## DRILLING REPORT ON CEDAR GROUP #3A

# MINERAL TITLES BRANCHORT STEELE MINING DIVISION Rec'd. BRITISH COLUMBIA

## 26700E, 5476200N UTM ZONE 11U NTS 82G/6

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For R. H. STANFIELD 380 – 4723 1<sup>st</sup> Street S.W.

By MASTER MINERAL RESOURCE SERVICES LTD. 32 Midpark Gardens S.E. Calgary, Alberta T2X 1N7

September 1997

GEOLOGICAL SURVEY BRANCH ASSESSMENT REPORT

MASTER MINERAL RESOURCE SERVICES LTD.

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### **INTRODUCTION:**

A drilling program of twodrill holes was completed between October 1996 and May 1997 on the Cedar Group #3A. The Group comprises of five claims of 20 units each as shown in Table 1.

Two collar sites designated C8-1-96/97 and C8-2-96/97 are within a few meters of one another. Both holes were started with percussion drilling, cuttings from which were collected for every 0.61 meters and examined. Some of the cuttings were analysed for some key elements. In both of the drill holes steel casing was used and subsequently one of the holes has been by diamond drilling during the time frame of this report. Core from the diamond drilling was examined and logged. Hole C8-1-96/97 was subsequently used to supply water for the diamond drilling program.

C'him Name		Coment Byon Date	ny Sveihero Decipted	anse V Magas	New al Explicit Data
Cedar #6	209753 20	99/07/05	12,000	3	02/07/05
Cedar #7	209697 20	99/06/17	12,000	3	02/06/17
Cedar #8	209698 20	99/06/17	12,000	3	02/06/17
Cedar #9	209699 20	99/06/17	12,000	3	02/06/17
Cedar #11	209709 20	00/07/07	12,000	3	03/07/07

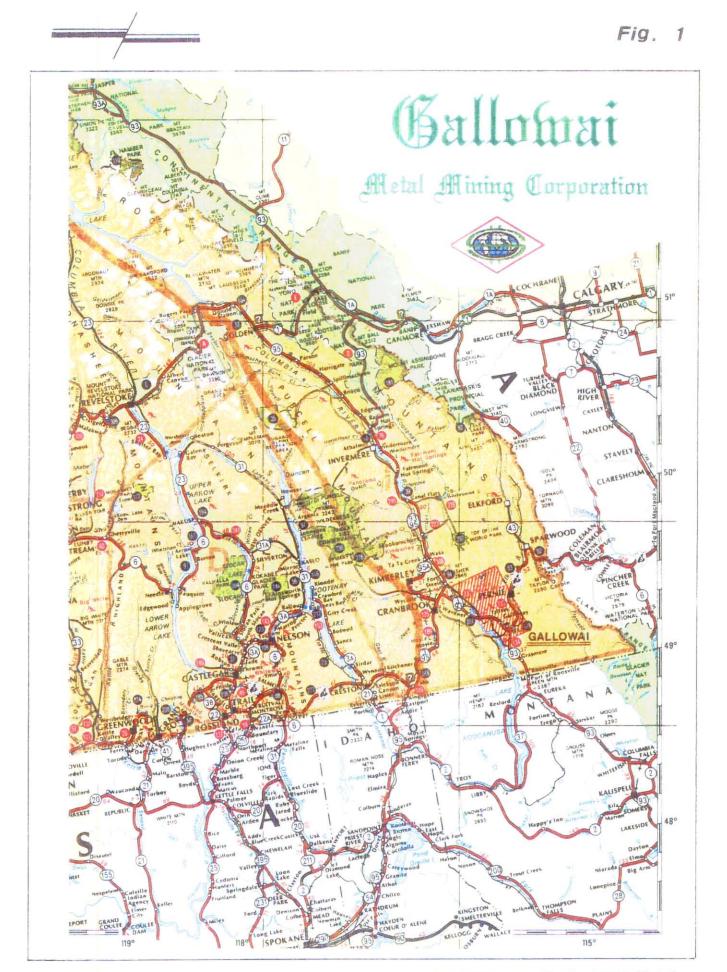
#### Table 1: Cedar Group #3A:

Figure 1 is a map showing the Site Location in southeastern British Columbia.

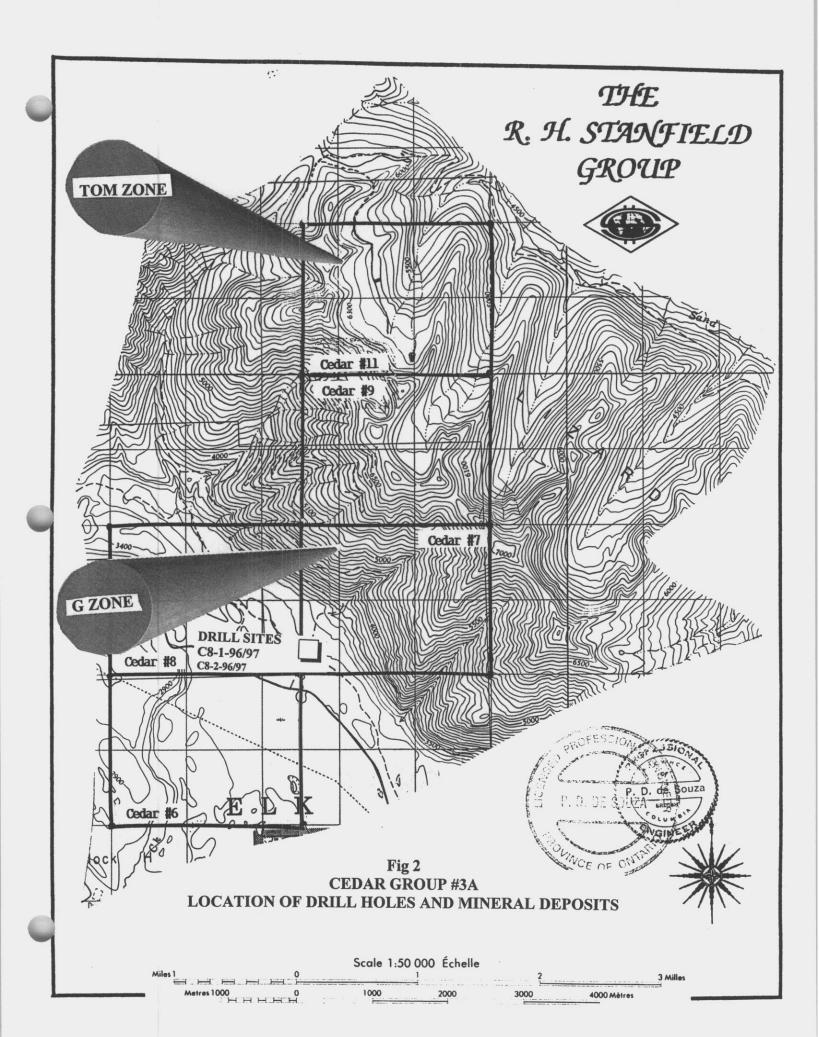
## LOCATION, ACCESSIBILITY AND TOPOGRAPHY:

The claim group is in southeastern British Columbia approximately 40 kilometres by Highway 3 from Cranbrook and then approximately 4.5 kilometres by secondary road to the southwest corner of the claim group. A secondary all-weather road follows the Sand Creek valley to its headwaters and this road provides access to claim Cedar #11 and the mineralised **TOM ZONE**. A four-wheel drive road from the valley bottom north of Cedar #8 provides access to portion of Cedar #9 where the mineral deposits called the **G ZONE** is located. Access to the showings is usually possible by a short walk from several points along this road. **Figure 2** is a topographic map showing the outline of the claims, the road systems and the known mineralised zones.

The claim group is centred approximately  $49^{0}25'30$ "N,  $115^{0}15$ "W, UTM Zone 11U coordinates at approximate work sites on the claims at 5476200N, 626700E, in NTS quadrant 82G/6. The claims are in the Fort Steele Mining Division. Topographic relief ranges from 910 meters to 2200 meters, with steep gradients over three of the five claims in the claim group.



SITE LOCATION



## GEOLOGY

The deciphering and understanding of the structure and structural evolution of the Rocky Mountain Trench and the western edge of the Rocky Mountains of southeastern British Columbia are necessary to determine the economic potential of the Cedar Group #3A property. In addition, the mode of occurrence of the different types of mineral deposits in the area, including the ones on the property, provide clues to the location and identification of other exploration targets.

## LITHOLOGY AND STRATRIGRAPHY

The following Table (from McMechan, 1978) summarizes the lithology and stratigraphy of the area, including this property. In addition, Cretaceous-Tertiary intrusives near the margins of the Trench are worth noting. The Trench itself is filled with Pleistocene and Recent sediments of gravel, sand, silt, till, colluvium and alluvium.

### UPPER DEVONIAN TO PERMIAN

Undifferentiated Fairholme Group, Palliser Formation, Exshaw Formation, Banff Formation, Rundle Group, Rocky Mountain Group: Limestone, Shale Limestone, Shale, Quartzite, and Dolomitic Quartzite.

#### MIDDLE DEVONIAN AND (?) EARLIER

Upper unit (Burnais and Harrogate Formations): Shaly Limestone, Shaly Dolomite, Limestone Breccia, and Gyp0sum; Basal Unit: Dolomitic Sandstone, Sandy Dolomite, Breccia, Conglomerate, and Shale

#### CAMBRIAN

"Tanglefoot Unit": Shaly Limestone, Limestone, Sandy Shale, and Dolomite

Eager Formation: Shale, Limestone, Siltstone, and Quartzite; Cranbrook Formation: Quartzite and Granule Conglomerate

#### MIDDLE PROTEROZOIC

Moyie Sill: Hornblende Metadiorite to Metagabbro

#### PURCELL SUPERGROUP

Phillips Formation: Red Micaceous Quartzite and Siltite Gateway Formation: Green, Purple Siltite, Minor Quartzite, and Dolomitic Siltite near top.

Sheppard Formation: Stromatolitic Dolomite, Green, Purple Siltite, Quartzite, and Silty Dolomite

"Lava and Sediment" Unit: Massive to Amygdaloidal "Andesitic" Lava, Volcanic and Feldspathic Sandstone, Siltite, and Minor Dolomitic Siltite "Non-Dolomitic Siltite" Unit: Green, Locally purple Siltite

#### KITCHENER FORMATION

Upper Unit (North of Dibble Creek Fault): Silty Dolomite, Grey Dolomitic Siltite, Grey Siltite, Sandy Dolomite, and Stromatolitic Dolomite Lower Unit (North of Dibble Creek Fault): Green or Grey Dolomitic Siltite, Green Siltite, and minor Dolomitic Quartzite :

CRESTON FORMATION Upper Subunit: Green, Lesser purple Siltite, Dolomitic Siltite near top, white quartzite

Lower Subunit: Purple, Grey or green, very course-grained Siltite to finegrained quartzite, white quartzite, and green, purple Siltite

Upper Subunit: Purple Siltite with white quartzite

Middle Subunit: Green Siltite

Lower Subunit: Grey Siltite (north of Bull Canyon Fault), green, finegrained quartzite, with Grey Siltite (south of Bull Canyon Fault-Unit)

ALDRIDGE FORMATION Grey Siltite and Argillite, with two Dolomitic Siltite Horizons near top, South of Bull Canyon Fault

Quartzite, Grey Siltite and Argillite: Quartzite predominant, Siltite and Argillite predominant

### **TYPES OF MINERALISATION:**

The following is a brief description of the types of mineralisation known on the property and in the surrounding area with similar to identical geology.

#### Quartz-Carbonate-Sulphide VEIN SYSTEMS in SHEAR ZONE envelopes:

Vein systems can be massive, tens of feet wide to a few inches width in stockworks and horsetails. Sulphides are chalcopyrite, pyrite, pyrrhotite mainly, with minor galena and arsenopyrite. Quartz is the major gangue mineral followed by carbonates (dolomite and siderite). Gold is associated with the sulphides and/or occurs as free gold in the quartz gangue and within silcified zones in the shear envelopes.

Host rocks are partly silicified and chloritised argillites, argillaceous quartzites, and quartzites mainly of the Aldridge formation. Other host rocks include the argillites of the Creston and Gateway formations. The meta diorite dykes and sills of the Moyie Sill group have some degree of spatial relationship to the vein systems, but their role in the mode of origin of mineralisation is not clear.

The Bull River Mine north of the property is an excellent example of this type of mineralisation. Other related examples of this type include the Strathcona-Empire, the Rex-Zone, the Dean Zone, the Treasure Zone, the Don and Rimrock Zones.

The G Zone on the property is a high grade silver-lead deposit associated with a shear zone striking north 65-77 degrees southeast and vertical dip. It is 3-6 metres wide. The

Tom Zone in the northern portion of the property has been reported as copper-iron mineralisation and has been explored in the past with ground based geophysical surveys.

### Conformable (Syngenetic?) Massive Sulphide Deposit

These are characterised by mainly conformable (to bedding) massive sulphides within the Aldridge formation. Sulphides are galena, sphalerite, pyrrhotite, with zones of massive pyrite. Zoning of sulphides is common, so is alteration, such as chloritisation and tourmaline. The host rock lithology is very similar to the Bull River Mine. The Sullivan Mine is a prime example of this type, and is located west-northwest of the property, on the other side of the Trench. Location of a Sullivan Type of ore body east of the Trench, has been a long-term exploration goal in this part of British Columbia.

### Quartz Lode Type with Sulphides and/or Free Gold:

The Cretaceous-Tertiary quartz-monzonite and granodiorite intrusives in the area have potential for this type of mineralisation, and may be source areas for some of the placer told deposits.

#### Vein Type Galena-Sphalerite Mineralisation associated with Major Structures:

This type of mineralisation has been found to date in the Aldridge, Creston, and the Lower Cambrian formations. Mineralisation occurs as fillings and replacement with faults and associated fissure systems. Examples of this type adjacent to the property are the Burt, OK Zones, and possibly the Great Western Zone just north of the property. The Estella Mine and the Kootenay King Mine further north of the property are also of this type, and so is the St. Eugene Mine across the Trench to the west.

## STRUCTURE AND STRUCTURAL EVOLUTION

The property and the immediate area is divided into a number of tecteno-statrigraphic domains. The primary divisions include the ROCKY MOUNTAIN TRENCH on the west of the property and the WESTERN ROCKY MOUNTAINS on the east half of the property.

#### **The Western Rocky Mountains:**

The Western Rocky Mountains form the eastern edge of the Purcell anticlinorium, against the Rocky Mountain thrust belt. The geology is fairly complex, with structural evolution mainly tied to the Hosmer Thrust. This complex history is discussed in a subsequent section of the report.

The Western Rocky Mountains in this area are further subdivided into three major tecteno-stratigraphic terrains by EAST trending REVERSE FAULT SYSTEM (see

**Figure 3)**. The northern segment is the STEEPLES RANGE DOMAIN, whose northern boundary is marked by the DIBBLE FAULT SYSTEM and the southern boundary by the BULL CANYON FAULT SYSTEM. The middle segment is the relatively complex SAND CREEK – LIZARD RANGE DOMAIN, that includes the Lizard Range. It is bounded in the north partly by the BULL CANYON FAULT and to the south by the SAND CREEK FAULT. Most of the Dogwood Group #1A is within this segment. Both of the Steeples and the Sand Creek – Lizard Range Domains are part of the LIZARD SEGMENT of the HOSMER THRUST, and is part of the structurally highest portion of the southern Rocky Mountains.

The southern most domain is the BROADWOOD ANTICLINE bounded in the north by the Sand Creek Fault (different that the Upper Sand Creek Fault), and has a southern boundary off the property near Mt. Broadwood.

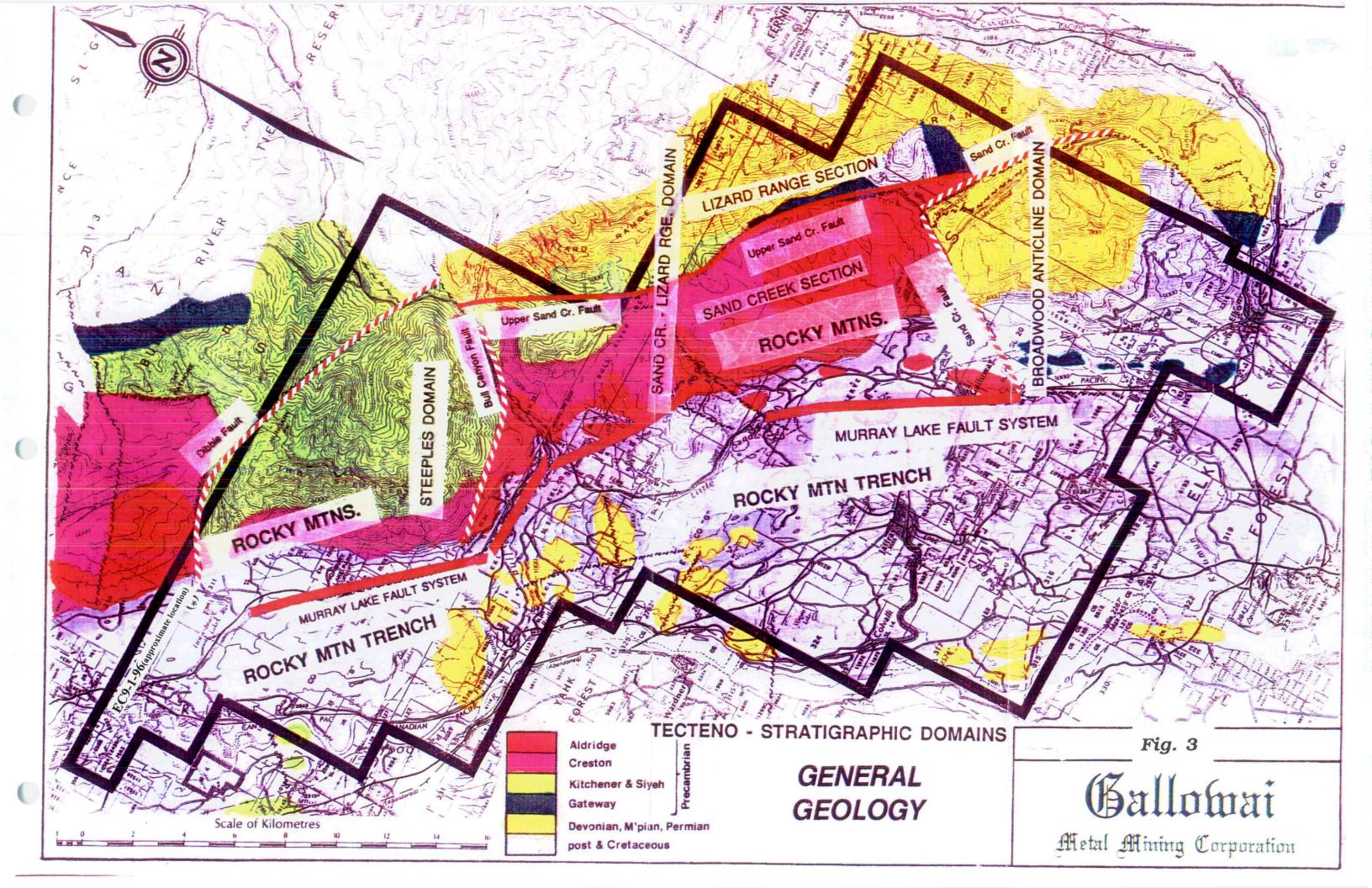
#### <u>The Sand Creek – Lizard Range Domain:</u>

This domain is divided into two longitudinal sections by the NW trending UPPER SAND CREEK thrust fault. The western segment is designated by us as the SAND CREEK SECTION, and the eastern segment is the LIZARD RANGE SECTION.

The BULL CANYON FAULT marks the northern boundary of the Sand Creek Section. It is a left-lateral reverse fault with about 2-3 km of stratigraphic separation, and dips southward. The locus of the fault suggests that its origin is tied into the stress associated with the Dibble monocline. Also, the contrasts in the Purcell succession across the fault suggest that it may follow the locus of an older structure that controlled Purcell deposition. Although the Lower Purcell group of rocks are found on both sides of the fault, the NE trending structures in the Steeples Domain, north of the fault do not extend on the hangingwall side of this fault. In addition, the large anticline north of the fault (in the Steeples Domain) is not one of the NE trending structures caused by compression during movement on the Dibble fault, but is formed during the Bull Canyon Fault displacement, and does not have a counterpart on the hangingwall (south) side of the fault.

In the Sand Creek-Lizard Range domain, the mechanics and structural history of the UPPER SAND CREEK FAULT are critical in understanding the stratigraphy of this domain. This fault is considered to be a splay from the Hosmer Thrust. The Domain is part of the HOSMER NAPPE which has a shallow NW plunge. Strata in the overturned forelimb are west dipping while strata in the backlimb a generally northeast dipping.

The Upper Sand Creek Fault cuts through this nappe, causing the backlimb and bow of the nappe to be thrust over the overturned forelimb. This has thrust the Precambrian Purcell Series of rocks from the backlimb of the nappe against the overturned Devonian and Mississipian strata of the forelimb. The Purcell Series forms a range with generally rounded slopes, and structurally also is part of the crest and east limb of an anticline



(superimposed on the backlimb of the nappe) that plunges gently northwest. This range is the SAND CREEK SEGMENT of the domain.

East of the Upper Sand Creek Fault the second division of the domain forms the LIZARD RANGE. It essentially consists of the overturned forelimb of the Hosmer Nappe forming a prism of sediments. The backbone of the range is made up by resistant portions of Devonian and Mississipian formations, while its eastern slopes are underlain by softer Mesozoic strata.

While the north boundary of the Sand Creek segment is mainly marked by the Bull Canyon Fault, the Lizard Range segment's north end is crumpled by complex faults and nappe-like folds that are overturned to the southeast and south, causing the strata to bend sharply from a NW trend to NE near the drainage area of Iron Creek. This trend continues NE off the property to Sulphur Creek where the NW trend and folds overturned east-northeast resumes to form the mountains north of Fernie and between the upper Elk and upper Bul Rivers.

#### **The Rocky Mountain Trench:**

The Rocky Mountain Trench underlies Cedar #6 and #8 claims of the group. Topographically it is very distinct from the Rocky Mountains, and forms the valley of the Kootenay Rive system in this area. However, its true structural eastern margin is variable, partly because of thrust faulting northeastward over the tecteno-stratigraphic elements of the Rocky Mountains, and partly due to the cut back eastward of the faultline scarp that marks the normal-faulted edge of the Trench. The longitudinal Murray Lake Fault system probably represents the pre-erosional position of the fault scarp.

In this area, the Trench is synclinal with major west dipping faults on its east side. Details of the nature of faulting are not discussed here, but features significant to the location of economic mineral deposits are referred to.

The flexuring of the Murray Lake fault system at Bull River and the NE trend portion of the Bull Canyon Fault system may be due to back-sliding (reversal of the older displacement to the NW), that also caused hinge faults transverse to the Trench, ie N and NE trends. Similar NE trends are the Sand Mountain and Supply Creek Faults in the Sand Creek Section of the Sand Creek – Lizard Range Domain of the Rocky Mountains.

Another evidence that block faulting rather than strike slip faulting resulted in the formation of the Trench in this area, is the continuation of major Paleozoic-Mesozoic structures across the trench, eg. The Moyie-Dibble Fault system. These cross features are also probably responsible for the formation of structural lows within the Trench, which are detectable by gravity surveys. One such structural low is located on the Gallowai property near Jaffray. Gravity surveys indicate that these cross features form the divides (structural highs) between these lows.

The Trench is probably located above a break in the Earth's crust formed in Precambrian time. During the deposition of the Purcell sediments the Trench marked the boundary between an ancient geosyncline to the west and an ancient shelf to the east. The uplifted terrain in the west supplied detritus intermittently through Mesozoic time. In late Cretaceous-Tertiary time this supply of detritus was cut off, perhaps due to the initial formation of the Rocky Mountain Trench. It essentially became a depositional basin in the Cenozoic.

#### **DRILLING PROGRAM:**

The drilling program consists of two drill holes located within a few meters of each other. There were two drill hole collar sites. In both holes steel casing was used and subsequently onr of the holes was extended by diamond drilling prior to May 1997, while the other was used to supply water for the drilling, and may also be extended subsequently by diamond drilling. Core from the diamond drilling was examined and logged. Both holes were vertical at the collar.

**Figure 4** shows the location of the drill program area with respect to the claim boundaries superimposed on topography from the 1:50,000 map 82G/6.

### **Objectives and Summary Results**

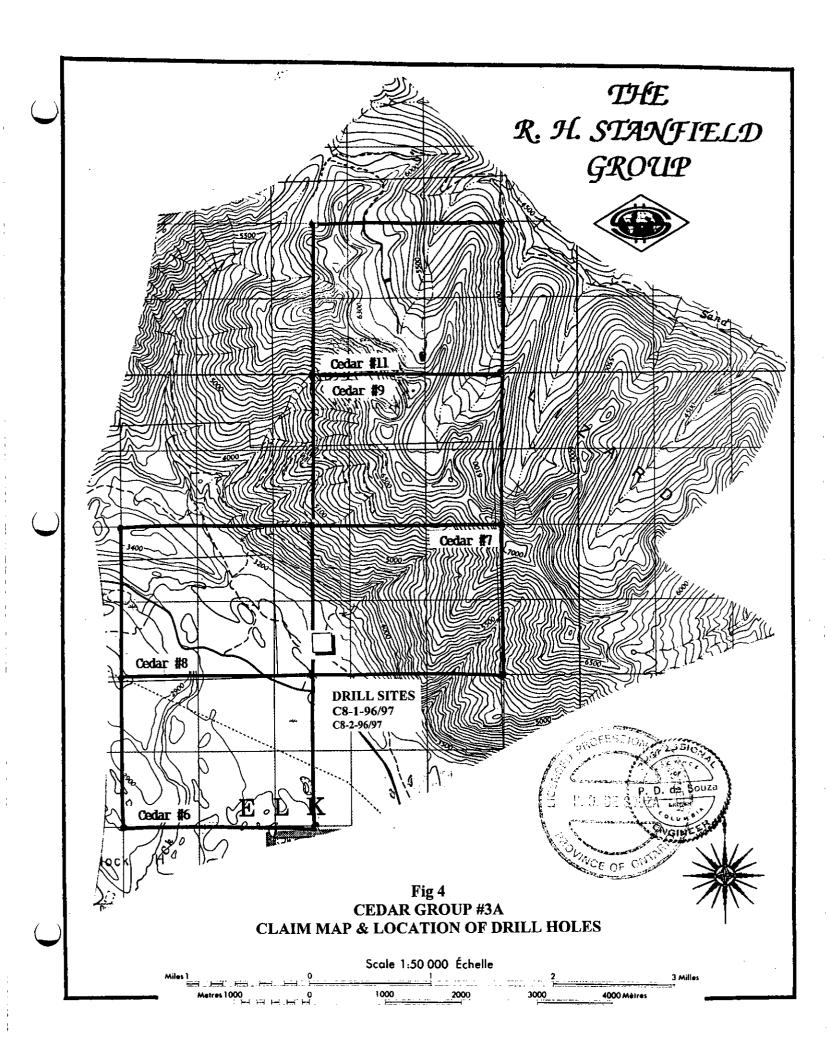
The Cedar #3A claim group includes atleast two mineral deposits, the G ZONE and the TOM ZONE. It straddles the Sand Creek Section of the Sand Creek-Lizard Range Domain of the Rocky Mountain tecteno-stratigraphic province, and the Rocky Mountain Trench province. More importantly in both provinces within the claim group the bedrock is mostly of argillaceous sediments of Proterozoic age Aldridge-Creston Formations, and Moyie diorite dykes and sills. The Proterozoic sequence overlies younger Palaeozoic sediments due to folding and thrusting associated with the Hosmer Thrust of the Rocky Mountains.

Over the past twenty years the R. H. Stanfield Group of companies has initiated a series of programs of airborne geophysics, satellite imagery, and ground examination to fulfil the following objectives. The programs are ongoing, and this report covers a portion of the effort covering this claim group:

- a. Determine the strike and dip extensions of the individual deposits.
- b. Increase the tonnage potential of the deposits by either connecting these adjacent deposits along strike (or connections at depth), or discovering other deposits in the strike directions or downdip or enechelon to the known showings.

In 1982 a helicopter borne multifrequency EM and magnetic survey was completed by Apex Airborne Surveys Ltd. For the R. H. Stanfield group of companies(in company files). A stong NE trending magnetic high was found through the northeast corner of

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Cedar #6 through Cedar #7 up to Cedar #11. The survey also outlined a high conductivity zone and several EM trends south of the magnetic high over a portion of this claim group.

In 1992 a helicopter borne geophysical survey by DIGHEM for the Stanfield Group also located a distinct high magnetic trend over the same location. This has been reported in an assessment report in 1992-93, and the anomaly is shown in **Figure 5**. The two drill holes in this report are located on the magnetic high as close to the side of the hill as was possible without having to construct new access roads.

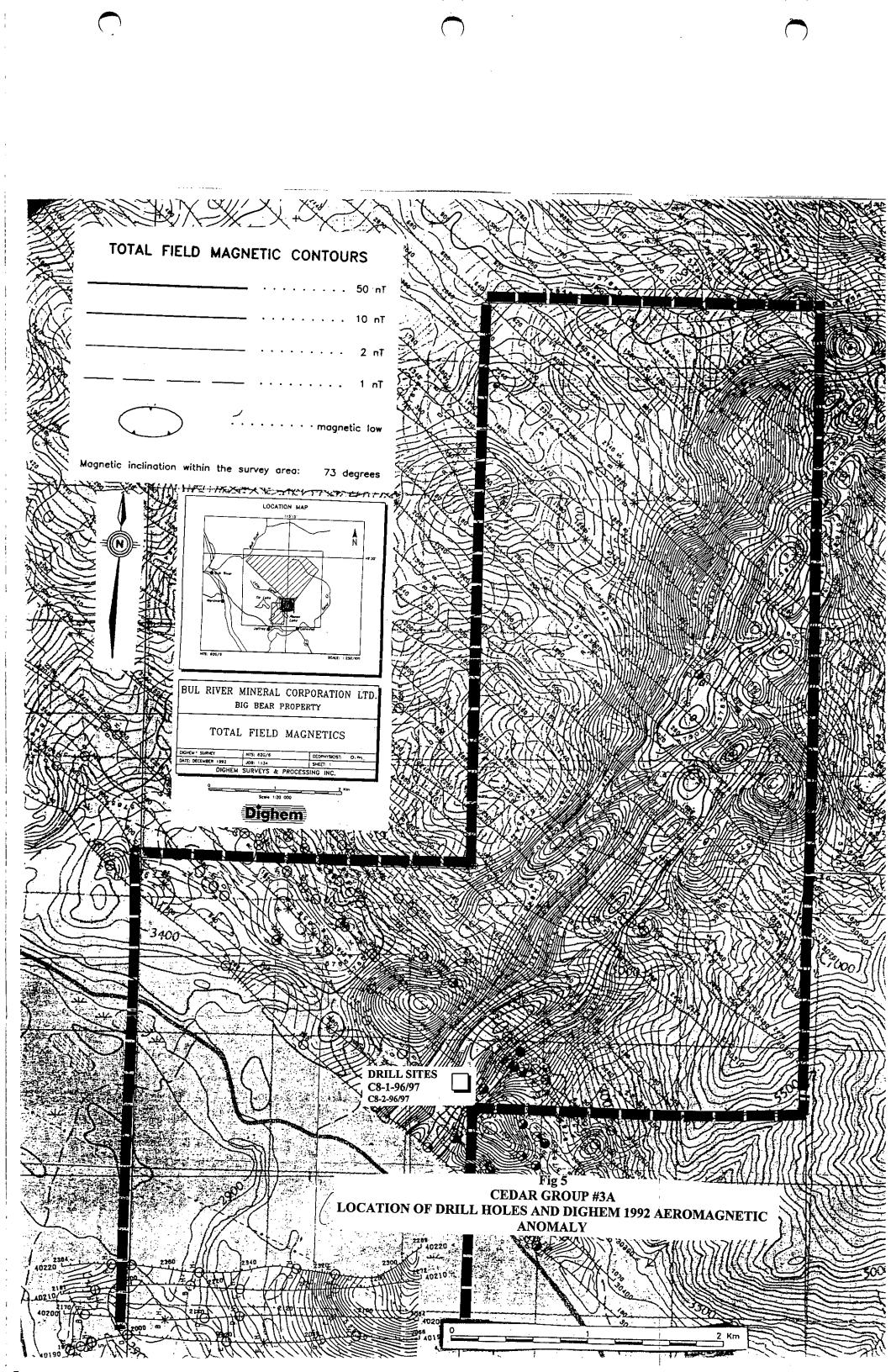
The drilling up to May 1997 did not provide any distinct evidence for the cause of the anomaly, and extension of the holes to greater depth is recommended. On the ridge northeast of the work sites, and within the same magnetic trend, several outcrops of basic dykes and sills have been located, with strong evidence of contact metamorphism. Previous workers have designated these rocks as "migmatites".

Appendix 1 contains the geologic logs of the percussion and the diamond drill portions of the three holes, Appendix 1 also lists the analytical reports of the drill cuttings as reported by TerraMin Research Labs of Calgary.

The cuttings from the percussion drilling, and the core from the diamond drilling program are stored at the R. H. Stanfield campsite near Galloway.

#### **RECOMMENDATIONS:**

The results of the drilling program suggest that the bedrock cause of the magnetic anomaly is at greater depth. The area immediately adjacent to the magnetic trend northeast of the drill sites has been the site of several geophysical (EM) conductors and mineral deposits associated with shear zones. Extension of the drill holes is recommended, together with ground based detail geologic mapping and geophysical surveys on the ridges above the Trench.



# GENERAL INFORMATION<sup>(\*)</sup> ON C8-1-96/97 AND C8-2-96/97:

A.) Rotary Percussion Drill

Dates Drilled:	C8-1-96/97	Oct 1-2/96, Dec 9-14/96, Mar 7-11/97; 11						
		Drilling Days						
	C8-2-96/97	Oct 13-14/96; 2 Drilling Days						
Contractor Schmidt Drilling Ltd. PO Box 98 Tees, Alberta T0C 2N0								
Crew	Driller-Darcy	Schmidt, Helpers- Gary Brackenbury, Tom						
	Morris, Bob	Bell, David Morris, Dan Sim						
Contractor Equipment	Ingersol Rane	d TH-60 Truck Mounted Rotary Percussion Drill						
	Rig, 600 CFN	A Air Compressor, Western Star Flatbed, 1000 Ga.						
	Tanker and P	ipe Truck, 915 Weldco Casing Hammer, 5 x 10						
	mud pump, T	Cool Shed Trailer (8 x 15) and <sup>3</sup> / <sub>4</sub> ton 4x4 Diesel						
	Crew Cab an	d Slip Tank						

B.) Diamond Drill

Dates Drilled:	C8-1-96/97   Dec 6-17/96, Mai	r 19/97, Apr 1-Apr 12/97, May 1-
	May 10/97 48 Dr	illing Days
Drill Crew	Driller- Mr. Gordon Peterson	Box 94, Galloway BC
	Helper- Mr. Jeff Brewster	Box 94, Galloway BC
	Helper- Mr. Gary Jonasson	Box 94, Galloway BC
Site Crew	Manager- Mr. R. Stanfield	Box 94, Galloway BC
	Jr.	
	Co-ordinator- Mr. T.	Box 94, Galloway BC
	Hewison	
Equipment	1 Longyear 44 Diamond Drill-	heavy duty mast and all-
	weather skid shack, Petter and	l Submersible Pumps, Kawasaki
	GE 5000 Generator, 3-F250 4x	4 Pickup Trucks with Bush
	Boxes, Case 580 Super D Back	hoe for Sump Construction,
	Caterpillar D7F Tractor.	

(\*) Information supplied by R. H. Stanfield group of companies

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# STATEMENT OF COSTS<sup>(\*):</sup>

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# Rotary Percussion Holes (Part I)

DRILL HOLE	C8-1-96/97	C8-2-96/97
Background Drilling days	11	
Period days	11	2 2 2
Driller r&b days	134	
•	11	
Total depth	800'	225'
Direct Costs		
Mobilization and Demobilization	1000.00	
Drilling Costs (#of Hrs. x \$185.00)	20072.50	3237.50
6 5/8 Drive Shoe @ \$98.50	98.50	98.50
8" Ring Bit @ \$401.50	401.50	401.50
6 5/8" Casing @ \$8.75/ft	1268.75	743.75
5 5/8 Button Hammer Bit @ \$740.00	740.00	
20L Pail Foam @ \$120.00/per	360.00	120.00
Hammer Oil @ \$48.00/per	288.00	48.00
6 5/8 Driver Bit @ \$1155.00	1155.00	
Total Direct Costs	25384.25	4649.25
Indirect Costs	<u> </u>	
R&B @\$65.00/day/man	2015.00	390.00
Foreman's Wage @ \$200.00/day	2200.00	400.00
Foreman's R&B @ \$65.00/day	715.00	130.00
Foreman's 4x4 @\$50.00/day	550.00	100.00
Coordinator's Wage @ \$140.00/day	840.00	140.00
Coordinator's 4x4 @ \$50.00/day	300.00	50.00
Coordinator's R&B @ \$65.00/day	390.00	65.00
Total	7010.00	1275.00
Indirect Costs		
Total Costs	32440.50	5924.25

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## **ADDITIONAL COSTS:**

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Consultant Fees 8 Days @ \$350/day	2800.00
Consultant R+B \$65/day 1 Day	130.00
Consultant 2 day 4X4 @50.00	100.00
Chemical Analysis`	500.00
Total Consultant and Analysis Fees	<u>\$3,530.00</u>
Total Costs for Cedar#3A	
<u>C8-1-96/97</u>	
Rotary Percussion (Part I)	32,394.25
Total	<u>\$32,394.25</u>
<u>C8-2-96/97</u>	
Rotary Percussion (Part I)	5,924.25
Diamond Drill (Part II)	115,961.41
Consultant and Analysis (Part III)	3,530.00
Total	<u>\$125,415.66</u>

# Grand Total Costs

\$157.809.16

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### **CERTIFICATE**

I, Pilsum Master of 32 Midpark Gardens S.E. Calgary, Alberta certify that:

I am a graduate of the University of Bombay, India and a graduate of the University of New Mexico, U.S.A., and hold the following degrees:

B.Sc., 1963, Geology/Chemistry M.Sc., 1965, Geology M.Sc., 1968, Geology/Mineralogy

I am a Registered Professional Geologist (Association of Professional Engineers, Geologists and Geophysicists of Alberta) and a member of the American Institute of Mining, Metallurgical and Processing Engineers.

I am the President of Master Mineral Resource Services Ltd. of Calgary, Alberta with Permit to Practice Number P5336 from the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

I have practised my profession for the past twenty-seven years.

This Report on the Cedar Group #3A is based upon my involvement in the compilation of geological literature, selection of drill targets, examination of drill sites, logging of drill cuttings, splitting of samples, logging of drill core, and the evaluation and compilation of data.

My company and I do not hold any interest in the properties or securities of R. H. Stanfield, or affiliates thereof, nor do my company and I expect to receive any directly or indirectly.

Pilsum Master, M.Sc., M.Sc., P.Geol. President Master Mineral Resource Services Ltd.

PERMIT TO PRACTICE MASTER MINERAL RESOURCE SERVICES LTD. Signature
Date Date PERMIT NUMBER: P 5336
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

### **CERTIFICATE**

September 8, 1997

I, Phil D. de Souza, certify that:

I am a graduate of the Camborne School of Mines, Cornwall, England and that I hold the degree of ACSM First Class in Mining Engineering therefrom.

I am a member of the Canadian Institute of Mining and Metallurgy and a member of the American Institute of Mining, Metallurgical and Processing Engineers.

I am a licensed Professional Engineer of the Province of Alberta, British Columbia and Ontario, Canada, and have been practising my profession for the past thirty-two years.

This report by Pilsum master, P.Geol. (Alberta) entitled: "Drilling Report on Cedar Group #3A", for R. H. Stanfield has been reviewed by me and results from my direct involvement in the Stanfield Group since 1987.

I certify that neither I nor my Associates or Partners hold any interest or securities in any of the four corporations bwning an interest in the properties, nor do I, or we expect to receive any directly or indirectly.

Phil D. de Souza, A.C.S.M., P.Eng. Mining Engineer



**APPENDIX 1** 

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# **DRILL LOGS & CHEMICAL ANALYSIS REPORTS**

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							+																			1				· · · · · · · · · · · · · · · · · · ·	
BUL RIV	ER MINE	RAL CORF	ORATIO	DN LTD.	R.	H. ST	ANFI	ELD																							
PROJECT				627700E, 5476200N, UTM Zone 11U			1	7				· · · ·																		1	1
	Cedar Gro				DIP: -90	AT:	colla	r																						-	
DRILL HO		C8-1-96/97		DRILLED BY:Schmidt Drilling Ltd., P.O.Box 98						· · · · ·			·																		
				DATES DRILLED Oct 1-2, Dec 9-14, 1996, Mar 7-		-	-			-												-								-	+
				LOGGED BY: Pilsum Master, P.Geol.	11,1007		+											··· -										·			
		1	· · · · · · · · · · · · · · · · · · ·	DATES LOGGED: October 18, 1996, May 6, 19	97				-																				· · · · · · · · · · · · · · · · · · ·		
		++		DATED E03GED. October 10, 1330, May 0, 13	TOTAL	242	42m		+												-									.   - · · · ·	
					LENGTH:	242.	12111																		· · ·					+	+
		+			LENGTH.	-	+																								
FROM (FA	5004	170 (54)	~	DESODIDITION	Comple		0:0		0-0		1-0	10	5.0		TO				_												
FROM (Ft	FROM	<u> </u>		DESCRIPTION	Sample			2 Al <sub>2</sub> O <sub>3</sub>	3 CaO	MgO	Na <sub>2</sub> O	K <sub>2</sub> O	Fe <sub>2</sub> O <sub>3</sub>	MnO	TiO <sub>2</sub>	LOI	Total	Ba	Be	Cr	Li	Rb	Sr	V	Ag	Cd	Co	Cu	Mo N	li Pl	b Z
	(Metres)		Metres)		Numbe	er		% %	5 %	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm j	ppm p	pm ppr	n ppn	n ppr
0.00	0.00	105.00	31.82	Mixed, boulders, cobbles, pebbles, sand, argillite	No samples for a	analysis	3																								1
105.00	31.82	140.00	42.42	Dark-grey Argillaceous Quartzite (Arg-Qtzite)	105-110																				0.38		2	3.00	21.0	0 63.0	0 230
				carbonate present (efferv. With HCI), gives off	105-115																				0.35		20	6.00	20.0	0 68.0	0 380
	<u> </u>			some smell of hydrogen sulphide	115-120		1															-			0.23			9.00	24.0	0 51.0	0 128
					120-125		1		1	1															0.21		1.	4.00	14.0	0 37.0	0 89
		1			125-130		1		1	1															0.21			2.00		0 42.0	
					130-135		1																		0.20		3	0.00	19.0	0 43.0	0 19.0
	1				135-140	-	1		1	1								·							0.15			2.00		0 39.0	
140.00	42.42	380.00	115.15	Argillite, dark grey, sulphides as disseminations	140-145		1		1	† i															0.18			4.00		0 34.0	
				at irregular intervals																											-
380.00	115.15	445.00		Dark-grey Argillaceous Quartzite (Arg-Qtzite)	380 38	15	62.0	) 13.3	3.833	3.084	1.267	3.675	5.65	0.148	0.40	6.2 9	9.61	480	2.4	61	19	214	77	110	0.1	0.3	8	18	18 1	6 2	2 75.0
				lots of carbonate cement, pyrite-pyrrhotite clots	385 39		62.7			3.266	1.258			0.138	0.40		9.21	480	2.6	52		220	71	110			9	18	5 1	8 1	8 60.0
		<u> </u>		<5%	390 39		61.8			3,449	1.267			0.156	0.38		9.55	470	2.5	47		209	77	120				18	6 2		8 53.0
	<u> </u>				395 40		61.6			3.465	1.388			0.145	0.40		9.23	460	2.4	52		203	70	110		0.2	10	21	7 2		0 59.0
		1		· · · · · · · · · · · · · · · · · · ·	400 40		62.5			3.532		3.507	5.08	0.146	0.38		9.35	470	2.4	46		216	69	100			6	19			2 62.0
		I*			405 41		_	/ 12.6				3.278		0.172	0.35		9.69	470	2.2	49		205	69	100			7	12	3 1		9 35.0
		1 1			410 41					3.830	1.246			0.170	0.33	6.8 9		470	2.2	32		215	66	90	1		6	13	4 1		6 27.0
					415 42		65.2			3.399	1.456			0.115	0.35		9.27	460	2.3	40	18	203	53	100		0.1	7	12			9 31.0
				····· · · · · · · · · · · · · · · · ·	420 42		64.8			3.382	1.483			0.103	0.42		9.71	460	2.4	60		194	52	120			7	16			3 33.0
		++-			425 43		63.7			3.382	1.510			0.116	0.42		9.49	480	2.5	60		203	56	120			7	22			0 25.0
		+ +			430 43			3 13.9				3.314		0.084	0.43	4,4 9		470	2.4	63	26	197	43	130			6	15			3 25.0
		+			435 44		65.2			3.283	1.564			0.071	0.43	5.0 9		460	2.3	64	24	198	48	130			5	19			6 26.0
					440 44		64.6			3.150		3.434		0.083	0.43		9.56	490	2.3	64	23	202	56	110			9	25			7 38.0
445.00	134.85	495.00	150.00	Dark-grey Argillaceous Quartzite (Arg-Qtzite)	445 45		64.8			2.902		3.446		0.059	0.43		9.10	510	2.3	66		210	49	140	-		11	25			4 7
410.00	104.00	400.00	100.00	less clay	450 45			3 14.2				3.675		0.054	0.45		9.21	510	1.6	70		213	47	130			10	19			6
	··· ·	+ +			455 46			5 13.5			1.685			0.054	0.43	3.8 9		510	1.0	66		209	52				9	19			6 3
		+ +-			453 46		65.7			2.885	1.604			0.036	0.43		9.71	500	2.0	65		203	51	120			9	21	_		4
					465 47		65.9	-1			1.523			0.078	0.42	3.4 9		490	2.5	68		231	35	140			6	12	-		3
					405 47		64.8					3.603		0.032	0.43		9.48	490	2.5	65		227	44	130		(	7	15			24
		<u>↓</u>		······································	475 48		65.0			2.603	1.806			0.040	0.43	4.0 9		460	2.5	68		204	53	120			11	28			24
· ···		┼──┼			480 48	_	63.7			2.620	1.779			0.003	0.42		9.37	450	2.5	70	19	196	62	130			14	32			21
		<u>+</u> +-			480 40		65.2			2.537		3.133		0.077	0.40		9.84	450	2.4	62	17	194	61	120		0.1	12	26			7
		++			400 49		64.2				1.725			0.045	0.42		9.51	480	2.4	55		230	47	140			8	20			4
495.00	150.00	655.00	198 48	Dark-grey Argillaceous Quartzite (Arg-Qtzite)	490 49		65.5	_		2.703	1.645			0.045	0.43		9.40	460	2.6	63		230	39	140			9	18			6
-33.00	1.50.00		,00.40	little or no carbonate, trace sulphides	500 50		65.2	_		2.620	1.793			0.053	0.43	4.0 9		480	2.6	68		231	44				7	17			28
		+ +			505 50		64.6			2.520		3.446		0.088	0.43		9.40	460	2.4	67		216	56	120				28			27
		·			510 51		64.0				1.725			0.000	0.43		9.56	460	2.4	59		215	55	120			9	20			18
		+			510 51		64.8			2.586		3.446		0.071	0.42		9.56	460	2.3	68		215	53	130			9	23			16
		+			515 52		64.2			2.560		3.555		0.061	0.43	4.0 9		400	2.4	71		210	- 53 49					14			10
	· · · ·	<u>↓</u>			520 52		64.8			2.703		3.555		0.048	0.43		9.05	4/0	2.5	67		208	49	150			9	14			12
		<u>├</u>																								1	9	21		-	12
		<u>+</u> −−−− <u>+</u>			530 53		64.8					3.266		0.059	0.43		9.55	450	2.4	62	16	200	54	120				30			
		<u>├</u>			535 54		64.4				1.941			0.059	0.42		9.90	450	2.4	66	19	196	54				11				
		<u>↓</u>			540 54		64.0					3.205		0.072	0.42		9.62	450	2.4	66	20	196	54				10	35			12 : 11 :
		<u>↓</u>			545 55		_				1.847			0.070	0.42		9.42	490	2.5	63		206	49				8	30			
	1	1			550 55	5	63.5	)   14.9	1.651	2.802	1.779	3.591	5.88	0.065	0.42	5.0 9	9.63	520	2.6	64	22	221	47	130	0.1	0.1	9	23	8 2	21 1	11

Page 1

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1					555 560	65.0	14.0 1.8	89 2.769	1.806	3.193	5.48 0.075	0.42	5.0 99.6	480 2	5 55	21	202	50	130	0.1	0.1	8	23	7 19	14
					560 565	64.2		45 2.719			6.02 0.076	0.38	5.6 99.9		5 67	20		53	140	0.1	0.1			8 24	
					565 570	65.5		41 2.703			5.95 0.054	0.40	4.2 99.1		5 70			47	150	0.1	0.1			7 21	
					570 575	65.2					6.11 0.062	0.40	4.0 99.14		4 66			47	140	0.1	0.1			6 20	
					575 580	65.5		41 2.785																	
			+								6.05 0.056	0.38	4.2 99.4		5 68			46	140	0.1	0.1			9 19	
			ł		580 585	65.7					5.56 0.054	0.40	4.8 99.70		4 69			47	130	0.1	0.1		19	7 19	
					585 590	64.6					4.62 0.083	0.40	5.0 99.2		5 54			58	120	0.1	0.1			5 15	
					590 595	65.9	14.0 1.7	07 2.736	1.793	3.398	5.19 0.062	0.38	4.6 99.7	470 2	.6  63	22	212	50	130	0.1	0.1	9  :	23	7 17	17
					595 600	65.7	14.0 1.6	65 2.785	1.806	3.362	5.26 0.065	0.38	4.4 99.4	470 2	4 64	18	204	51	120	0.1	0.1	7 :	25	8 16	16
ł					600 605	64.4	13.9 1.5	95 2.785	1.766	3.531	6.06 0.056	0.40	4.6 99.03	470 2	5 67	22	209	49	140	0.1	0.3	10	34	9 21	21
					605 610	64.8					5.15 0.074	0.42	4.8 99,00		5 52			56	140	0.1	0.3			7 14	
					610 615	65.7					5.63 0.063	0.42	4.6 99.10		5 67			53	140	0.1	0.3			8 20	
					615 620	66.3					5.49 0.048	0.43	4.2 99.70		.6 58			47	150	0.1	0.2			10 16	
			<u> </u>																						
					620 625	65.5		072 2.769			6.84 0.048	0.40	4.4 99.9		3 63			45	140	0.1	0.2			9 27	
					625 630		3 13.7 1.0				7.04 0.045	0.40	4.2 98.92		.4 62			42	140	0.1	0.2			9 26	
					630 635	65.9	) 13.7 1.0	13 2.736	1.712	3.603	6.41 0.046	0.40	4.4 99.8	480 2	4 62	20	212	42	140	0.1	0.2	8	23	8 25	25
					635 640	65.2	2 13.7 1.5	11 2.785	1.672	3.579	6.26 0.066	0.38	4.6 99.7	470 2	0 57	22	210	47	130	0.1	0.1	11 3	22	7 24	24
					640 645		12.6 1.7				5.53 0.062	0.37	4.8 98.9		4 54			47	120	0.1	0.1			9 19	
					645 650		3 11.9 3.9				5.35 0.116	0.37	7.8 98.99		0 64			71	120	0.1	0.1			7 19	
					650 655		5 12.8 4.6				4.52 0.115	0.37	7.2 99.4		3 73			79	110	0.1	0.1			6 15	
655.00 19	198.48	765.00	231.82	Dark-grey Argillaceous Quartzite (Arg-Qtzite)	655 660	61.0											1								
	100.40	,00.00									4.80 0.115	0.37	7.4 99.4		2 74			78	100	0.1	0.1		-	6 15	
				more cemented, and greater proportion of fines	660 665	60.5		313 3.565			5.05 0.112	0.37	7.6 99.3		.1 77			81	100	0.1	0.1			6 19	
					665 670	58.8					4.58 0.124	0.35	9.0 98.9		.3 71			80	110	0.1	0.2			7 15	
					670 675	59.3					4.68 0.134	0.35	8.6 99.60	460 23	.0 74	23	195	78	120	0.1	0.2	7	17	6 15	15
					675 680	57.5	5 13.5 5.3	72 4.112	1.361	3.495	4.38 0.141	0.35	9.2 99.4	460 2	3 67	22	197	84	110	0.1	0.2	7	16	5 13	13
					680 685	58.6	12.6 5.2	18 3.764	1.415	3.302	5.35 0.130	0.33	9.0 99.7		8 70	20	185	85	110	0.1	0.2	9	17	6 21	21
					685 690	58.8		97 3.714			4.85 0.127	0.35	8.6 99.20		1 73			83	110	0.1	0.2			6 17	
					690 695	60.1					5.13 0.117	0.35	7.8 99.0		2 69			78	110	0.1	0.1		16	7 20	
					695 700		13.1 4.8				4.90 0.134	0.37	8.6 99.19		3 72			80	110	0.1	0.2			5 16	
					710 715	57.1																			
								61 3.614			7.81 0.125	0.38	8.4 99.48		4 73			77	110	0.1	0.3			6 35	
					715 720	57.1					6.71 0.130	0.38	9.0 99.64		4 73			78	110	0.1	0.8			6 28	
					720 725	58.2		33 4.046			4.76 0.141	0.40	8.4 98.99		5 65			77	110	0.1	0.5			6 11	
					725 730	59.5		85 3.565		3.386	6.16 0.127	0.38	7.8 99.49	470 2	3 66			75	110	0.1	0.7		17	5 24	24
					730 735	59.9	13.1 4.0	71 3.498	1.483	3.446	5.75 0.130	0.40	7.6 99.4	470 2	4 67	23	198	75	110	0.1	0.5	10	15	6 20	20
		1			735 740	60.7	14.0 4.0	15 3.598	1.469 3	3,495	4.62 0.132	0.42	7.0 99.5	480 2	5 65	22	205	76	110	0.1	0.2	6	15	6 11	11
					740 745	60.7	14.0 3.7	35 3.548			4.30 0.123	0.38	7.2 99.13		4 64			74	110	0.1	0.2			5 10	10
					745 750		14.0 3.9				4.59 0.129	0.38	7.4 99.42		2 60			75	110					5 10	
																A-1						51			
						631	128 25	67 2 260							1 66	22				0.1	0.2				10
					750 755	63.1			1.469	3.398	4.86 0.121	0.38	6.6 99.54	480 2	4 66		199	72	120	0.1	0.3	7	14	7 13	
					750 755 755 760	62.0	13.1 3.3	02 3.117	1.469 1.496	3.398 3.519	4.86 0.121 5.09 0.114	0.38 0.42	6.6 99.54 6.8 99.03	480 2 490 2	4 70	24	199 203	72 68	120 120	0.1 0.1	0.3 0.3	7	14 17	7 13 7 13	21
705.00					750 755 755 760 760 765	62.0 62.7	13.1 3.3 13.9 3.3	02 3.117 16 3.084	1.469 3 1.496 3 1.523 3	3.398 3.519 3.374	4.860.1215.090.1144.750.116	0.38 0.42 0.42	6.6     99.54       6.8     99.03       6.6     99.70	480 2 490 2 490 2	4 70 4 66	24 24	199 203 198	72 68 68	120 120 120	0.1 0.1 0.1	0.3 0.3 0.2	7 7 4	14 17 15	7 13 7 13 7 11	21 19
765.00 23	231.82	800.00		Dark-grey Argillaceous Quartzite (Arg-Qtzite)	750 755 755 760 760 765 765 770	62.0 62.7 62.2	13.1 3.3 13.9 3.3 14.0 3.2	02 3.117 16 3.084 74 3.183	1.469 3 1.496 3 1.523 3 1.483 3	3.398 3.519 3.374 3.458	4.860.1215.090.1144.750.1165.130.114	0.38 0.42 0.42 0.42	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54	480     2       490     2       490     2       490     2       480     2	4 70 4 66 3 60	24 24 21	199 203 198 201	72 68 68 68	120 120 120 110	0.1 0.1 0.1 0.1	0.3 0.3 0.2 0.2	7 7 4 7	14 17 15 18	7 13 7 13 7 11 7 11 7 13	21 19 21
765.00 23	231.82	800.00		Dark-grey Argillaceous Quartzite (Arg-Qtzite) little or no carbonate, trace sulphides	750 755 755 760 760 765 765 770 770 775	62.0 62.7 62.2 64.4	13.1 3.3 13.9 3.3 14.0 3.2 13.7 3.0	02 3.117 16 3.084 74 3.183 78 3.084	1.469 1.496 1.523 1.483 1.496	3.398   3.519   3.374   3.458   3.398	4.860.1215.090.1144.750.116	0.38 0.42 0.42	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54       5.0     99.43	480     2       490     2       490     2       490     2       480     2       480     2	4 70 4 66 3 60 3 58	24 24 21	199 203 198 201 197	72 68 68 68 67	120 120 120 110 110	0.1 0.1 0.1	0.3 0.3 0.2	7 7 4 7	14 17 15 18	7 13 7 13 7 11	21 19 21
765.00 23	231.82	800.00			750 755 755 760 760 765 765 770	62.0 62.7 62.2	13.1 3.3 13.9 3.3 14.0 3.2 13.7 3.0	02 3.117 16 3.084 74 3.183 78 3.084	1.469 1.496 1.523 1.483 1.496	3.398   3.519   3.374   3.458   3.398	4.860.1215.090.1144.750.1165.130.114	0.38 0.42 0.42 0.42	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54	480     2       490     2       490     2       490     2       480     2       480     2	4 70 4 66 3 60	24 24 21 24	199 203 198 201 197	72 68 68 68	120 120 120 110	0.1 0.1 0.1 0.1	0.3 0.3 0.2 0.2	7 7 4 7 5	14 17 15 18 14	7 13 7 13 7 11 7 11 7 13	21 19 21 18
765.00 23	231.82	800.00			750 755 755 760 760 765 765 770 770 775	62.0 62.7 62.2 64.4 64.0	13.1 3.3 13.9 3.3 14.0 3.2 13.7 3.0	02     3.117       116     3.084       274     3.183       078     3.084       85     2.918	1.469     1       1.496     1       1.523     1       1.483     1       1.496     1       1.496     1       1.523     1	3.398   3.519   3.374   3.458   3.398   3.398   3.543	4.860.1215.090.1144.750.1165.130.1144.800.110	0.38 0.42 0.42 0.42 0.42 0.40	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54       5.0     99.43	480     2       490     2       490     2       480     2       480     2       480     2       480     2	4 70 4 66 3 60 3 58	24 24 21 24 23	199 203 198 201 197 207	72 68 68 68 67	120 120 120 110 110	0.1 0.1 0.1 0.1 0.1	0.3 0.3 0.2 0.2 0.2	7 7 4 7 5 4	14 17 15 18 14 13	7     13       7     13       7     11       7     13       6     13	21 19 21 18 21
765.00 23	231.82	800.00			750 755 760 765 760 765 765 770 770 775 770 775 780 780 785	62.0 62.7 62.2 64.4 64.0 64.2	13.1   3.3     13.9   3.3     14.0   3.2     13.7   3.0     14.6   2.0     14.7   2.1	02 3.117 16 3.084 74 3.183 78 3.084 85 2.918 54 2.918	1.469     1       1.496     1       1.523     1       1.483     1       1.496     1       1.496     1       1.496     1       1.496     1       1.496     1       1.496     1       1.604     1	3.398   3.519   3.374   3.458   3.398   3.543   3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079	0.38 0.42 0.42 0.42 0.42 0.43 0.43 0.42	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.18       5.2     99.94	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2	4 70 4 66 3 60 3 58 4 63 3 65	24 24 21 24 23 25	199 203 198 201 197 207 202	72 68 68 68 67 54	120 120 120 110 110 130 130	0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4	7 7 4 7 5 4 6	14 17 15 18 14 13 14	7     13       7     13       7     11       7     13       6     13       7     11       8     13	21 19 21 18 21 22
765.00 23	231.82	800.00			750 755 760 765 765 760 765 770 770 775 775 780 780 785 780 785	62.0 62.7 62.2 64.4 64.0 64.2 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885	1.469     1.496     1.523     1.483     1.496     1.496     1.537     1.604     1.631	3.398 3.519 3.374 3.458 3.398 3.543 3.567 3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.18       5.2     99.94       4.8     99.53	480     2       490     2       490     2       480     2       480     2       480     2       490     2       480     2       490     2       490     2       490     2       490     2       480     2	4 70 4 66 3 60 3 58 4 63 3 65 2 77	24 24 21 24 23 25 26	199 203 198 201 197 207 202 198	72 68 68 68 67 54 54 59	120 120 120 110 110 130 130 120	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5	7 7 4 7 5 4 6 10	14 17 15 18 14 13 14 19	7 13 7 13 7 11 7 13 6 13 7 11 8 13 8 20	21 19 21 18 21 22 31
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
65.00 23	231.82	800.00			750 755 760 765 765 760 765 770 770 775 775 780 780 785 780 785	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40	6.6     99.54       6.8     99.03       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.18       5.2     99.94       4.8     99.53	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4 70 4 66 3 60 3 58 4 63 3 65 2 77	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59	120 120 120 110 110 130 130 120	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7 13 7 13 7 11 7 13 6 13 7 11 8 13 8 20	21 19 21 18 21 22 31 28
65.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
65.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 22 31 28
65.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
/65.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 23	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 2:	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28
765.00 2:	231.82	800.00		little or no carbonate, trace sulphides	750 755 760 765 765 760 765 770 775 775 775 780 785 780 785 780 780 785 790 795	62.0 62.7 62.2 64.4 64.0 64.2 64.0 64.2	13.1     3.3       13.9     3.3       14.0     3.2       13.7     3.0       14.6     2.00       14.7     2.1       14.0     2.3       14.4     2.3	02     3.117       116     3.084       174     3.183       178     3.084       185     2.918       54     2.918       178     2.885       178     2.785	1.469 1.496 1.523 1.483 1.496 1.537 1.604 1.631 1.631	3.398     3.519       3.374     3.374       3.458     3.398       3.543     3.567       3.567     3.567       3.458     3.567	4.86     0.121       5.09     0.114       4.75     0.116       5.13     0.114       4.80     0.110       4.88     0.075       5.09     0.079       5.81     0.083       5.72     0.084	0.38 0.42 0.42 0.42 0.40 0.43 0.43 0.42 0.40 0.38	6.6     99.54       6.8     99.00       6.6     99.70       6.2     99.54       5.0     99.43       5.2     99.16       5.2     99.94       4.8     99.53       4.8     99.73	480     2       490     2       490     2       480     2       480     2       480     2       490     2       490     2       490     2       490     2       480     2       480     2       480     2	4     70       4     66       3     60       3     58       4     63       3     65       2     77       2     67	24 24 21 24 23 25 26 20	199 203 198 201 197 207 202 198 191	72 68 68 68 67 54 54 59 58	120 120 110 110 130 130 120 110	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1	0.3 0.2 0.2 0.2 0.2 0.3 0.4 0.5 0.3	7 7 4 7 5 4 6 10 9 2	14   17   15   18   14   13   14   19   20	7     13       7     13       7     11       7     13       6     13       7     11       8     13       8     20       8     18	21 19 21 18 21 22 31 28

.

Sheet1

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UL RIV	ER MINER	RAL CORF	PORATIC	DN LTD.	F	R. H. ST	ANFIELD				1															-
OJECT	CEDAR	Ti	OCATIO	626700E, 5476200N, UTM Zone 11U	<u>                                      </u>				1	1						-+-		-				1	1 1		-+	
	Cedar Grou				DIP: -90	AT:	collar		-																-	
		C8-2-96/97		DRILLED BY:Schmidt Drilling Ltd., P.O.Box 98																			1			
				DATES DRILLED: Oct 1-2 Dec 9-14 1996, Mar 7-1	1.1997		+ +		-									-	-	-						
				LOGGED BY: Pilsum Master, P.Geol.			+		+							—†-				1		+ +	+	+		
				DATES LOGGED: October 18, 1996			+ +											_		·			1	t		
					TOTAL	68.2	/m																+		+	
					LENGTH:	00.1	1		-									-								
						_	+ +															1 1		1		
ROM (Ft	EDON	TO (Ft)	го	DESCRIPTION	Sample		SiO <sub>2</sub> Al	0 0-0		) Na <sub>2</sub> O	×0	Fe <sub>2</sub> O <sub>3</sub>	11-0	TiO <sub>2</sub>	101	Total	Ba 8	Be	Cr Li	i Rb	Sr V	/ Ag Co	I Co Cu	Mo	Ni	Pt
				DESCRIPTION					-				MnO	-						I RD		-		+		
	(Metres)		Metres)		Num		%	% %	6 9	5 %	%	%	%	%	%	% F	opm pp	m pp	m ppm	n ppm	ppm ppn	n ppm ppn	a ppm ppm	ppm p	ppm p	ppm
0.00		70.00		Mixed, boulders, cobbles, pebbles, sand, argillite	No samples fo	r analysi	s																			
70.00	21.21	225.00	68.18	Dark-grey Argillaceous-Quartzite (Arg-Qtzite)	70 75	75																0.10	11	15	5.00 28	3.00
				irregular and discontinuous distribution of	75	80																0.10	11	14	1.00 24	4.00
				pyrite-pyrrhotite noted	80	85																0.13	8		2.00 33	
						90												-				0.15	12		4.00 46	
					90	95														1		0.09	14	17	7.00 23	3.0
					95	100																0.13	26	5 21	1.00 43	3.0
					100	105												_		-		0.16	14		9.00 42	
					105															+		0.18	26		9.00 41	
					110																	0.13	16		1.00 33	
			••••		115																	0.19	13		0.00 55	
					120											_		-		- ···· ·		0.18	20	10	1.00 55	5.0
					125															+		0.11	16	17	7.00 33	30
					130				-											+		0.14	24		3.00 37	
					135												-			-		0.10	22		5.00 25	
					140		· · · · · · · ·		-											+		0.11	14		1.00 24	
					145				-										_			0.10	16		3.00 28	
					150		+													+		0.52	21		7.00 13	
					155		+		+											+	· · · · · · · · · · · · · · · · · · ·	0.97	18		7.00 27	
					160				-									_	_	+		0.19	10		7.00 48	
					165			-	-				· · · ·						_	-		0.19	13		1.00 25	
					170					+										-			14		5.00 32	
									-													0.14	17		5.00 32	
-					175		· <del> </del> · · · · · ·   · · ·											_				0.12				
					180																	0.11	16		5.00 28	
					185			_	_											-		0.10	10		4.00 29 7.00 29	
					190				_													0.12	15			
					195													_				0.14	22		7.00 38	
					200			_														0.11	19		3.00 34	
					205																	0.15	15		5.00 35	
					210													_				0.11	15		5.00 21	
				END OF PERCUSSION DRILLING	215																	0.09	14		3.00 21	
				HOLE CONTINUED BY DIAMOND DRILLING	220	225																0.05	12	. 14	4.00 20	0.0
																		_								
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ole No. ollar Su	rvey Date		CEDAR	El	evation: 946m	Tana and I King and And	ty: CEDA Dip -9				
bjectiv			Length of Hole: 667.27								
ommer	ced: Dec	ember 6, 1996 Logged by: Pilsum Master, P.Geol. Collar Bearing/Dip: @350m: -78⁰	0° azimuth, -90° dip,				· -			<u>.</u>	
omplet	ed: Repor	ted to May 10, 1997 Sampled by	Dates Lo May 21,		j: April 17,	Depth Depth		ring/Dip ring/Dip			
From	То	Description	Sample	No.	From - To	Width		_ • 1	Analysis	;	
	68.18	Overburden, see Percussion drill log	No sampl	es							
8.18	269.70	Quartzitic Argillite (Qtzitic-Arg): almost argillite, banding not prononced, but at @ 85-90° to	o CA, some taken								
CO 70	201.02	Broken core at irregular intervals Qtzitic-Arg: banding more pronounced									
69.70	381.82	304.85 - 309.09: carbonate (CO <sub>3</sub> ) veinlets and stringers iregular and discontinuous									
		310.61 - 325.76: some clots and stringers of pyrite (py) and pyrrhotite (pyrrh)								i i	
		339.39 – 341.82: broken core									
81.82	392.12	Qtzitic-Arg: banding @ 45-60° to CA, broken core @ 381.82 over 60cm.									
92.12	466.67	Qtzitic-Arg: banding @ 80-90 <sup>0</sup> to CA, slightly lighter coloured, with characteristic darker ba	ands clustered								
66.67	553.64	In 2-3cm wide sections Qtzitic-Arg: banding @ 80-90° to CA									
00.07	555.04	466.67: 30cm of fault gouge and breccia(bx) with $CO_3$ - chlorite									
		521.18 - 522.42: irregular and discontinuous stringers of white CO <sub>3</sub>									
		533.33 – 553.64: broken core									
53.64	640.61	Mixed banded Qtzitic-Arg and uniform Argillite (Arg) 600.91 – 640.61: broken core									
40.61	652.42	Argillite: uniform gray, lots of disseminated and clots of py-pyrrh and discordant stringers o									
52.42	667.27	Qtzitic-Arg: quite banded $(@ 80^{\circ})$ to CA, little or no sulphides, some py-CO <sub>3</sub> along fractures,	broken core								
	667.27	Drilling report to May 21, 1997									
									l		
				1							



## TERRAMIN RESEARCH LABS Ltd.

Job No:

i I.

#### Client: R.H. Stanfield Project: C-8 Percussion Program

i

Sample			Ag	Cu	Pb	Zn	Ni
Number	from	to	ppm	ppm	ppm	ppm	ppm
C8-1-96	105	110	0.38	23	63	230	21
C8-1-96	110	115	0.35	26	68	380	20
C8-1-96	115	120	0.23	39	51	128	24
C8-1-96	120	125	0.21	14	37	89	14
C8-1-96	125	130	0.21	22	42	91	19
C8-1-96	130	135	0.20	30	43	110	19
C8-1-96	135	140	0.15	32	39	129	18
C8-1-96	140	145	0.18	34	34	91	21
C8-2-96	70	75	0.10	11	28	83	15
C8-2-96	75	80	0.10	11	24	62	14
C8-2-96	80	85	0.13	8	33	67	12
C8-2-96	85	90	0.15	12	46	79	14
C8-2-96	90	95	0.09	14	23	98	17
C8-2-96	95	100	0.13	26	43	99	21
C8-2-96	100	105	0.16	14	42	58	19
C8-2-96	105	110	0.18	26	41	91	19
C8-2-96	110	115	0.13	16	33	63	14
C8-2-96	115	120	0.19	13	55	47	10
C8-2-96	120	125	0.18	20	55	71	14
C8-2-96	125	130	0.11	16	33	89	17
C8-2-96	130	135	0.14	24	37	116	18
C8-2-96	135	140	0.10	22	25	83	16
C8-2-96	140	145	0.11	14	24	57	21
C8-2-96	145	150	0.10	16	28	43	18
C8-2-96	150	155	0.52	21	139	67	17
C8-2-96	155	160	0.97	18	270	46	17
C8-2-96	160	165	0.19	19	48	71	17
C8-2-96	165	170	0.11	14	25	70	14
C8-2-96	170	175	0.14	17	32	97	15
C8-2-96	175	180	0.12	17	35	73	15
C8-2-96	180	185	0.11	16	28	84	16
C8-2-96	185	190	0.10	10	29	52	14
C8-2-96	190	195	0.12	15	29	74	17
C8-2-96	195	200	0.14	22	38	89	17
C8-2-96	200	205	0.11	19	34	85	18
C8-2-96	205	210	0.15	15	35	86	15
C8-2-96	210	215	0.11	15	21	66	15
C8-2-96	215	220	0.09	14	21	67	13
C8-2-96	220	225	0.05	12	20	59	14
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## TERRAMIN RESEARCH LABS Ltd.

# Client: Bul River Mineral Corp. Project: Cedar C-8

Sample Number	from	to	Ag ppm	Cd ppm	Co ppm	Cu ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	380 385 390 395 400	385 390 395 400 405	0.1 0.1 0.1 0.1 0.1	0.3 0.3 0.2 0.2 0.2	8 9 14 10 6	18 18 18 21 19	18 5 6 7 4	16 18 23 24 16	22 18 18 20 22	75 60 53 59 62
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	405 410 415 420 425	410 415 420 425 430	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1 0.1	7 6 7 7 7	12 13 12 16 22	3 4 9 7	16 15 19 20 23	19 16 19 23 20	35 27 31 33 25
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	430 435 440 445 450	435 440 445 450 455	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.3 0.1	6 5 9 11 10	15 19 25 25 19	6 7 9 8	15 17 21 27 25	13 16 17 14 16	25 26 38 79 53
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	455 460 465 470 475	460 465 470 475 480	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1 0.1	9 9 6 7 11	19 21 12 15 28	9 8 9 8 6	23 24 17 16 24	16 14 13 24 24	35 27 35 36 38
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	480 485 490 495 500	485 490 495 500 505	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.2 0.1 0.1	14 12 8 9 7	32 26 20 18 17	5 7 8 8 5	24 22 17 17 13	21 17 14 16 28	37 52 79 71 40
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	505 510 515 520 525	510 515 520 525 530	0.1 0.1 0.1 0.1 0.1	0.2 0.1 0.2 0.1	10 9 9 7 9	28 21 23 14 14	7 6 10 7	23 22 21 16 18	27 18 16 10 12	67 44 52 72 44
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	530 535 540 545 550	535 540 545 550 555	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1	11 11 10 8 9	21 30 35 30 23	8 6 9 9 8	21 24 24 20 21	17 11 12 11 11	29 27 30 29 28
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	555 560 565 570 575	560 565 570 575 580	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.1 0.1 0.1	8 11 10 10 11	23 26 20 16 13	7 8 7 6 9	19 24 21 20 19	14 24 21 20 19	25 28 30 31 30



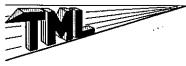
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## TERRAMIN RESEARCH LABS Ltd.

## Client: Bul River Mineral Corp. Project: Cedar C-8

Sample Number	from	to	Ag ppm	Cd ppm	Co ppm	Cu ppm	Mo ppm	Ni ppm	Pb ppm	Zn ppm
C8-1-96/97	580	585	0.1	0.1	9	19	7	19	19	-28
C8-1-96/97	585	590	0.1	0.1	6	16	5	15	15	24
C8-1-96/97	590	595	0.1	0.1	9	23	7	17	17	28
C8-1-96/97	595	600	0.1	0.1	7	25	8	16	16	51
C8-1-96/97	600	605	0.1	0.3	10	34	9	21	21	87
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	605 610 615 620 625	610 615 620 625 630	0.1 0.1 0.1 0.1 0.1	0.3 0.3 0.2 0.2 0.2	7 9 8 13 13	17 21 17 25 27	7 8 10 9 9	14 20 16 27 26	14 20 16 27 26	74 72 69 86 93
C8-1-96/97	630	635	0.1	0.2	8	23	8	25	25	91
C8-1-96/97	635	640	0.1	0.1	11	22	7	24	24	65
C8-1-96/97	640	645	0.1	0.1	7	16	9	19	19	74
C8-1-96/97	645	650	0.1	0.1	8	23	7	19	19	57
C8-1-96/97	650	655	0.1	0.1	6	20	6	15	15	49
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	655 660 665 670 675	660 665 670 675 680	0.1 0.1 0.1 0.1 0.1	0.1 0.1 0.2 0.2 0.2	7 8 7 7 7	17 20 18 17 16	6 6 7 5	15 19 15 15 13	15 19 15 15 13	52 68 73 81 75
C8-1-96/97	680	685	0.1	0.2	9	17	6	21	21	70
C8-1-96/97	685	690	0.1	0.2	8	18	6	17	17	73
C8-1-96/97	690	695	0.1	0.1	8	16	7	20	20	71
C8-1-96/97	695	700	0.1	0.2	7	18	5	16	16	74
C8-1-96/97	710	715	0.1	0.3	21	21	6	35	35	105
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	715 720 725 730 735	720 725 730 735 740	0.1 0.1 0.1 0.1 0.1	0.8 0.5 0.7 0.5 0.2	14 4 12 10 6	21 13 17 15 15	6 6 5 6	28 11 24 20 11	28 11 24 20 11	164 101 132 112 73
C8-1-96/97	740	745	0.1	0.2	5	13	5	10	10	83
C8-1-96/97	745	750	0.1	0.2	5	13	5	10	10	78
C8-1-96/97	750	755	0.1	0.3	7	14	7	13	19	81
C8-1-96/97	755	760	0.1	0.3	7	17	7	13	21	77
C8-1-96/97	760	765	0.1	0.2	4	15	7	11	19	81
C8-1-96/97	765	770	0.1	0.2	7	18	7	13	21	85
C8-1-96/97	770	775	0.1	0.2	5	14	6	13	18	85
C8-1-96/97	775	780	0.1	0.3	4	13	7	11	21	97
C8-1-96/97	780	785	0.1	0.4	6	14	8	13	22	112
C8-1-96/97	785	790	0.1	0.5	10	19	8	20	31	135
C8-1-96/97	790	795	0.1	0.3	9	20	8	18	28	93
C8-1-96/97	795	800	0.1	0.2	6	18	7	11	22	78



## TERRAMIN RESEARCH LABS Ltd.

# Client: Bul River Mineral Corp. Project: Cedar C-8

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Sample	r.		Ba	Be	Cr	Li	Rb	Sr	v
Number	from	to	ppm	ppm	ppm	ppm	ppm	ppm	ppm
C8-1-96/97	380	385	480	2.4	61	19	214	77	110
C8-1-96/97	385	390	480	2.6	52	19	220	71	110
C8-1-96/97	390	395	470	2.5	47	20	209	77	120
C8-1-96/97	395	400	460	2.4	52	20	203	70	110
C8-1-96/97	400	405	470	2.4	46	20	216	69	100
C8-1-96/97	405	410	470	2.2	49	18	205	69	100
C8-1-96/97	410	415	470	2.2	32	18	215	66	90
C8-1-96/97	415	420	460	2.3	40	18	203	53	100
C8-1-96/97	420	425	460	2.4	60	21	194	52	120
C8-1-96/97	425	430	480	2.5	60	21	203	56	120
C8-1-96/97	430	435	470	2.4	63	26	197	43	130
C8-1-96/97	435	440	460	2.3	64	24	198	48	130
C8-1-96/97	440	445	490	2.3	64	23	202	56	110
C8-1-96/97	445	450	510	2.3	66	22	210	49	140
C8-1-96/97	450	455	510	1.6	70	23	213	47	130
C8-1-96/97	455	460	510	1.7	66	22	209	52	120
C8-1-96/97	460	465	500	2.0	65	21	207	51	120
C8-1-96/97	465	470	490	2.5	68	27	231	35	140
C8-1-96/97	470	475	490	2.7	65	21	227	44	130
C8-1-96/97	475	480	460	2.5	68	19	204	53	120
C8-1-96/97	480	485	450	2.5	70	19	196	62	130
C8-1-96/97	485	490	450	2.4	62	17	194	61	120
C8-1-96/97	490	495	480	2.6	55	20	230	47	140
C8-1-96/97	495	500	460	2.6	63	21	220	39	140
C8-1-96/97	500	505	480	2.6	68	21	231	44	130
C8-1-96/97	505	510	460	2.4	67	19	216	56	120
C8-1-96/97	510	515	460	2.3	59	19	215	55	120
C8-1-96/97	515	520	460	2.4	68	17	210	53	130
C8-1-96/97	520	525	470	2.5	71	19	217	49	150
C8-1-96/97	525	530	460	2.6	67	21	208	43	130
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	530 535 540 545 550	535 540 545 550 555	450 450 450 490 520	2.4 2.4 2.5 2.6	62 66 63 64	16 19 20 20 22	200 196 196 206 221	54 54 59 49 47	120 130 130 130 130
C8-1-96/97	555	560	480	2.5	55	21	202	50	130
C8-1-96/97	560	565	460	2.5	67	20	195	53	140
C8-1-96/97	565	570	450	2.5	70	22	196	47	150
C8-1-96/97	570	575	460	2.4	66	22	194	47	140
C8-1-96/97	575	580	460	2.5	68	21	198	46	140



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## TERRAMIN RESEARCH LABS Ltd.

# Client: Bul River Mineral Corp. Project: Cedar C-8

Sample Number	from	to	Ba ppm	Be ppm	Cr ppm	Li ppm	Rb ppm	Sr ppm	V ppm
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	580 585 590 595 600	585 590 595 600 605	480 450 470 470 470	2.4 2.5 2.6 2.4 2.5	69 54 63 64 67	21 20 22 18 22	201 189 212 204 209	47 58 50 51 49	130 120 130 120 140
C8-1-96/97	605	610	470	2.5	52	19	203	56	140
C8-1-96/97	610	615	460	2.5	67	19	202	53	140
C8-1-96/97	615	620	480	2.6	58	22	212	47	150
C8-1-96/97	620	625	480	2.3	63	21	203	45	140
C8-1-96/97	625	630	470	2.4	62	23	204	42	140
C8-1-96/97	630	635	480	2.4	62	20	212	42	140
C8-1-96/97	635	640	470	2.0	57	22	210	47	130
C8-1-96/97	640	645	490	2.4	54	25	223	47	120
C8-1-96/97	645	650	440	2.0	64	18	185	71	120
C8-1-96/97	650	655	460	2.3	73	19	195	79	110
C8-1-96/97	655	660	450	2.2	74	17	188	78	100
C8-1-96/97	660	665	450	2.1	77	19	191	81	100
C8-1-96/97	665	670	450	2.3	71	22	192	80	110
C8-1-96/97	670	675	460	23.0	74	23	195	78	120
C8-1-96/97	675	680	460	2.3	67	22	197	84	110
C8-1-96/97	680	685	430	1.8	70	20	185	85	110
C8-1-96/97	685	690	460	2.1	73	22	190	83	110
C8-1-96/97	690	695	480	2.2	69	21	193	78	110
C8-1-96/97	695	700	480	2.3	72	24	193	80	110
C8-1-96/97	710	715	470	2.4	73	22	191	77	110
C8-1-96/97	715	720	470	2.4	73	21	196	78	110
C8-1-96/97	720	725	490	2.5	65	21	211	77	110
C8-1-96/97	725	730	470	2.3	66	21	194	75	110
C8-1-96/97	730	735	470	2.4	67	23	198	75	110
C8-1-96/97	735	740	480	2.5	65	22	205	76	110
C8-1-96/97	740	745	480	2.4	64	24	204	74	110
C8-1-96/97	745	750	480	2.2	60	24	202	75	110
C8-1-96/97	750	755	480	2.4	66	23	199	72	120
C8-1-96/97	755	760	490	2.4	70	24	203	68	120
C8-1-96/97	760	765	490	2.4	66	24	198	68	120
C8-1-96/97	765	770	480	2.3	60	21	201	68	110
C8-1-96/97	770	775	480	2.3	58	24	197	67	110
C8-1-96/97	775	780	490	2.4	63	23	207	54	130
C8-1-96/97	780	785	490	2.3	65	25	202	54	130
C8-1-96/97	785	790	480	2.2	77	26	198	59	120
C8-1-96/97	790	795	480	2.2	67	20	191	58	110
C8-1-96/97	795	800	490	2.4	64	23	203	59	120

TERRAMIN RESEARCH LABS Ltd.



Job No: 97-119

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Client: Bul River Minera Project: Cedar C 8

Sample Number	from	to	SiO₂ %	Al <sub>2</sub> O3 %	CaO %	MgO %	Na₂O %	K₂O %	Fe <sub>2</sub> O <sub>3</sub> %	MnO %	TiO₂ %
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	385 390 395	390 395 400	62.0 62.7 61.8 61.6 62.5	13.3 13.3 13.1 13.1 13.3	3.833 3.539 4.015 3.721 3.498	3.084 3.266 3.449 3.465 3.532	1.267 1.258 1.267 1.388 1.232	3.675 3.531 3.615 3.278 3.507	5.65 5.09 5.71 5.49 5.08	0.148 0.138 0.156 0.145 0.146	0.40 0.40 0.38 0.40 0.38
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	410 415 420	415 420 425	62.7 62.5 65.2 64.8 63.7	12.6 12.8 13.3 13.7 13.7	3.847 3.693 2.420 2.280 2.756	3.764 3.830 3.399 3.382 3.382	1.180 1.246 1.456 1.483 1.510	3.278 3.470 3.350 3.169 3.386	4.82 4.63 5.02 5.19 5.11	0.172 0.170 0.115 0.103 0.116	0.35 0.33 0.35 0.42 0.42
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	435 440 445	440 445 450	64.8 65.2 64.6 64.8 64.8	13.9 13.1 13.5 13.7 14.2	2.350 2.182 2.364 1.875 1.679	3.764 3.283 3.150 2.902 2.852	1.469 1.564 1.537 1.577 1.631	3.314 3.181 3.434 3.446 3.675	5.15 4.90 5.46 6.32 5.85	0.084 0.071 0.083 0.059 0.054	0.43 0.43 0.43 0.43 0.43
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	460 465 470	465 470 475	66.5 65.7 65.9 64.8 65.0	13.5 13.5 14.9 14.7 13.9	1.763 2.308 0.981 1.427 1.973	2.686 2.885 2.819 2.736 2.603	1.685 1.604 1.523 1.591 1.806	3.398 3.410 3.832 3.603 3.290	5.16 5.85 5.72 5.49 6.28	0.058 0.076 0.032 0.046 0.065	0.43 0.42 0.45 0.43 0.42
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	485 490 495	490 495 500	63.7 65.2 64.2 65.5 65.2	13.5 13.5 14.7 14.9 14.9	2.518 2.308 1.399 0.890 1.063	2.620 2.537 2.736 2.703 2.620	1.779 1.860 1.725 1.645 1.793	3.193 3.121 3.555 3.543 3.711	6.35 5.99 6.11 5.99 5.42	0.077 0.072 0.045 0.031 0.053	0.40 0.42 0.43 0.43 0.43
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	510 515 520	515 520 525	64.6 64.0 64.8 64.2 64.8	13.9 14.2 14.0 14.6 14.6	2.001 2.238 1.917 1.707 1.385	2.520 2.570 2.586 2.703 2.686	1.658 1.725 1.793 1.752 1.793	3.446 3.446 3.446 3.555 3.434	5.81 5.93 6.19 5.72 5.98	0.088 0.071 0.061 0.048 0.040	0.43 0.42 0.43 0.43 0.43
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	535 540 545	540 545 550	64.8 64.4 64.0 64.4 63.5	13.7 14.0 14.0 14.2 14.9	2.182 2.140 2.112 1.707 1.651	2.570 2.553 2.736 2.736 2.802	1.874 1.941 1.901 1.847 1.779	3.266 3.241 3.205 3.338 3.591	5.88 5.93 6.39 5.72 5.88	0.059 0.059 0.072 0.070 0.065	0.43 0.42 0.42 0.42 0.42
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	560 565 570	565 570 575	65.0 64.2 65.5 65.2 65.5	14.0 13.9 13.9 13.9 13.9	1.889 1.945 1.441 1.539 1.441	2.769 2.719 2.703 2.819 2.785	1.806 1.887 1.860 1.860 1.901	3.193 3.302 3.241 3.266 3.302	5.48 6.02 5.95 6.11 6.05	0.075 0.076 0.054 0.062 0.056	0.42 0.38 0.40 0.40 0.38

### TERRAMIN RESEARCH LABS Ltd.



Job No: 97-119

Client: Bul River Minera Project: Cedar C 8

Sample Number	from	to	SiO <sub>2</sub> %	Al <sub>2</sub> O3 %	CaO %	MgO %	Na₂O %	K₂O %	Fe <sub>2</sub> O <sub>3</sub> %	MnO %	TiO₂ %
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	585 590 595	590 595 600	65.7 64.6 65.9 65.7 64.4	13.9 13.9 14.0 14.0 13.9	1.469 2.434 1.707 1.665 1.595	2.785 2.902 2.736 2.785 2.785	1.955 1.941 1.793 1.806 1.766	3.217 3.422 3.398 3.362 3.531	5.56 4.62 5.19 5.26 6.06	0.054 0.083 0.062 0.065 0.056	0.40 0.40 0.38 0.38 0.40
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	610 615 620	615 620 625	64.8 65.7 66.3 65.5 64.8	13.9 13.3 14.0 13.7 13.7	2.015 1.679 1.100 1.072 1.032	2.703 2.603 2.653 2.769 2.686	1.806 1.793 1.806 1.806 1.672	3.434 3.326 3.627 3.482 3.362	5.15 5.63 5.49 6.84 7.04	0.074 0.063 0.048 0.048 0.045	0.42 0.42 0.43 0.40 0.40
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	635 640 645	640 645 650	65.9 65.2 65.9 61.8 61.6	13.7 13.7 12.6 11.9 12.8	1.013 1.511 1.721 3.987 4.673	2.736 2.785 2.752 2.984 3.299	1.712 1.672 1.510 1.496 1.523	3.603 3.579 3.711 3.181 3.338	6.41 6.26 5.53 5.35 4.52	0.046 0.066 0.062 0.116 0.115	0.40 0.38 0.37 0.37 0.37
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	660 665 670	665 670 675	61.0 60.5 58.8 59.3 57.5	13.0 12.6 12.4 13.0 13.5	4.715 4.813 5.036 4.966 5.372	3.283 3.565 3.830 3.929 4.112	1.510 1.456 1.388 1.348 1.361	3.302 3.278 3.398 3.386 3.495	4.80 5.05 4.58 4.68 4.38	0.115 0.112 0.124 0.134 0.141	0.37 0.37 0.35 0.35 0.35
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	685 690 695	690 695 700	58.6 58.8 60.1 58.6 57.1	12.6 13.1 13.0 13.1 12.8	5.218 4.897 4.281 4.841 4.561	3.764 3.714 3.515 3.847 3.614	1.415 1.415 1.442 1.402 1.388	3.302 3.350 3.338 3.350 3.302	5.35 4.85 5.13 4.90 7.81	0.130 0.127 0.117 0.134 0.125	0.33 0.35 0.35 0.37 0.38
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	720 725 730	725 730 735	57.1 58.2 59.5 59.9 60.7	13.3 13.5 13.1 13.1 14.0	4.547 4.533 4.085 4.071 4.015	3.747 4.046 3.565 3.498 3.598	1.308 1.361 1.375 1.483 1.469	3.386 3.675 3.386 3.446 3.495	6.71 4.76 6.16 5.75 4.62	0.130 0.141 0.127 0.130 0.132	0.38 0.40 0.38 0.40 0.42
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	745 750 755	750 755 760	60.7 60.3 63.1 62.0 62.7	14.0 14.0 12.8 13.1 13.9	3.735 3.945 3.567 3.302 3.316	3.548 3.482 3.250 3.117 3.084	1.442 1.496 1.469 1.496 1.523	3.615 3.651 3.398 3.519 3.374	4.30 4.59 4.86 5.09 4.75	0.123 0.129 0.121 0.114 0.116	0.38 0.38 0.38 0.42 0.42
C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97 C8-1-96/97	770 775 780	775 780 785	62.2 64.4 64.0 64.2 64.0	14.0 13.7 14.6 14.7 14.0	3.274 3.078 2.085 2.154 2.378	3.183 3.084 2.918 2.918 2.885	1.483 1.496 1.537 1.604 1.631	3.458 3.398 3.543 3.567 3.567	5.13 4.80 4.88 5.09 5.81	0.114 0.110 0.075 0.079 0.083	0.42 0.40 0.43 0.42 0.40
C8-1-96/97 C8-1-96/97			64.2 64.4	14.4 14.7	2.378 2.238	2.785 2.785	1.631 1.631	3.458 3.507	5.72 5.11	0.084 0.083	0.38 0.42

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,	LOI %	Total %	
	6.2 6.0 6.0 6.6 6.2	99.61 99.21 99.55 99.23 99.35	
	4.6 5.2	99.69 99.42 99.27 99.71 99.49	
	5.0 5.0 4.0	99.62 99.00 99.56 99.10 99.21	
)	4.0 3.4 4.6	99.00 99.71 99.55 99.48 99.71	
)		99.37 99.84 99.51 99.40 99.25	
	5.0 5.0 4.6 4.4 4.0	99.40 99.56 99.87 99.05 99.12	
	4.8 5.2 4.8 5.0 5.0	99.55 99.90 99.62 99.42 99.63	
	5.0 5.6 4.2 4.0 4.2	99.68 99.95 99.15 99.14 99.42	

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LOI %	
4.8	99.76
5.0	99.25
4.6	99.78
4.4	99.42
4.6	99.03
4.8	99.06
4.6	99.10
4.2	99.70
4.4	99.94
4.2	98.92
4.4 4.6 4.8 7.8 7.2	98.95
9.0	99.60
9.0 8.6 7.8 8.6 8.4	
9.0 8.4 7.8 7.6 7.0	99.49
7.2	99.13
7.4	99.42
6.6	99.54
6.8	99.03
6.6	99.70
6.2	99.54
5.0	99.43
5.2	99.18
5.2	99.94
4.8	99.53
4.8	99.79
4.8	99.69

APPENDIX 2

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FORMS - STATEMENT OF WORK