Mount Watt Geology

No detailed geological mapping has been reported in the public domain for the High Level area, although oil companies active in the property area may have proprietary data available. The best mapping available is at a scale of 1:500,000 (Green et al., 1970). This mapping is compiled on a larger scale on Drawing A95-041-04.

The bedrock geology of the High Level area is largely flat bedded Cretaceous age sandstone and shales which overlie upper Devonian limestones, dolomites, shales and evaporites. This Phanerozoic sedimentary package overlies the accretational boundary

between the Buffalo Head and Chinchaga sub-cratons. Cores taken from oil wells drilled to basement in the property area intersected granite porphyry and quartz monzonite (Ross et al, 1989). Cretaceous rocks in the area are poorly consolidated and bentonitic in character, consequently slumping is common in steep sloped areas (Bayrock, 1959). Mount Watt appears as an anomalous erosional remnant which rises 2000ft. above the lowland plains.

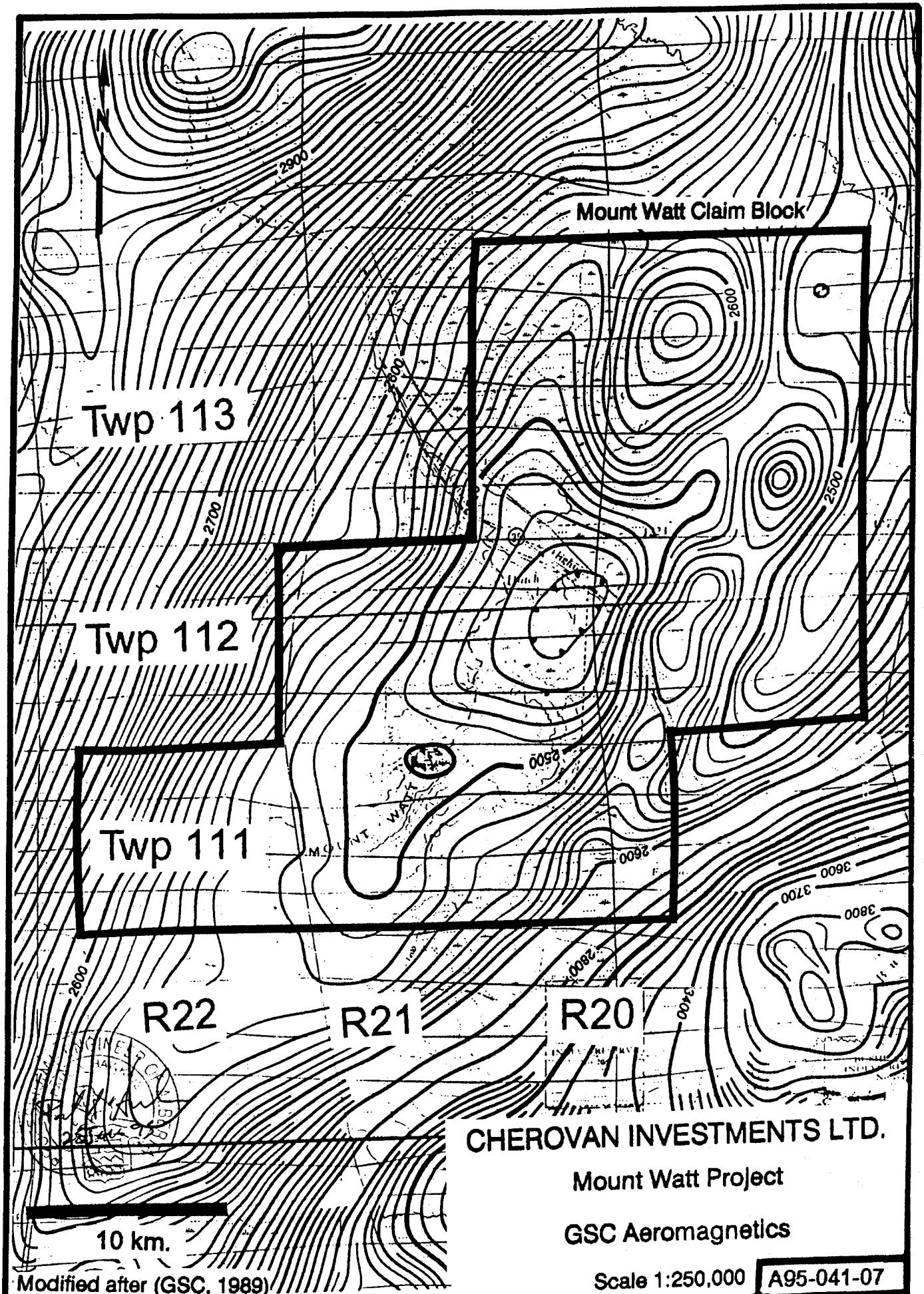
The last glaciation appears to have removed very little bedrock and the general topography of the area prior to glaciation is the same as it is today (Bayrock, 1959). Multiple periods of glaciation are apparent in the area although no detailed studies have been undertaken. Ice flow direction was WSW from the Keewatin centre of glaciation. Glacial retreat was mainly by stagnation as indicated by absence of terminal and other ice marginal features. Dead ice moraine of low to medium relief forms the surface or underlies lacustrine sediments (lake bottom) over most of the High Level area. During the ice retreat a series of glacial lakes formed, blanketing the area with lacustrine clays and silts. Beach deposits were also developed along some of the higher elevations (ie. Mount Watt).

Little structural information regarding the area is in the public domain. Some deformation is evident but not fully understood. On a regional scale the NE trend predominates with other features at NW, EW and N-S orientations. The NE trend parallels the sub-cratonic boundary. Other features appear to be also a reflection of deep cross-cutting basement structures. The sediments, although on a regional scale are relatively flat, are still deformed on a local property level scale. Some of this deformation could be due to intrusion of possible kimberlites along pre-existing deep penetrating structures.

3.4 Regional Aeromagnetics

Available public domain aeromagnetics were flown for Imperial Oil between 1950 and 1953. The GSC published these surveys in 1989 (GSC, 1989). Aeromagnetics for the property area are shown on Drawing A95-186-07.

Several magnetic highs of 20-100 gammas and several modest lows occurred on the original property. The anomalies appear to be oriented along NNE trends which intersect the NE trending cratonic boundary at an acute angle. These positive anomalies given the type of data and processing carried out, appear to be bedrock features which could be intrusives. The group which crosses Highway #35 south of Hutch Lake may represent a dike trend group of anomalies. The magnetic low on the top of Mount Watt appears similar to other circular magnetic features associated with kimberlite pipes in Saskatchewan and Lac de Gras. Others are more isolated pipe-like anomalies but still occur along structural trends. The most prospective anomaly was the low on the top of Mount Watt and as such was retained.



Mount Watt Claim Block

Twp 113

Twp 112

Twp 111

R22

R21

R20

10 km.

Modified after (GSC, 1989)

CHEROVAN INVESTMENTS LTD.

Mount Watt Project

GSC Aeromagnetics

Scale 1:250,000 **A95-041-07**

These pipe-like anomaly responses are similar in character to those associated with other diamondiferous kimberlites at Fort a La Come, Saskatchewan, where similar vintage and quality aeromagnetics have been flown. As was the case in Saskatchewan, low level aeromagnetics will be required to define these anomalies.

3.5 Regional Heavy Mineral Sampling

Reconnaissance Heavy Mineral Surveys conducted as part of the Canada MDA program (Fenton et al, 1994) located a G-3 eclogitic garnet with excellent FeO-MgO chemistry from a site 25 km. north of Mount Watt. A number of G-5 eclogitic garnets were also recovered at this site and in adjacent sites. Results from the MDA program indicated that further follow-up was required to assess the discovery of the G-3 garnet. This recommended follow-up is independent of previous reports which were the basis for the acquisition of the original property.

3.6 Summary

The original 9 permits of the property cover several pipe-like aeromagnetic anomalies in the Northern Alberta Diamond Play. The permits are located on the boundary margin of the Buffalo Head and Chinchaga Sub-cratons which are believed to be underlain with fragments of Archean Crust. The reduced 2 permits cover one of the circular magnetic features at the top of Mount Watt. The High Level area is a region of cratonic uplift in Northern Alberta. Within this area, Archean basement features overprint the Cretaceous age rocks and influence the development of structural and sedimentary features. These structural features or faults are believed to be the pre-existing conduits for kimberlitic intrusion at the close of the Cretaceous.

Kimberlite pipes typically occur in clusters of six to fifty or more in number. An area may contain several clusters as seen in the Fort a La Come Area in Saskatchewan. Several clusters of pipes may occur within one craton separated by several hundred kilometres. This may be the case also in northern Alberta. The Mount Watt Project represents an good land position near significant major fault intersections near pipe type magnetic features. The property area is road accessible and exploration will be cost-effective compared with more remote locations.

The presence of a nearby sample site with a G-3 garnet of excellent FeO-MgO geochemistry and several G-5 in adjacent areas combined with the structural setting and magnetic signature define a grassroots diamond property of interest.

4.0 1993-94 Exploration Program

The original planned three phase program recommended in the original qualifying report (Hawkins, 1993b) for Alberta Stock Exchange listing was only partially carried out. Phase I was to have consisted of a data compilation, Phase II of Regional heavy mineral sample collection and a Phase III low level airborne survey. Only limited parts of Phase I and II were carried out because of the decline in the market of interest in funding grass roots diamond exploration in Alberta without any major discovery.

Exploration work carried out included compilation of existing public domain mapping, geophysical data and satellite imagery (Phase I). A short property examination was also undertaken which included the taking of 5 heavy mineral samples from off the Mount Watt Lookout access road (Phase II). Sample sites are located on Drawing A95-041-09. The geological section of the area was also examined. The heavy mineral samples were shipped to Saskatchewan Research Council (SRC) in Saskatoon and the 18 indicator mineral grains recovered were probed at Canmet in Ottawa.

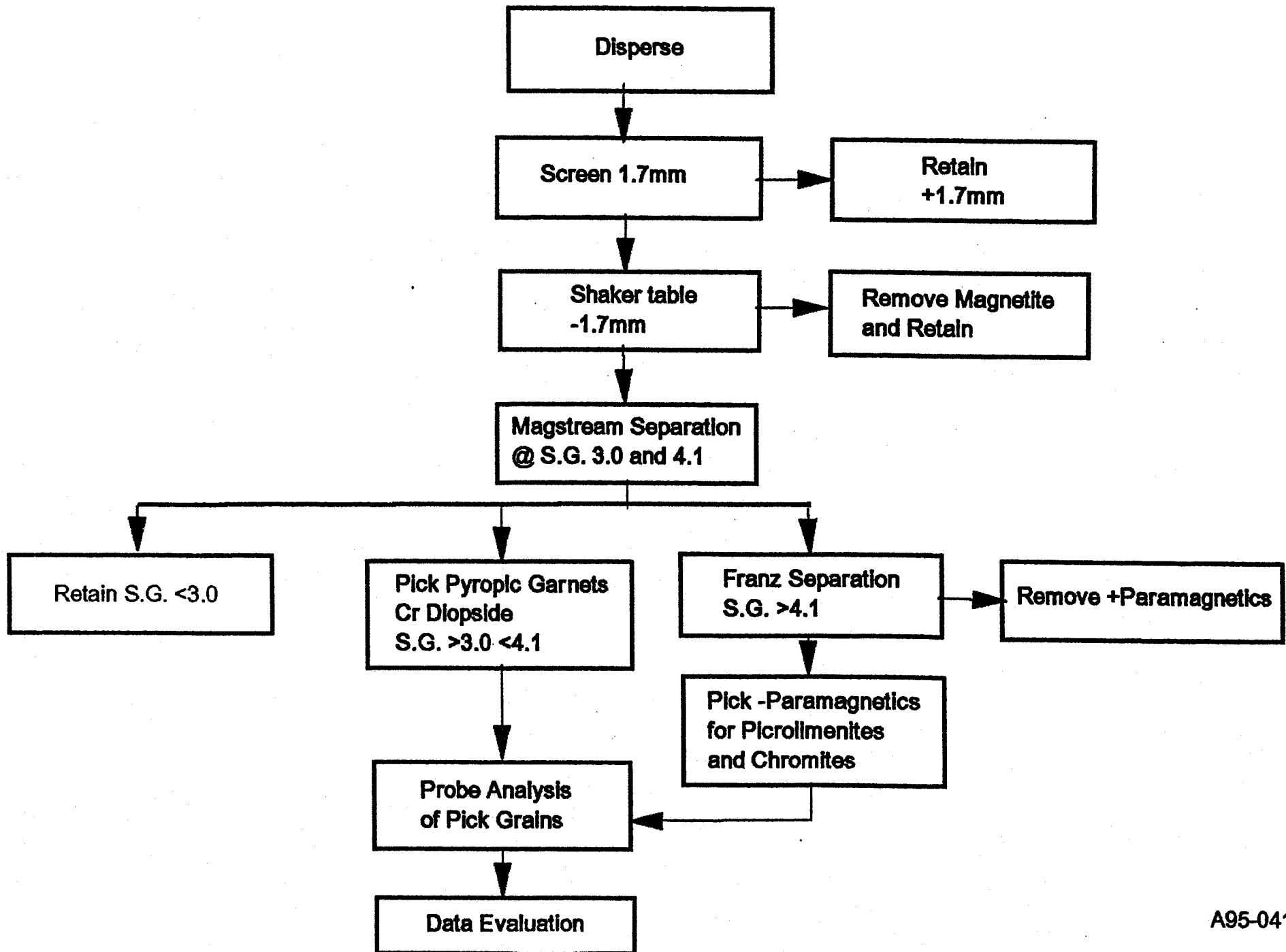
4.1 Sample Processing

At the sample sites the samples were placed into sealed 25 litre plastic pails. No screening was attempted on site due to lack of water. During sample collection brief notes were taken on sample material, grain size, sorting and roundness. Samples were processed at the Saskatchewan Research Council (SRC) as per flow sheet shown on Drawing A95-041-09.

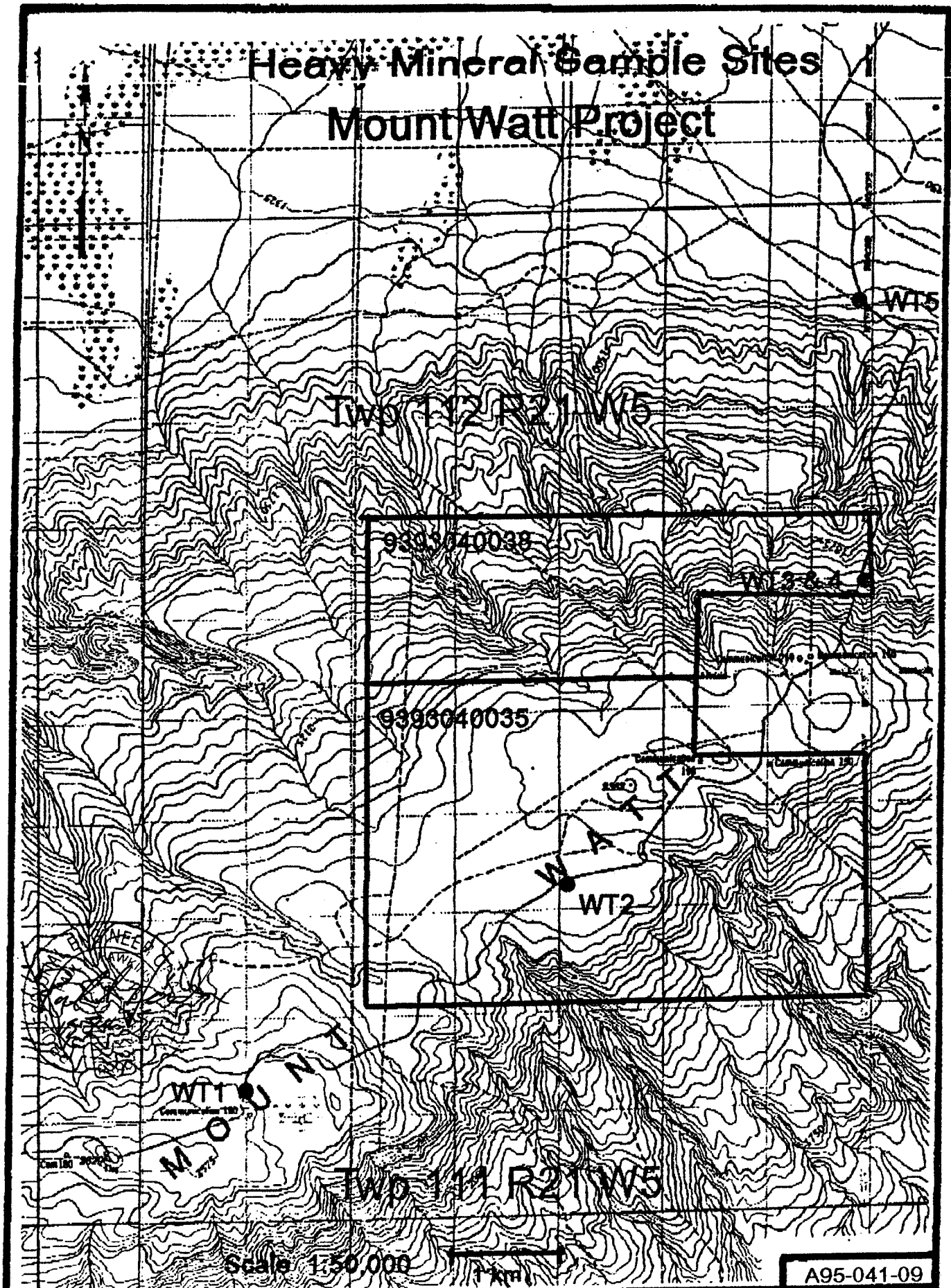
Samples were processed at SRC following their standard process developed by SRC (Holsten, 1992) in co-operation with Dr. Vlad Sopuck from Cameco. Samples were disaggregated in a cement mixer with the aid of a sodium metaphosphate (calgon) solution. The disaggregated material was screened to 10 mesh to remove the >1.7 mm fraction which was washed and weighed. Samples contained a significant variation in coarse versus fine between samples. The -1.7 mm fraction was passed repeatedly over a shaker table to obtain a large pre-concentrate. The pre-concentrate was then passed through a Magstream™ Separator to obtain concentrates at S.G. <3.0, S.G. >3.0 <4.1 and S.G. >4.1. The middle fraction was picked for pyrope garnets and chrome diopsides. The heavies were passed through a Franz Separator and a strongly paramagnetic fraction was removed before picking for micro-ilmenites and chromites.

All selected grains were mounted in cylindrical epoxy mounts and polished using a diamond paste. Maps recorded the sample number and identification number of each grain.

Semi-quantitative chemical analyses of grains were carried out in the CANMET laboratories in Ottawa, using a JEOL 8900 electron microprobe operating at 20 kV and 40 Na using standard procedures.



Heavy Mineral Sample Sites Mount Watt Project



Scale 1:50,000

A95-041-09

4.2 Indicator Mineral Geochemistry

The five heavy mineral samples were collected from along the Mount Watt Lookout Road as shown on Drawing A95-041-09. Samples were dug by hand and taken at a depth of between 0.3 and 0.75 m. Samples were not screened at the sites but large boulders were removed by hand. Sample weights are shown below in Table 3.

Table 3.

Sample Weights

Sample #	Sample Weight (Kg.)	+1.7 mm. (Kg.)	Mid Fraction (gm.)	Heavy Fraction (gm.)
WT1	25.05	1.20	1.36	2.53
WT2	24.60	.65	.59	1.96
WT3	22.85	.45	.27	1.10
WT4	24.30	.10	.08	.06
WT5	19.55	.10	.21	.23

Sample WT1 was taken at the top of Mount Watt about 1.5 km east of the fire lookout tower and consisted of light gray brown clayish gravel. The sample is a mixture of weathered Dunvegan and Shaftesbury Formation. Eight black opaque grains were selected from the sample as possible indicators. Microprobe results indicated that the grains consisted of 6 ilmenite, 1 hematite and amphibole. None of the ilmenites appear of interest. Microprobe results are shown below in Table 4.

Table 4.

Mount Watt Project

SRC Microprobe Results

Sample Number	Grain I.D.#	Mineral	TiO ₂	Cr ₂ O ₃	FeO	MgO	CaO	SiO ₂	Al ₂ O ₃	Na ₂ O	MnO	Total %	NiO %	ZnO %	K ₂ O %	V ₂ O ₃ %
			Wt. %	Wt. %	Wt. %	Wt. %	Wt. %	Wt. %	Wt. %	Wt. %	Wt. %					
WT1-1"	"1"	Ilmenite	63.221	0.006	44.649	0.109	0.000	0.000	0.007	0.000	2.462	101.241	0.000	0.057	0.000	0.740
WT1-2"	"2"	hematite	0.036	0.065	66.537	0.020	0.006	0.030	0.043	0.000	0.108	99.021	0.000	0.019	0.006	0.153
WT1-3"	"3"	CPX ??	2.644	0.005	19.502	8.326	11.188	40.566	10.662	1.507	0.196	96.766	0.000	0.024	1.896	0.036
WT1-4"	"4"	Ilmenite	63.441	0.010	45.695	0.189	0.000	0.000	0.004	0.004	1.294	101.662	0.017	0.006	0.000	0.702
WT1-5"	"5"	Ilmenite	62.042	0.000	47.541	0.081	0.000	0.000	0.000	0.011	0.823	101.230	0.000	0.011	0.000	0.721
WT1-6"	"6"	Ilmenite	53.312	0.015	45.045	0.103	0.002	0.000	0.018	0.000	2.421	101.660	0.024	0.012	0.007	0.701
WT1-7"	"7"	Ilmenite	53.860	0.043	44.836	0.117	0.002	0.014	0.019	0.002	2.394	102.015	0.000	0.000	0.000	0.728
WT1-8"	"8"	Ilmenite	51.863	0.006	47.812	0.196	0.000	0.002	0.007	0.000	0.340	101.147	0.000	0.052	0.003	0.864
WT2-1"	"9"	Ilmenite	58.664	0.009	32.721	0.266	0.000	0.822	0.607	0.000	0.410	94.471	0.000	0.000	0.030	0.861
WT2-2"	"10"	Ilmenite	52.524	0.000	46.749	0.424	0.000	0.000	0.008	0.005	0.152	100.668	0.000	0.022	0.002	0.762
WT3-1"	"11"	Ilmenite	51.449	0.000	45.944	0.020	0.008	0.007	0.000	0.006	2.000	100.359	0.009	0.236	0.008	0.672
WT3-2"	"12"	G-5	0.032	0.263	21.181	14.521	1.284	40.021	22.206	0.000	0.378	99.960	0.000	0.041	0.003	0.088
WT3-3"	"13"	Ilmenite	58.263	0.002	30.066	0.267	0.010	0.056	0.062	0.034	6.667	96.497	0.016	0.196	0.002	0.827
WT3-4"	"14"	G-5	0.021	0.047	26.942	8.890	1.800	36.922	21.436	0.000	0.612	99.796	0.000	0.022	0.004	0.000
WT3-5"	"15"	Ilmenite	51.601	0.006	48.159	0.118	0.000	0.002	0.000	0.003	0.634	101.206	0.000	0.036	0.005	0.745
WT3-6"	"16"	Hematite	0.101	0.009	67.797	0.030	0.000	0.000	0.074	0.009	0.104	86.376	0.000	0.013	0.002	0.149
WT3-7"	"17"	unknown	0.639	0.032	14.481	8.233	2.650	34.603	22.683	1.283	0.112	85.113	0.020	0.000	0.062	0.026
WT5-1"	"18"	Spinel-Mag	0.003	0.003	65.587	0.074	0.098	2.924	1.606	0.015	0.000	70.372	0.020	0.000	0.033	0.009

Sample WT2 was taken near the centre of the upper plateau of Mount Watt about 5.6 km. east of the fire lookout tower and consisted of red shale fragments in a light gray clay matrix. The shale fragments appear weathered and desegregate very easily. The concentrate produced two ilmenite grains of little interest.

Samples WT3 and WT4 were taken just below the top of the hill in a deep road cut about 10.7 km east of the fire lookout tower. Sample WT3 was a representative of the top 1 m. of the exposed section and consisted of red clay material. Sample WT4 was the lower 3 m. of the road cut and contained some coarser material likely reflecting bedrock. The site was clearly underlain by Shaftesbury Formation. The concentrate from WT3 yielded 2 G-5 garnets 3 ilmenites, 1 hematite and 1 unknown which because of its low total may be a weathered amphibole. Sample WT4 returned no indicators. Visually the garnets were classified as possible eclogitic garnets. Microprobe analysis suggests they are magnesian almandine garnets near G-5 in composition and may be derived from high pressure eclogitic source such as kimberlite. They are not considered diamond indicators but point to an eclogitic source.

Sample WT5 was taken at the break of slope of Mount Watt with the Meander River Valley some 14.3 km from the fire lookout tower and consisted of a gray clayey gravel which was likely a till. One spinel-magnetite grain was recovered from the heavy mineral concentrate and was not of interest.

4.3 Conclusions

The Northern Albert Diamond Play represents a significant unpublicized diamond play. The permits are located where extensive faulting has reactivated Archean and Proterozoic faults disturbing the thick accumulations of Devonian to Cretaceous strata. This major faulting down through the basement rocks is excellent ground preparation, providing the pre-existing conduits for the younger kimberlite intrusions to follow.

The Buffalo Head and Chinchaga Terranes are a complex region of crustal fragments where old deep mantle roots appear to have been preserved within the diamond stability field. Such a combination of deep crustal roots within the diamond stability field and structural conduits provides the suitable conditions for the generation of kimberlite magmas which could reach surface. These factors make the High Level area a prospective cratonic area to explore for diamonds in Western Canada.

The property is of merit and has all the right geology and correct tectonic setting for diamondiferous kimberlites to be present. The presence of G-3 and G-5 garnets near Mount Watt and an unconfirmed report of the recovery of diamonds adds to the merit of the play. The High Level area is a diamond play of merit which has been relatively unknown and offers significant potential for the discovery of diamondiferous kimberlite pipes.

4.4 Recommendations

A multi-stage exploration program is recommended to examine the diamond potential of the two permit areas. The initial phase of the recommended work program will involve the completion of data compilation and structural and remote sensing studies. A second phase of exploration will consist of the collection of regional heavy mineral stream sediment and till samples. Ground Magnetic and VLF-EM surveys should be completed over the more limited property area. Later phases will focus on specific areas of interest and the definition and drill testing of specific targets.

An extensive data base exists for the area which has been collected during petroleum exploration. Data such as well logs, well drill core/cuttings, seismic data, gravity, remote sensing and basement geochronology should be examined for the area. It is possible that an oil company could have drilled through an unrecognized kimberlite; -therefore close examination is required of all associated data. The phase one program consisting of data compilation will cost \$6,000.00.

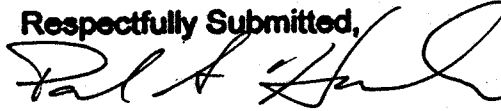
The second phase of exploration will aim to confirm the presence of diamond indicator minerals in the High Level Area. Stream sediment samples will be collected, followed by systematic sampling of glacial till for diamond indicator minerals. Ground geophysics will be used to define the permit areas. These surveys will serve as a guide for future

geophysical surveys and drilling. Ground geophysics (magnetometer and VLF-EM) will be used to define specific drill targets.

Detailed Heavy Mineral sampling will also be used to prioritize anomalies for later drilling. Positive results consisting of good indicator mineral assemblages and pipe-like magnetic anomalies lead to the third phase. The phase two program will likely require three months to complete and cost \$16,000.00.

The third phase of exploration on the property will consist of a combination of rotary and core drilling on selected targets. Subsequent bulk testing would also be required to fully assess any diamond discoveries made. This program will likely take three to six months. The drilling program should cost \$320,000.00.

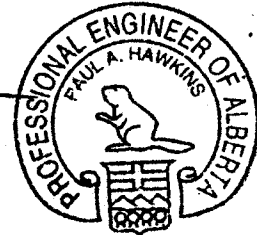
Respectfully Submitted,




Paul A. Hawkins, P.Eng.

Principal

Paul A. Hawkins & Associates Ltd.



July 10, 1995.

PERMIT TO PRACTICE
PAUL A. HAWKINS & ASSOCIATES LTD.
Signature 
Date <u>25 Jun 95</u>
PERMIT NUMBER: P 4521
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

Certification

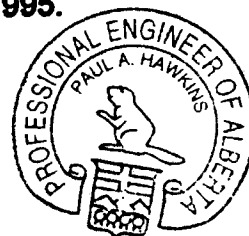
I, Paul A. Hawkins, of [REDACTED] in the City of Calgary, Province of Alberta, hereby certify:

1. That I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
2. That I am the Principal of the firm of Paul A. Hawkins & Associates Ltd. which holds Permit #P4521 to practice Engineering in Alberta.
3. That I am a graduate of Queen's University with a Bachelor of Science degree in Geological Engineering.
4. That I have worked continually as a practicing geological engineer for the past 18 years.
5. That I control a corporation that owns a 50% interest in the property.
6. That I do not have any direct or indirect interest in, nor do I beneficially own directly or indirectly, any securities of Cherovan Investments Ltd. or any of its associates or affiliates.
7. That I have visited the property area on August 28-29, 1993 and have prepared five other reports on the Diamond Potential of the Peace River Area, one for Cherovan Investments (Hawkins, 1993b) and four for other unrelated Clients (Hawkins, 1992a,b & 1993a).
8. That I am familiar with the geology of diamonds and the area geology and mineral potential.
10. That I hereby consent to the publication of this report or parts thereof in a Statement of Material Facts or publication of this report in its entirety for the propose of raising funds to finance my recommendations.

Dated at Calgary, Alberta this 10th day of July , 1995.

Paul A. Hawkins

Paul A. Hawkins, P.Eng.
Principal
Paul A. Hawkins & Associates Ltd.



Statement of Exploration Expenditures**Mount Watt Property**

Professional Services	
Project Planning, Data Analysis, Report	\$ 6,790.76
Ground Follow-up, Sample Collection	\$ 1,155.00
Drafting	\$ 374.00
Field and Laboratory Expenses	
Laboratory (GRC)	\$ 1,405.00
Travel	\$ 558.84
Subsistence	\$ 161.60
Field Expenses	\$ 139.95
Freight	\$ 66.85
Maps & Airphotos	\$ 280.00
Computer	\$ 100.00
Reproduction	\$ 199.40
Total	\$11,231.40 =====

Schedule "A"

Permit #9393040035

Retain only

5-21-111: 25-27; 34-35; 36S, NP
portions lying outside the Mount Watt Proposed Natural Area
with an area of 1471.25 Hectares.

Permit #9393040038


Retain only

5-21-112: 1N, SW, SEP; 2-3
portions lying outside the Mount Watt Proposed Natural Area
with an area of 745.743 Hectares.

The following Permits are hereby surrendered:

9393040034
9393040036
9393040037
9393040039
9393040040
9393040041
9393040086

Requested By: 


Paul A. Hawkins
President
Paul A. Hawkins & Associates Ltd.

Statement of Exploration Expenditures

Mount Watt Property

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Total	\$11,231.40
	=====


Expenditure Application

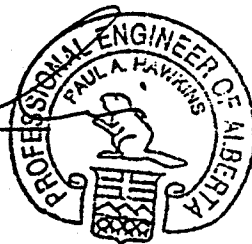
Permit #	hectares	Required Work	Surplus
9393040035	1471.25	\$ 7,356.25	\$ 146.43
9393040038	745.743	\$ 3,728.72	\$ 0.00

I, Paul A. Hawkins of the City of Calgary, in the Province of Alberta do hereby certify that the above expenditures were incurred in conducting assessment work on Metallic and Industrial Minerals Permits held by Paul A. Hawkins & Associates Ltd. under the terms of the Metallic and Industrial Minerals Regulation.

I further Certify:

1. That I have personal and intimate knowledge of the above mentioned facts.
2. That these facts are true.

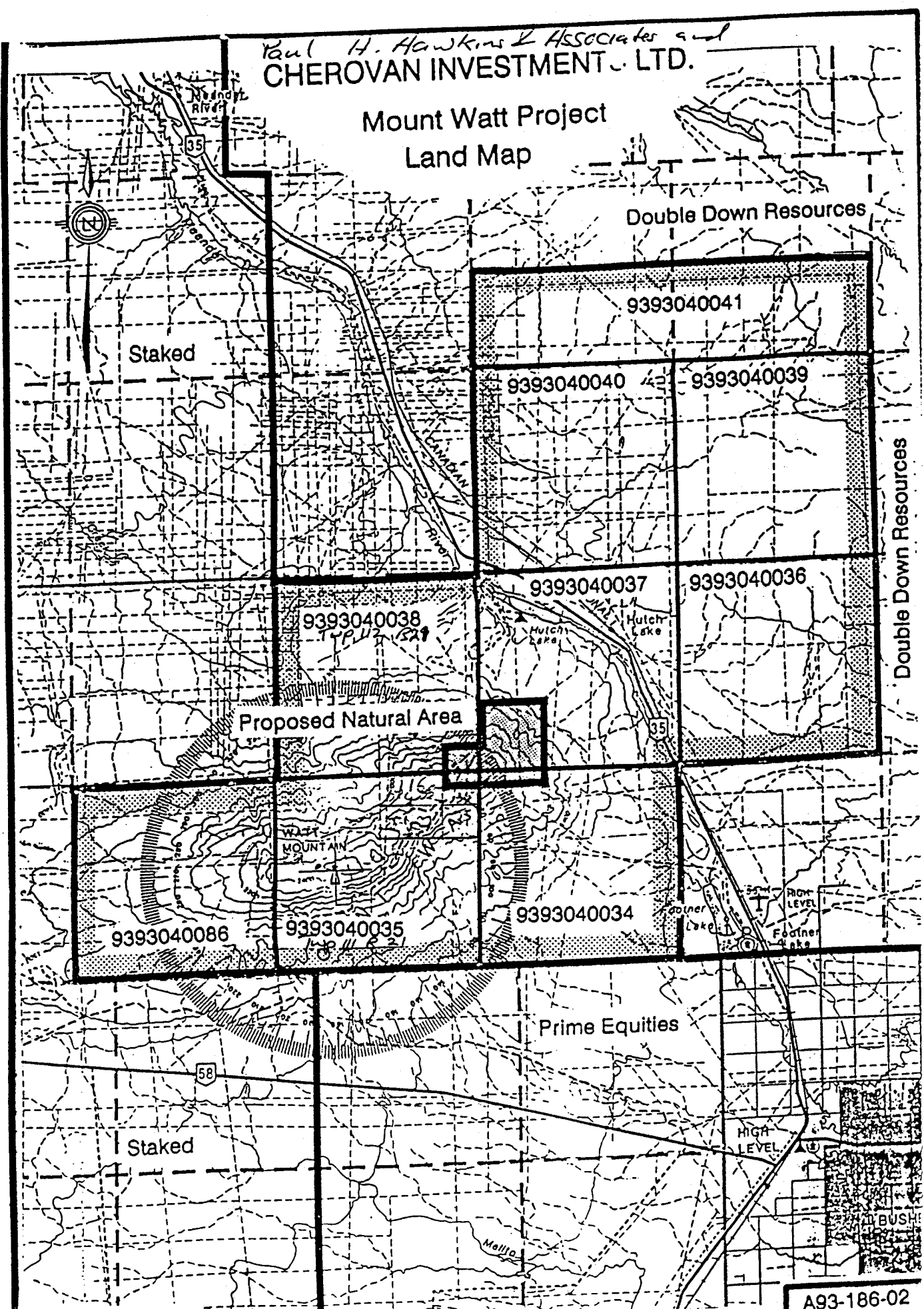

Paul A. Hawkins, P.Eng



June 29, 1995.

Paul H. Hawkins & Associates and
CHEROVAN INVESTMENT LTD.

Mount Watt Project Land Map



Scale 1:250,000

A93-186-02

Certification

I, Paul A. Hawkins, of [REDACTED] in the City of Calgary, Province of Alberta, hereby certify:

1. That I am a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
2. That I am the Principal of the firm of Paul A. Hawkins & Associates Ltd. which holds Permit #P4521 to practice Engineering in Alberta.
3. That I am a graduate of Queen's University with a Bachelor of Science degree in Geological Engineering.
4. That I have worked continually as a practicing geological engineer for the past 18 years.
5. That I control a corporation that owns a 50% interest in the property.
6. That I do not have any direct or indirect interest in, nor do I beneficially own directly or indirectly, any securities of Cherovan Investments Ltd. or any of its associates or affiliates.
7. That I have visited the property area on August 28-29, 1993 and have prepared five other reports on the Diamond Potential of the Peace River Area, one for Cherovan Investments (Hawkins, 1993b) and four for other unrelated Clients (Hawkins, 1992a,b & 1993a).
8. That I am familiar with the geology of diamonds and the area geology and mineral potential.
10. That I hereby consent to the publication of this report or parts thereof in a Statement of Material Facts or publication of this report in its entirety for the propose of raising funds to finance my recommendations.

Dated at Calgary, Alberta this 10th day of July , 1995.

Paul A. Hawkins, P.Eng.
Principal
Paul A. Hawkins & Associates Ltd.

References

Alberta, 6/93

Alberta Regulation, Mines and Minerals Act, Metallic and Industrial Minerals Regulation, Queen's Printer for Alberta

Alberta Energy, 1992

Ministerial Order of December 1, 1992 waiving bonding requirement until February 1, 1993.

Alberta Transportation and Utilities, 1991

1991/1992 Alberta Highway Map and Weight Guide Scale 1:1,500,000

Bayrock, L.A., 1959

Surficial Geology, Appendix, in Lindsay, J.D., Pawluk, S., and Odymsky, W., Exploratory Soil Survey of Alberta, Map Sheets 84J, 84K and 84L, Preliminary Soil Survey Report 60-1, Alberta Research Council

Clifford, T.N., 1970

The structural framework of Africa. In T.N. Clifford and T. G. Gass, Eds., African Magmatism and Tectonics, Oliver and Boyd, Edinburgh, pp.1-26.

Cumiski, O., 1988

Personal Communication, August 1, 1988.

Cumiski, O., 1992

Personal Communication, December, 1992.

Gent, M.R., 1992

Diamonds and precious gems of the Phanerozoic Basin, Saskatchewan: Preliminary investigations; Sask. Energy Mines, Open File Rep. 92-2, 67p.

Geological Survey of Canada, 1989

Aeromagnetic total field, Mount Watt, Alberta; Geological Survey of Canada, Map 7791G, Scale 1:250,000

Geological Survey of Canada, 1990

GSC Open File #2124, The Development of Advanced Technology to Distinguish Between Productive Diamondiferous and Barren Diatremes, Vol. 1-5, 1250 pages

Green, R., 1972

Geological Map of Alberta, Alberta Research Council, Map No. 35, Scale 1:1,267,000

- Green, R., Carrigy, M.A. and Melton, G.B., 1970**
Bedrock geology of Northern Alberta, Map #24, Alberta Research Council
- Fenton, M.M., Pawlowicz, J.G. and Dufresne, M.B., 1994**
Reconnaissance Mineral and Geochemical Survey with Emphasis on Northern Alberta, Report for the Second End Fiscal Year 1993-94, Year 2 of a 3 Year Project, MDA Project Number: M92-04-006, Alberta Research Council, Open File Report: 1994-21
- Hawkins, P.A., 1992a**
The Diamond Potential of Western Canada, Summary Report, for Consolidated Carina Resources Corp.. September 30, 1992, Report # 92-178-R1
- Hawkins, P.A., 1992b**
A Summary Report On Consolidated Carina Resources Corp.'s Peace River Area Metallic Minerals Permits, October 30, 1992, Report # 92-179
- Hawkins, P.A., 1992c**
A Summary report on Golden Ring Resources Ltd.'s Peace River Area Metallic Minerals Permits, December 30, 1992, Report #92-188
- Hawkins, P.A., 1993a**
A Summary Report on Double Down's Resources Ltd.'s Hay River Project, January 13, 1993., Report #93-189
- Hawkins, P.A., 1993b**
A Summary Report on Cherovan Investments Peace River Area Metallic Minerals Permits, January 18, 1993., Report #93-182
- Hawkins, P.A., 1993c**
A Exploration Report on Consolidated Carina Corp. & Currie Rose Resources Ltd. Carmon Lake Drilling, Twp85 R18 S17 W5, December 31, 1993. Report #93-185-R1
- Hawkins, P.A., 1994**
Indicator Mineral Geochemistry in the Peace River Diamond Play, Calgary Mining Forum, Calgary Mineral Exploration Group Society, February 11, 1994.
- Hawkins, P.A., 1995**
1994 Exploration Report on Consolidated Carina Resources Corp. & Currie Rose Resources Ltd. Peace River Diamond Project, March 12, 1995., Report #95-191

- Helmstaedt, H.H. and Gurney, J.J., 1991**
 Geotectonic controls of the formation of diamonds and their kimberlitic and lamproitic host rocks: Applications to diamond exploration. in H.O.A. Meyer and O.H. Leonardos, Eds., Proceedings of the Fifth International Kimberlite Conference, Araxa, Basil, 1991, Comphania de Pesquisa de Resursos Minerals, Brasil (in press)
- Hudson, B.R., 1992**
 Personal Communication, Manager, Mineral Agreements, Alberta Energy / Mineral Resources Division, Resource Agreements Branch, December 28, 1992.
- Janse, A.J.A., 1991**
 Is Clifford's Rule still valid? Affirmative examples from around the world. (Extended Abst.-5th Int. Kimb. Conf. CPRM Spec. Publ. 2/91, Brasilia, pp.196-198.
- Kirkley, M.B., Gurney, J.J. and Levinson, A.A., 1991**
 Age, Origin, and Emplacement of Diamonds: Scientific, Advances in the Last Decade, Gems & Gemology, Gemological Institute of America, Spring 1991, V.27, No. 1, pp. 2-25
- Pilkington, M., Grieve, R.A.F., Rupert, J.D., and Halpenny, J.F.**
 1992, Horizontal Gradient of the Bouguer Anomaly Map of North America. Geological Survey of Canada, Map 1809A Scale 1:10,000,000
- Theriault, R.J. and Ross, G.M. 1991**
 Nd Istopic Evidence for Crustal Recycling in the ca, 2.0 Ga Subsurface of Western Canada . Canadian Journal of Earth Sciences, 28; pp. 1140-1147
- Rheault, R., Simard, R., Gameau, C. and Slaney, V.R., 1991**
 SAR-Landsat TM-Geophysical data integration: utility of value-added products in geological exploration, Can Jour. Remote Sensing, V17, pp. 185-190
- Ross, G.M., Parrish, R.R., Villeneuve, M.E., and Bowring, S.A., 1989,**
 Tectonic subdivision and U-Pb geochronology of the crystalline basement of the Alberta Basin, western Canada, Geological Survey of Canada, Open File #2103.
- Theriault, R.J. and Ross, G.M., 1991**
 Nd isotopic evidence for crustal recycling in the ca. 2.0 Ga subsurface of western Canada, Can. Jour. of Earth Sciences. V28, pp. 1140-1147