GATAGA PROJECT, AKIE CLAIMS
1996 SOIL GEOCHEMICAL AND DIAMOND DRILLING
ASSESSMENT REPORT

NTS 94F/7W

Omineca Mining Division

Latitude 57° 22' N
Longitude 124° 51' W

Owners: Ecstall Mining Corporation, Inmet Mining Corporation
Operator: Inmet Mining Corporation

AKIE 96E Group	AKIE 96F Group	AKIE 96G Group
AKIE 1	AKIE 6	AKIE 7
AKIE 2	AKIE 7	AKIE 8
AKIE 3	AKIE 12	AKIE 9
AKIE 4	AKIE 13	AKIE 10
AKIE 5	AKIE 14	AKIE 15
AKIE 11	AKIE 17	AKIE 16
AKIE 21		AKIE 18
AKIE 22		AKIE 19
AKIE 25		

Paul Baxter
Inmet Mining Corporation

November, 1996
Vancouver, B.C.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

LIST OF FIGURES

GATAGA PROJECT, AKIE CLAIMS
1996 SOIL GEOCHEMICAL AND DIAMOND DRILLING ASSESSMENT REPORT

1. INTRODUCTION

In June of 1992, Inmet Mining Corporation optioned the AKIE claims in the southern Gataga district from Ecstall Mining Corporation to assess the potential for hosting a SEDEX-style Ba-Zn-Pb-Ag massive sulphide deposit. A three year program of compilation, soil geochemistry and prospecting resulted in the 1994 discovery of narrow, high grade massive sulfide mineralization in outcrop. Diamond drilling in 1994 and 1995 has since defined a steeply dipping massive sulfide sheet 1500m long, averaging approximately 20m wide tested to depths of up to 700m below surface. As well, line cutting, soil, geological and geophysical surveys have been carried out to further evaluate the property. This report describes the results of a 392 sample, soil geochemical survey and an 11 hole, 4982.6m HQ/NQ/BTW diamond drilling program carried out on the Akie claims during the period of June 4, 1996 to October 31, 1996.

1.1. Location, Access and Physiography

The AKIE claims are located in the western ranges of the Rocky Mountains, 250 km northwest of MacKenzie, B.C. and 25 km southeast of the Cirque Deposit. (Figure 1) The claims are accessed via helicopter from the Finbow logging camp 35 km to the southwest on the Finlay River. Road access is gradually improving in the area as logging roads are being constructed in the Del Creek water shed. As of 1996, the Del Creek road is within 18 km (direct flight) of the property and acts as a staging area for the mobilization of drilling equipment. Topographic relief on the AKIE claims is moderate to steep with elevations ranging from 850m in the Akie River valley to 2200m on mountain tops. Tree line occurs at approximately 1700 m ASL. The alpine is a mix of talus and grassy slopes. Creek valleys and treed slopes are covered by a dense forest of pine, balsam and spruce.

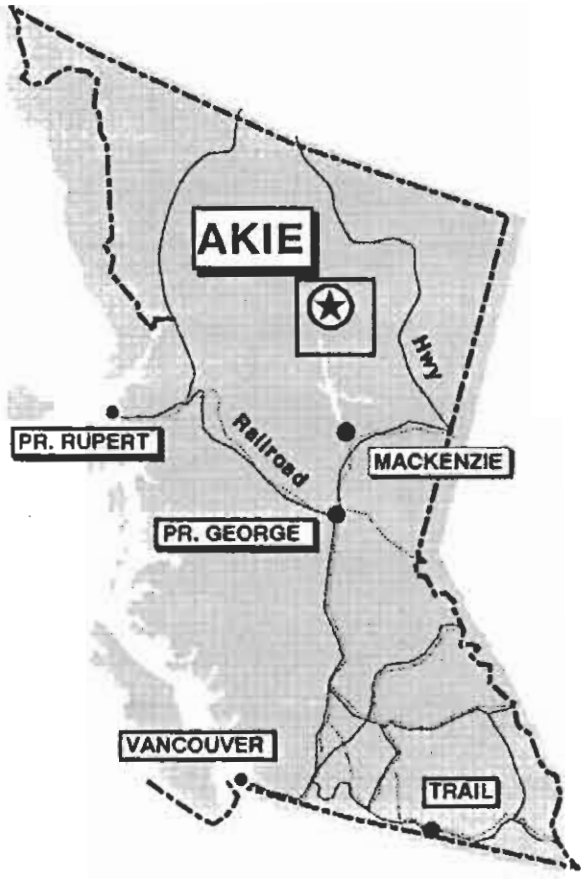
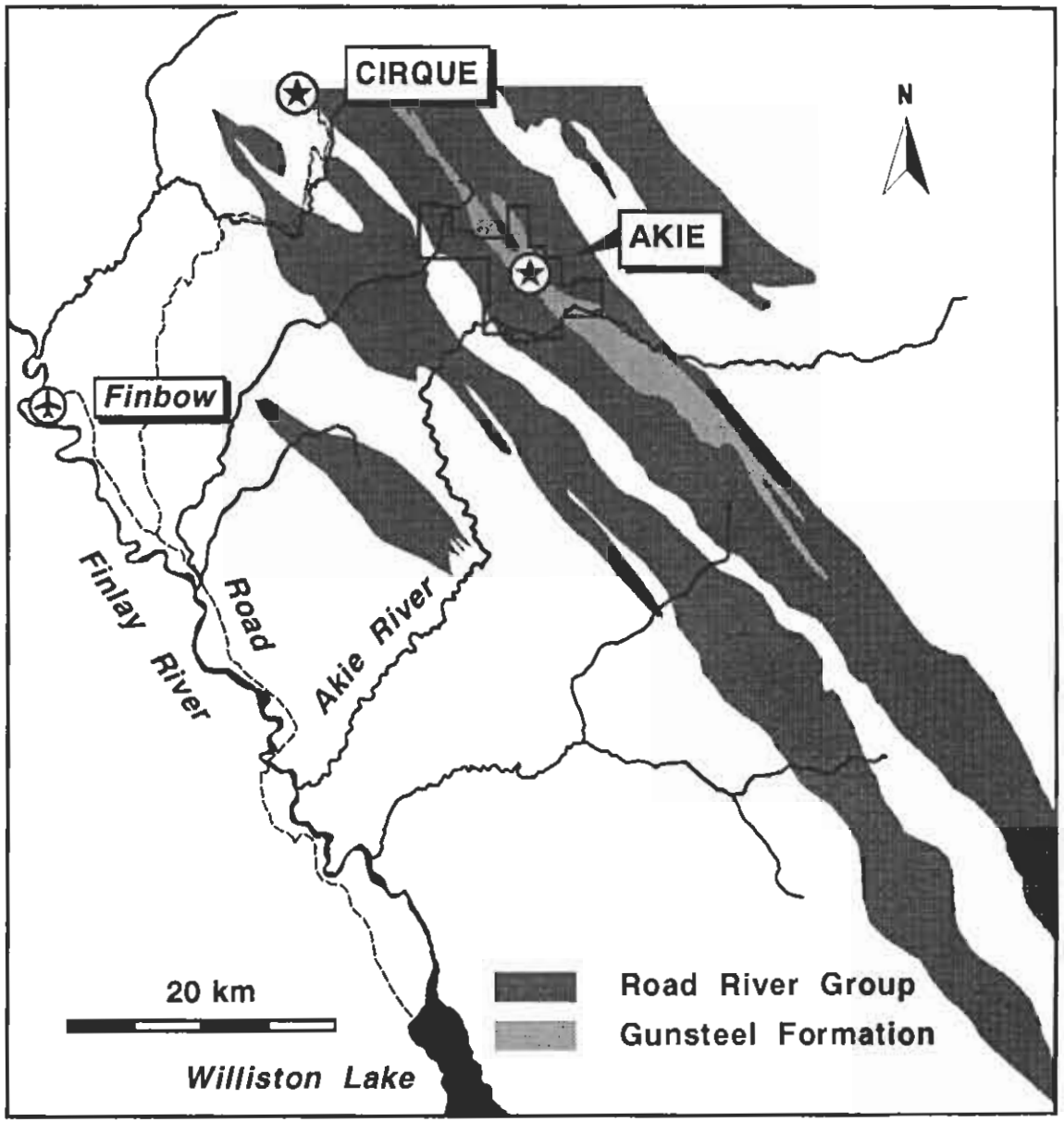


FIGURE 1

AKIE PROJECT LOCATION MAP

INMET MINING



1.2. Mineral Rights

For the described assessment, the AKIE claims have been divided into three groups - AKIE 96E, AKIE 96F and AKIE 96G GROUPS (Figure 2). The status of these claims is as follows:

AKIE 96E GROUP

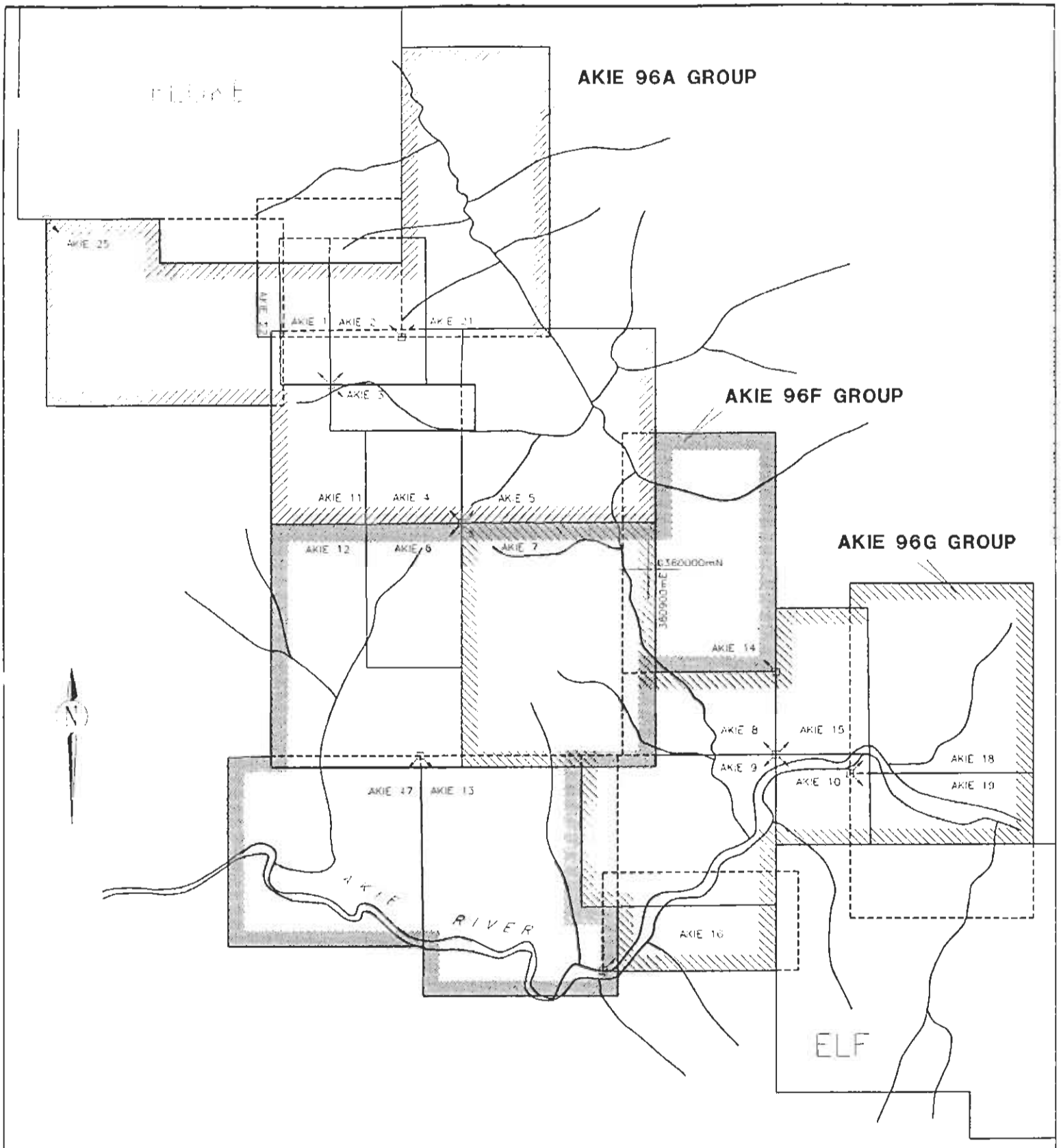
Claim	Record No.	Units	Month of Record
AKIE 1	240791	3	June
AKIE 2	240792	6	June
AKIE 3	240793	3	June
AKIE 4	324822	4	April
AKIE 5	324823	16	April
AKIE 11	329534	16	July
AKIE 21	333352	18	January
AKIE 22	333353	9	January
AKIE 25	333356	20	January

AKIE 96F GROUP

Claim	Record No.	Units	Month of Record
AKIE 6	324824	6	April
AKIE 7	324825	20	April
AKIE 12	329535	20	August
AKIE 13	329536	20	July
AKIE 14	329537	15	August
AKIE 17	330626	16	August

AKIE 96G GROUP

Claim	Record No.	Units	Month of Record
AKIE 7	324825	20	April
AKIE 8	327931	6	July
AKIE 9	327932	12	July
AKIE 10	327933	4	July
AKIE 15	329538	6	August
AKIE 16	329539	8	August
AKIE 18	338283	16	August
AKIE 19	338284	12	August



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MINING

FIGURE 2

GATAGA PROJECT
AKIE CLAIMS
CLAIM CONFIGURATION

1.3. Previous Work

The AKIE claims were originally staked in 1978 by Rio Canex as part of the Dog claim group to cover an area of anomalous lead in stream sediment silt samples. During the period of 1979 to 1981 geological, soil geochemical and VLF surveys were completed. Several zones of anomalous Pb, Zn, Ag and Ba in soils were outlined in areas underlain by Gunsteel shales, however, no follow-up evaluation of the soil anomalies was done. Mapping and prospecting did discover two zones of nodular barite on the ridge adjacent to the Fluke claims but no base metal mineralization was discovered. In 1985, the Dog claims were allowed to lapse.

During this earlier period of exploration the south Gataga district was also mapped by MacIntyre (1981).

In 1989 Ecstall Mining Corporation staked the Akie 1, 2 and 3 claims adjacent to the southern edge of the Fluke claims and in 1992 optioned the claims to Inmet Mining Corporation. From 1992 to 1994 Inmet Mining Corporation staked additional ground and conducted further soil surveys to define areas of anomalous metal enrichment within the Gunsteel formation. In 1994, prospecting along the trend of the soil anomalies lead to the discovery of narrow high grade massive sulfides in Cardiac Creek (16.0% Zn, 2.8% Pb / 40cm). Diamond drilling in 1994 and 1995 has since defined a 1500m long mineralized sheet tested to depths of up to 700m below surface. As well, additional ground has been staked, the soil grid extended and the property covered by a VLF-Resistivity survey.

2. GEOLOGY

2.1. Regional Geology

The AKIE claims occur on the northeastern margin of the Kechika Trough which is the southern extension of the Selwyn Basin - a 1200 km belt of sediments which

were deposited off the western edge of ancestral North America. The Kechika Trough is a 180 km long, northwesterly trending belt of Early Cambrian to Triassic sediments which occur in a number of southwest dipping thrust fault slices. A detailed review of the stratigraphy and descriptions of the various formations of the South Gataga area is given by MacIntyre (1992).

Exploration activity in the area has concentrated on stratiform barite-sulphide showings which are hosted in Middle to Upper Devonian shales of the Gunsteel Formation. Notable occurrences in the belt include Driftpile Creek, Mt. Alcock, Elf, Cirque and Akie. The most developed prospect is the Cirque deposit which contains an estimated 38 m Tonnes @ 8.0% Zn and 2.2% Pb.

2.2. Local

The Akie River area has been mapped at 1:50,000 scale by MacIntyre (1981) and a generalized geology map and stratigraphic section are shown in Figures 3 and 4.

The Akie claims are underlain by a northwest trending package of Devonian age shales, siltstones and localized limestones and conglomerate which overlie Silurian age calcareous siltstones of the Road River Group. This package of rocks is folded into a series of both northwest and southeast plunging synforms and antiforms and is in thrust contact to the southwest with Ordovician siltstones, shales, limestones, and minor pyroclastic volcanics of the Road River Group.

Exploration activity on the property is focused within a 400-600 m wide band of black, recessive weathering shale of the Middle-Upper Devonian Gunsteel Formation which has been covered by the main grid. These rocks occur as a narrow northwest trending southwest dipping package which overlies Silurian age Road River calcareous siltstones to the northeast and is in thrust contact to the southwest by Ordovician siltstones, shales and limestones also of the Road River Group.

In 1994, massive sulphide mineralization was discovered on surface at the base of the Gunsteel Formation. Mineralization occurs within several, centimeter scale beds of finely laminated, fine grained massive pyrite-sphalerite-galena interbedded with barren black shales of the Gunsteel Formation. The mineralization is exposed over a

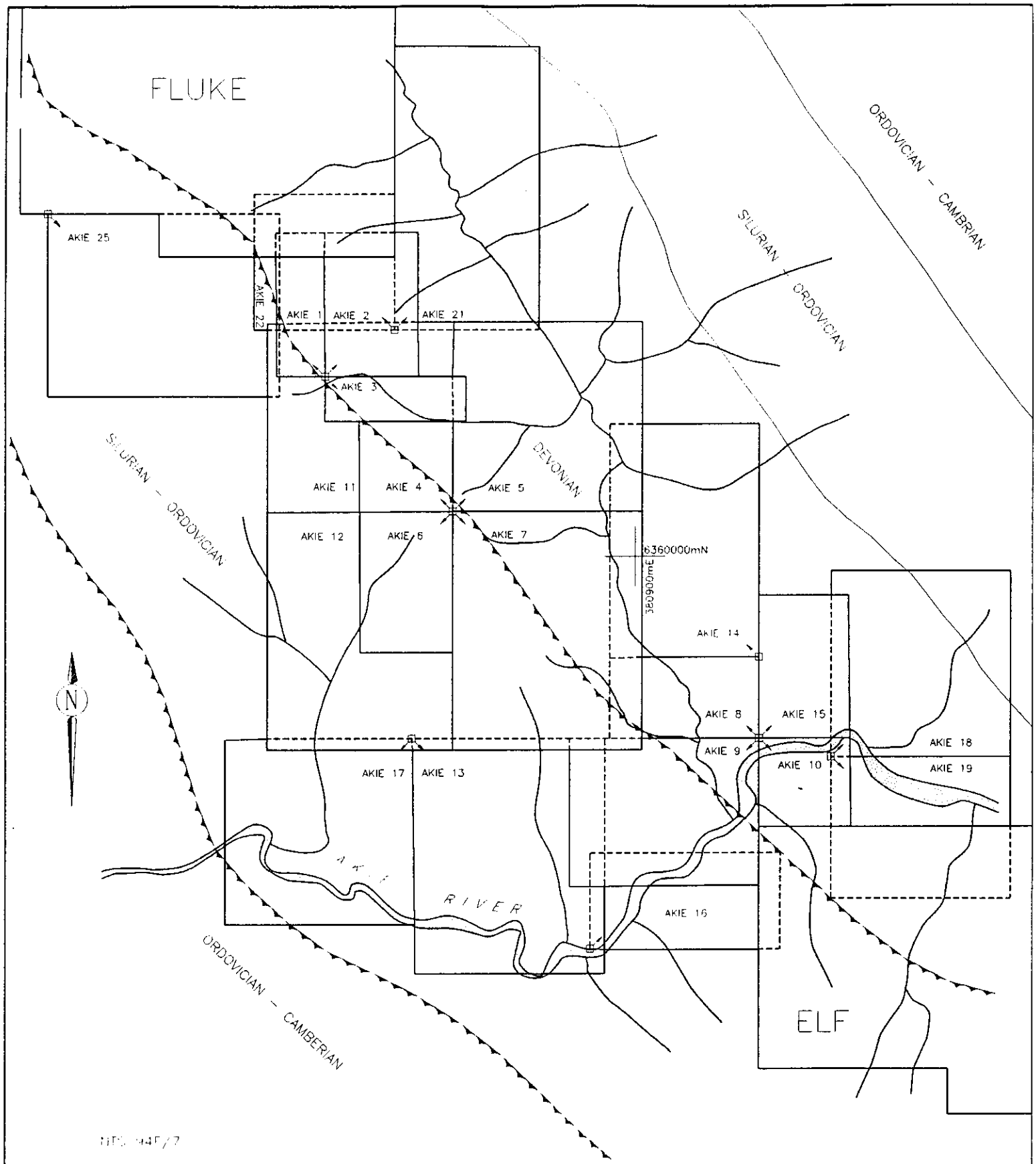

FIGURE 3

GATAGA PROJECT
AKIE CLAIMS

GENERALIZED GEOLOGY

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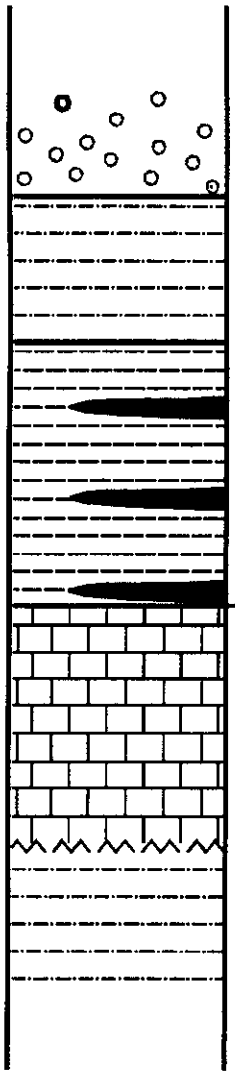
GATCLM

FIGURE 4
GENERALIZED STRATIGRAPHY - SOUTH GATAGA AREA
(after MacIntyre 1992)



FORMATION	AGE	ROCK TYPE	
WARNEFORD	MISSISSIPPIAN UPPER DEVONIAN	CHERT PEBBLE CONGLOMERATE	
AKIE		SILTSTONE	EARN GROUP
GUNSTEEL	MIDDLE - UPPER DEVONIAN	SHALE, BEDDED NODULAR BARITE MASSIVE SULPHIDES	
KWADACHA	LOWER - MIDDLE DEVONIAN	FOSSILIFEROUS LIMESTONE	ROAD RIVER GROUP
	SILURIAN ORDOVICIAN	SHALES, SILTSTONES, CHERTS	

width of 6.2m and a continuous chip sample across the widest bed returned 16.0% Zn and 2.8% Pb over 40 cm. The discovery has been called the Cardiac Creek zone which to date has been defined by drilling over a strike length of 1500m and tested to depths of up to 700m below surface.

3. SOIL GEOCHEMISTRY

In 1996, 12.76 km of line cutting and the collection of 392 soil geochemical samples was carried out on the Akie claims in the following areas to :

i) Follow up a Zn-Ba anomaly on line 800N, Silver Creek area,

ii) Follow up a three station Zn anomaly along the limestone-shale contact on line 1400S, Silver Creek area,

iii) Close off the South Zinc anomaly to the southeast.

Grid lines were established using chain and compass, slope corrected and cleared of brush for ease of access.

3.1. Sampling Procedure

Samples of the B soil horizon were collected at 25 metre intervals along 200 meter spaced cut, flagged and picketed grid lines. The B soil horizon is poorly developed, rocky, grey to brownish grey in colour and occurs at depths ranging between 5 cm and 25 cm below surface. Soil samples of 300 to 500 grams were placed in Kraft paper bags, labeled by grid location, dried in the field and then sent to IPL Labs in Vancouver for analysis. Each sample was analyzed for Pb, Zn, Ag, Ba, Cd, Mn, As and Fe using an ICP technique. Laboratory procedures for sample preparation and analysis are included in Appendix I.

3.2. Results

Analytical certificates are included in Appendix II and the 1994 to 1996 soil geochemical data is plotted to an idealized grid at 1:10,000 scale on Figures 5a to 5d. Statistical data for Akie soil sampling is presented in Table 1. Frequency histograms

Table 1: Akie Soil Geochemical Statistical Data

Element	Units	Min.	Max.	N	Distribution	Mean/Geometric Mean	Standard Deviation	Anomalous Values
As	ppm	2.50	313	3122	Log Normal	1.314	0.408	135
Ag	ppm	0.05	23	3139	Log Normal	-0.381	0.545	5.1
Ba	ppm	122	18,601	3139	Log Normal	3.309	0.260	6745
Cd	ppm	0.05	222.3	3139	Log Normal	-0.542	0.794	11.1
Cu	ppm	3	175	970	Log Normal	1.293	0.259	65
Fe	%	0.33	20.17	3139	Log Normal	0.280	0.223	5.3
Mn	ppm	6	12,186	3139	Log Normal	2.063	0.487	1089
Pb	ppm	1.0	3186	3139	Log Normal	1.540	0.223	97
Zn	ppm	14.0	17,917	3139	Log Normal	2.262	0.372	1014

were generated for each element to determine the type of population distribution (normal or log normal). Anomalous values are those greater than mean plus two standard deviations for normal populations or geometric mean plus two standard deviations for log normal populations.

In the Silver Creek line 800N area, additional line cutting and soil sampling was conducted to follow-up a zinc and barium anomaly on reconnaissance line 800N. The original Zn-Ba anomaly has been extended 200m grid north to line 1000N and remains open. As well, an 1100 x 200m area comprised of two narrow parallel trends of Zn-Ba-Pb-As-Cd overlying Gunsteel shales has also been defined. Drill testing is required to assess the significance of these two anomalies.

In the Silver Creek line 1400S area, lines 1200S and 1600S were put in to follow up a three station zinc anomaly on reconnaissance line 1400S which overlies the limestone-shale contact in Silver Creek. This anomaly has been extended to line 1200S with a coincidental Zn, Pb, Ba and Cd anomaly at the contact. Due to the location of this anomaly within the creek bottom, the anomaly stops to the north as soil samples overlie creek gravels and do not represent the underlying stratigraphy. As this anomaly lies at the limestone-shale contact (Cardiac Creek time equivalent) it is a high priority target that requires drill testing. Also in this area, an 1160 ppm Pb anomaly was returned from the last station, 1475E, on line 1200S. To follow up this anomaly, line 1200S was extended from 1475E to 1325E and line 1000S was put in. No additional anomalies were developed. To check this one station 1160 ppm Pb anomaly, the sample from 1475E was duplicated and additional samples were taken on 5m centers from 1460E to 1490E. All follow up samples return lead values in the 40 ppm range suggesting that the original 1160 ppm Pb result is probably due to contamination during sample preparation in the lab. No further work is required with respect to this false anomaly.

In the South Zinc area, the main zinc anomaly has been closed off on line 6800S with a smaller open zinc anomaly on line 7200S and 7400S which may be a continuation of this anomaly. In total the South Zinc anomaly is now a 2000m x 200-

500m anomaly of primarily zinc with narrow linear trends defined by several single station, single element anomalies. This is the largest untested anomaly on the property and several drill holes are required to adequately test its significance.

4. DIAMOND DRILLING

During the 1996 summer field program, two drill rigs drilled 4982.6m in 11 holes including meterage drilled then retreating to wedge. 2574.9m was drilled in the deep downdip drilling of the Cardiac Creek massive sulfide zone and 2407.7m was drilled in 7 holes testing soil geochem anomalies along the Gunsteel - Road River contact along strike from the Cardiac Creek zone. Table 2 summarizes the 1996 Akie diamond drilling program. Diamond drill logs are included in Appendix III and drill hole locations, horizontal projections and core storage locations are shown in figure 6.

4.1. Results

In the deep drilling of the Cardiac Creek zone, two holes, 19 and 29, successfully reached the Road River - Gunsteel contact to test the Cardiac Creek horizon 250-350m downdip of previous drilling, (950-1000m below surface). Both holes intersected a fault contact between the Road River Group and Gunsteel formation which has displaced the Cardiac Creek massive sulfide horizon and footwall shale and breccia stratigraphy to the southwest. In hole 19, the fault contact was proximal to the Cardiac Creek horizon as the hanging wall zone and 23m of silicified hanging wall shales were intersected prior to hitting the fault contact. The hanging wall zone in hole 19 is 12.6m wide comprised of 30-70% laminar bedded pyrite interbedded with shale with a 2.9m interval returning 1.34% Zn and 0.31% Pb. From hole 19, there is no indication of the amount of displacement which has occurred along this structure. In hole 29, neither the hanging wall zone, the Cardiac Creek zone or any footwall shale or breccia stratigraphy was intersected. Due to the absence of reliable marker horizons in the hangingwall shales or footwall Road River, only a minimum fault displacement can be estimated.

Based on cross-sectional work, there has been a minimum of 150m horizontal displacement of the zone to the southwest and the faulting has produced a minimum 150m vertical window where the zone is not present. As these are only minimum displacements indicated from one hole, the actual location of the zone below this structure is unknown.

The exploration drilling away from the Cardiac Creek massive sulfides has intersected encouraging mineralization which will require additional diamond drilling in 1997. South of the known mineralization, holes 20, 22 and 23 tested soil geochem anomalies at the Cardiac Creek time horizon roughly every kilometre from the deposit. In hole A-96-20 on line 5200S, 1 km south of the nearest Cardiac Creek hole, the Cardiac Creek horizon was faulted out with the hole intersecting the Road River group much sooner then planned. There is a 2.2m silicified fault zone at the contact with 1.5m of this fault structure containing 3.59% Zn and 1.54% Pb. 1 km south of hole 20, A-96-22, on line 6200S, intersected 4.6m of 30-75% laminar bedded massive pyrite 76m above the Gunsteel - Road River contact. A 1.7m interval of 75% laminar bedded pyrite returned 1.36% Zn. This is possibly a new horizon above the Cardiac Creek time horizon and represents very distal fringe style mineralization. Hole A-96-23, 800m south of hole 22 did not intersect any significant mineralization. To follow up the mineralization in holes 20 and 22, hole 27 was drilled to intersect the Road River - Gunsteel contact on line 5700S downdip of both 20 and 22. The Road River - Gunsteel contact is again a fault contact with no significant mineralization in the shales above the contact or within the fault structure.

At the north end of the property, hole A-96-24, on line 400S, 1.5 km from the nearest Cardiac Creek hole, was drilled to test a large lead anomaly overlying Gunsteel shales. The hole intersected 0.8m of massive pyrite - galena - sphalerite mineralization overlying a shale siltstone limestone breccia at the Gunsteel - Road River contact. The massive sulfides returned 11.6% Zn and 9.05% Pb. Overlying the massive sulfide zone is 45m of 5-12% pyrite occurring as 2-5cm thick beds of laminar massive pyrite, including a 2.2m zone of 70% massive laminar pyrite which returned <1% Zn just above the massive pyrite-galena-sphalerite. Although the massive sulfide mineralization is

narrow, its occurrence at the top of a breccia representing shedding off of a paleo fault escarpment conforms to the model of SEDEX massive sulfide formation. It is along such a paleostructure that venting of sulfides will occur and the presence of high galena within the massive sulfides indicates proximity to such a vent.

To follow up the hole 24 massive sulfides, Hole 25 was drilled 400m along strike to the south and 180m updip and intersected 7.6m of interbedded shale and bedded barite indicating a distal location to the massive sulfides of hole 24. Hole 26, drilled down dip of 25, did not intersect any significant mineralization at the Gunsteel-Road River contact but did intersect 17.7m of an interesting laminar limestone, limestone shale slump breccia, possibly of exhalitive origin, overlying the footwall heterolithic breccia.

At the north end of the property, holes 24, 25 and 26 have defined a major cross fault with approximately 200m of displacement. To the north of this fault the Gunsteel formation has a unique stratigraphy and a good possibility of hosting significant mineralization again at the Gunsteel - Road River contact. Holes 24 and 25 intersected massive sulfides and bedded barite mineralization as well as a coarse siltstone wedge within the Gunsteel which is limited to the Bear Valley Block whereas hole 26 only intersected laminar limestone at the north end of the Cardiac Creek Block. Additional diamond drilling in 1997 will be required to follow up this new zone.

TABLE 2: 1996 AKIE DIAMOND DRILLING SUMMARY

HOLE NO.	LOCATION	COLLAR AZ	COLLAR DIP	FINAL DEPTH	RESULTS
*A-95-19	2830S, 570W	035	-88	*1192.4m	1074.5-1077.4: Hanging wall zone 1.34% Zn, 0.31% Pb over 2.9m. Cardiac zone faulted out.
A-96-20	5202S, 019E	050	-60	438.3m	391.2-392.7: 3.59% Zn, 1.54% Pb over 1.5m in fault zone.
A-96-21	3025S, 287E	203	-84	601.1	hole stopped due to excessive deviation.
A-96-22	6209S, 250E	050	-50	282.9m	172.7-174.4: 1.36% Zn over 1.7m in 75% laminar bedded pyrite and shale.
A-96-23	6970S, 462E	050	-50	206.7m	no significant results.
A-96-24	400S, 150W	050	-60	541.9	472.4-473.2: 11.6% Zn, 9.05% Pb, 3.5 g/t Ag over 0.8m.
A-96-25	780S 85E	050	-45	214.6	169.5-177.1: 7.6m interbedded shale and bedded barite.
A-96-26	780S 85E	050	-87	129.5	No significant mineralization.
A-96-27	5600S 0E	070	-62	593.8	No significant mineralization.
A-96-28	3510S 328E	230	-70	211.8	hole stopped due to excessive deviation.
A-96-29	3510S 328E	230	-75	1262.2	Fault contact between the Road River and Gunsteel Formation. Cardiac Creek zone not present.

* Note: Hole A-95-19 started 1995, completed 1996 with 364.3m drilled in 1996.

5. CONCLUSIONS AND RECOMMENDATIONS

The 1994 and 1995 drilling of the Cardiac Creek massive sulfide zone has defined an extensive sheet of mineralization with indications a higher grade core should be present at depth. In 1996 deep drilling of the zone continued in search of this higher grade core however, it now appears the continuity of the mineralized sheet is truncated at depth with the zone being displaced an unknown distance to the southwest leaving at least a 150m vertical window where the zone is not present. It is not known how far the zone has been shifted and drill testing to find the zone will require extremely deep and costly drilling. As well, consideration must be given to the possibility of the development of a potentially economic tonnage above the fault window. Is there still enough room to develop an economic deposit?

7 holes testing soil geochem anomalies proximal to the Gunsteel - Road River contact along strike from the Cardiac Creek zone has yielded mixed results. The 1996 drilling south of the Cardiac Creek zone has essentially eliminated the potential for a shallow Sedex deposit south of line 5000S. There is still deeper potential down dip and to the southeast of the distal fringe style mineralization which was intersected in hole 22 on line 6200S. Additional drilling is required to assess this potential.

At present. the greatest potential for additional mineralization is at the north end of the property where additional drilling is required to follow up the massive sulfides intersected in hole A-96-24. As the greatest potential is to the north and downdip of hole 24, and due to the topography in the area, follow up drilling will again be deep (600-700m range) and costly.

In 1996, two small soil grids in the Silver Creek valley were put in to follow up anomalies developed on 1995 reconnaissance soil lines. In the line 800N area, an 1100 x 200m Zn-Ba-Pb-As anomaly has been defined which now requires drill testing. In the line 1400S area, a Zn-Ba-Pb anomaly overlying a shale - limestone contact which is Cardiac Creek time equivalent has been confirmed and now requires drill testing. As a portion of this anomaly is on open ground, claim staking is required to secure this area.

Additional line cutting and soil sampling in the south zinc soil anomaly area has closed off the anomaly. This anomaly is the largest anomalous area with the highest zinc values on the property and its occurrence at the folded repetition of the Cardiac Creek time horizon represents a high priority drill target. Several drill holes will be required to test this anomaly.

6. COST STATEMENT

1. GEOCHEMISTRY

i.	Helicopter Support: *Northern Mountain Helicopters*		$7,242
ii.	Accommodations: *Finbow Logging Camp* 29 man days @ $85/man day		$2,465
iii.	Contractor Costs: *Twin Mountain Enterprises Ltd.* linecutting and soil sampling		$8,929.59
iv.	Analyses: *IPL Labs* 392 samples @ $8.25/sample		$3,234.00
v.	Air Charters: *NT Air, Williston Lake Air.* crew mob/demob, ship samples, freight		$1,341.00
vi.	Sample Shipment: *Loomis*		$134.26
vii.	Salaries:		
	Paul Baxter	1 day @ $250/day	$250
	Logan Kelly	2 days @ $150/day	$300
	Justin Vandenbrink	2 days @ $150/day	$300
TOTAL			$24,195.85

COST ALLOCATION

AKIE 96E Group: 50% **$12,097.92**

AKIE 96G Group: 50% **$12,097.93**

2. DRILLING

i.	Helicopter Support: *Northern Mountain Helicopters*		
	Bell 205 - Drill moves, mob/demob		$54,594.00
	Hughes 500D - Drill support, shift changes		$382,264.00
ii.	Accommodations and Fuel: *Finbow Logging Camp, TimberWest.*		
	973 man days @ $85/man day		$82,705.00
	Office Rental 123 days @ $35/day		$4,305.00
	Radio Repeater Rental		$1,600.00
	Fuel		$12,243.76
iii.	Contractor Costs:. *Falcon Drilling Ltd*		
	Completion of A-95-19 and holes A-96-20 to A-96-29		$1,074,217.37
iv.	Analyses: *Min-En Labs*		
	111 Assay samples @ $31.60/sample		$3,507.60
v.	Sample Shipments: *Loomis*		$485.69
vi.	Air Charters: *NT Air, Williston Lake Air*		
	Crew mob/demob, sample shipment and freight charges		$9,557.00
vii.	Radio Rental: *Falcon Research Ltd.*		
	Hand held FM radio rental		$1,440
viii.	Satellite Telephone: *Infosat Telecommunications.*		
	Satellite Telephone rental and line charges		$6,179.62
vi.	Salaries:		
	Paul Baxter	106 days @ $250/day	$26,500
	Logan Kelly	65 days @ $150/day	$9,750
	Justin Vandenbrink	68 days @ $150/day	$10,200

TOTAL	$1,679,549.04

COST ALLOCATION

AKIE 96E Group 18%	**$302,318.83**
AKIE 96F Group 47%	**$789,388.05**
AKIE 96G Group 35%	**$587,842.16**

3. REPORT PREPARATION

Paul Baxter	7 days @ $250/day	$1750
Sel Gokool (drafting)	3 days @ $200/day	$600
TOTAL		$2,350

COST ALLOCATION

AKIE 96E Group 33.3%	**$783.33**
AKIE 96F Group 33.3%	**$783.33**
AKIE 96G Group 33.3%	**$783.33**

7. REFERENCES

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8. STATEMENT OF QUALIFICATIONS

I, Paul Baxter certify that:

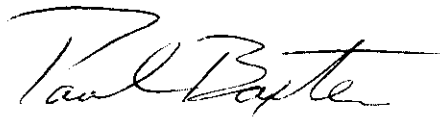
1. I hold a bachelor of Science degree, Honours Geology (1985) from the University of Alberta, Edmonton, Alberta.

2. I am a registered Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

3. I have practiced my profession in exploration since 1986.

4. I have been a contract employee with Inmet Mining Corporation (Minnova Inc. And Metall Mining Corporation) since 1988 and a full-time employee since 1994.

5. I personally carried out or supervised the work described in this report.



Paul Baxter

Vancouver, B.C.

Date: Nov 22, 1996

I, Justin Vandenbrink certify that:

1. I hold a bachelor of Science degree, Specialization Geology (1994) from the University of British Columbia, Vancouver, B.C..

2. I have been involved in hydrocarbon and mineral exploration for three summers.

3. I was a contract employee for Inmet Mining Corporation during the duration of this program.

Justin Vandenbrink

APPENDIX I

IPL LABORATORY PROCEDURES

iPL
INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7888

Method of sample preparation for Soil or Silt

(a) Water content in sample is removed by convection in a low temperature dryer (T < 60 Degrees C.).

(b) Dried samples are passed through an 80 mesh sieve. The minus 80 mesh fraction is transferred to a new bag for subsequent analyses. The plus 80 mesh fraction is discarded unless otherwise instructed.

(c) If an insufficient amount of sample is less than 80 Mesh, the entire sample is passed through a 35 Mesh screen. The -35 Fraction is then pulverized and used as the portion for analyses.

QUALITY CONTROL

Cross contamination is minimized by constant cleaning of preparation equipment with high velocity compressed air. Ring pulverizers are cleaned with a quartz sand charge.

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Method of ICP Multi-element Analyses

(a) 0.50 grams of sample is digested with diluted aqua regia solution by heating in a hot water bath for 90 minutes, then cooled, bulked up to a fixed volume with demineralized water, and thoroughly mixed.

(b) The specific elements are determined using an Inductively Coupled Argon Plasma spectrophotometer. All elements are corrected for inter-element interference. All data are subsequently stored onto computer diskette.

* Aqua regia leaching is partial for Al, Ba, Ca, Cr, K, La, Mg, Na, Sc, Sn, Sr, Th, Ti, W and Zr.

QUALITY CONTROL

The machine is first calibrated using six known standards and a blank. The test samples are then run in batches.

A sample batch consists of 38 or less samples. Two tubes are placed before a set. These are an Inhouse standard and an acid blank, which are both digested with the samples. A known standard with characteristics best matching the samples is chosen and placed after every fifteenth sample. After every 38th sample (not including standards), two samples, chosen at random, are reweighed and analysed. At the end of a batch, the standard and blank used at the beginning is rerun. The readings for these knowns are compared with the pre-rack knowns to detect any calibration drift.

APPENDIX II

1996 IPL SOIL GEOCHEMICAL

ANALYTICAL CERTIFICATES

INTERNATIONAL PLASMA LABORATORY LTD.

2036 Columbia St
Vancouver, B.C
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

CERTIFICATE OF ANALYSIS
iPL 96F0531

Client: Inmet Mining Corporation
Project: 677 40 Soil

iPL: 96F0531 M
Out: Jun 28, 1996
In: Jun 25, 1996 [053118:00:5] 96]

Certified BC Assayer: David Chiu

Sample Name	Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L12+00S 14+75E S	2.6	1160	76	78	<0.1	1289	42	1.10
L12+00S 15+00E S	0.3	20	63	70	<0.1	941	59	0.88
L12+00S 15+25E S	1.5	26	65	76	<0.1	928	66	0.93
L12+00S 15+30E S	<0.1	26	70	72	<0.1	979	34	0.85
L12+00S 15+75E S	1.2	29	1755	75	27.3	3392	158	1.59
L12+00S 16+00E S	<0.1	22	2639	53	42.6	1818	99	1.06
L12+00S 16+25E S	<0.1	17	420	57	10.9	2040	142	1.25
L12+00S 16+50E S	0.3	31	605	72	10.6	3290	231	1.79
L12+00S 16+75E S	<0.1	15	233	44	6.2	1328	21	0.70
L12+00S 17+50E S	3.1	83	8429	75	49.0	1.1%	509	4.07
L12+00S 17+75E S	<0.1	30	83	82	<0.1	1611	17	0.92
L12+00S 18+00E S	0.1	17	59	88	0.6	1486	18	0.66
L12+00S 18+25E S	<0.1	21	63	80	<0.1	1575	16	0.90
L12+00S 18+50E S	1.5	21	63	85	<0.1	1444	16	0.96
L12+00S 18+75E S	0.7	20	87	83	<0.1	1901	29	0.99
L12+00S 19+00E S	1.7	29	128	85	0.3	1958	30	1.50
L12+00S 19+25E S	3.4	27	245	94	0.5	1870	72	3.26
L12+00S 19+50E S	3.2	29	594	93	3.9	2201	343	5.1%
L12+00S 19+75E S	2.1	31	569	78	1.3	1947	191	5.7%
L12+00S 20+00E S	2.8	32	333	91	3.0	2344	259	4.40
L16+00S 14+25E S	0.2	41	501	73	6.2	1785	360	1.60
L16+00S 14+50E S	0.9	31	1161	59	9.4	1989	443	1.57
L16+00S 14+75E S	1.0	17	158	51	3.9	1237	137	0.99
L16+00S 15+00E S	1.5	34	317	87	2.3	2547	296	2.26
L16+00S 15+25E S	1.5	28	231	75	1.5	2181	159	1.78
L16+00S 15+50E S	1.7	31	244	68	1.7	2436	234	1.76
L16+00S 15+75E S	0.5	30	293	63	2.7	2211	140	1.64
L16+00S 16+00E S	1.5	27	410	78	2.2	2975	168	1.97
L16+00S 17+25E S	1.5	30	315	87	0.7	2261	156	2.29
L16+00S 17+50E S	1.3	30	318	77	0.8	2273	154	2.28
L16+00S 17+75E S	2.0	27	174	71	0.3	1635	74	2.27
L16+00S 18+00E S	2.7	29	120	87	<0.1	1876	31	1.48
L16+00S 18+25E S	2.3	29	129	90	<0.1	2118	28	1.44
L16+00S 18+50E S	3.8	37	145	84	0.7	2203	32	1.60
L16+00S 18+75E S	2.7	36	162	94	<0.1	2147	38	1.91
L16+00S 19+00E S	4.8	33	154	73	1.6	1921	32	1.36
L16+00S 19+25E S	2.3	27	94	78	<0.1	1932	53	1.25
L16+00S 19+50E S	2.6	26	194	65	8.5	1808	140	1.08
L16+00S 19+75E S	0.5	18	54	76	<0.1	2420	21	0.70

Sample Name	Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L16+00S 20+00E S	0.8	24	60	83	<0.1	3253	19	0.78

	Ag	Pb	Zn	As	Cd	Ba	Mn	Fe
Min Limit	0.1	2	1	5	0.1	2	1	0.01
Max Reported*	100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

CERTIFICATF OF ANALYSIS
iPL 96G0593

INTERNATIONAL PLASMA LABORATORY LTD.
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Vancouver, B.C.
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Phone (604) 879-7878
Fax (604) 879-7898

Client: Inmet Mining Corporation | iPL: 96G0593 M | Out: Jul 27, 1996 | Page 1 of 7 | Section 1 of 1
Project: 677 238 Soil | In: Jul 18, 1996 [059320:54:4] 96] | Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L0050N 1500E	S	1.5	42	300	107	<0.1	5448	53	2.27
L0050N 1525E	S	0.8	177	388	123	1.8	4946	194	2.55
L0050N 1550E	S	1.1	52	526	116	1.5	6552	628	2.98
L0050N 1575E	S	0.7	59	1314	108	8.0	7450	349	3.16
L0050N 1600E	S	0.8	58	706	112	5.8	6347	297	2.58
L0050N 1625E	S	0.8	49	247	115	0.4	8782	75	2.99
L0050N 1650E	S	1.4	51	248	110	0.4	6775	105	3.24
L0050N 1700E	S	0.7	63	278	103	<0.1	4141	78	2.85
L0050N 1725E	S	0.6	48	145	109	<0.1	3069	53	4.57
L0050N 1750E	S	0.4	39	44	101	<0.1	4841	21	1.03
L0050N 1775E	S	0.7	53	1998	97	4.6	6641	153	2.76
L0050N 1800E	S	0.6	51	148	98	<0.1	4532	147	4.63
L0050N 1825E	S	0.5	68	185	107	<0.1	6442	82	3.74
L0050N 1850E	S	0.6	41	139	95	<0.1	5577	37	3.18
L0050N 1875E	S	0.5	39	222	85	<0.1	9288	52	3.87
L0050N 1900E	S	0.7	36	202	93	0.8	6028	71	2.71
L0050N 1925E	S	1.2	47	585	109	4.8	5723	422	2.61
L0050N 1950E	S	0.7	48	511	103	2.9	5858	114	3.47
L0200N 1500E	S	2.9	58	518	104	5.8	6205	49	2.68
L0200N 1525E	S	0.7	44	166	91	0.6	4454	55	2.35
L0200N 1550E	S	2.6	46	1393	164	10.0	655	240	8.2%
L0200N 1575E	S	0.5	48	840	106	13.5	6969	141	3.33
L0200N 1600E	S	0.7	34	85	68	<0.1	2721	50	0.80
L0200N 1625E	S	0.6	111	122	138	<0.1	6846	30	2.69
L0200N 1650E	S	0.6	55	167	123	<0.1	3073	26	3.50
L0200N 1675E	S	0.5	54	332	115	<0.1	5912	49	2.60
L0200N 1700E	S	0.5	57	327	112	0.6	6620	60	2.46
L0200N 1725E	S	0.7	50	562	98	1.4	6179	87	2.52
L0200N 1750E	S	3.6	43	1614	114	24.2	5957	285	3.39
L0200N 1775E	S	3.6	36	1476	95	21.6	8208	340	2.67
L0200N 1800E	S	2.8	48	1693	97	11.0	5208	179	3.75
L0200N 1825E	S	2.0	44	1249	90	13.5	4121	647	4.49
L0200N 1850E	S	0.9	48	794	80	2.5	5921	923	6.3%
L0200N 1875E	S	0.6	61	156	108	<0.1	7763	39	3.33
L0200N 1900E	S	2.1	53	162	96	<0.1	7473	69	4.12
L0200N 1925E	S	0.6	40	502	105	3.9	9487	108	3.57
L0200N 1950E	S	0.7	48	338	92	2.2	8481	67	2.96
L0200N 1975E	S	2.6	42	640	92	5.5	9599	200	2.33
L0400N 1500E	S	3.0	48	482	131	2.6	3342	46	3.72

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L0400N 1525E	S	3.4	60	586	157	0.8	2833	42	3.20
L0400N 1550E	S	1.1	47	244	103	<0.1	5132	79	4.07
L0400N 1575E	S	0.7	51	146	99	0.1	5592	75	2.32
L0400N 1600E	S	0.8	73	124	87	<0.1	4151	44	1.34
L0400N 1625E	S	2.8	66	220	108	<0.1	6602	50	3.20
L0400N 1650E	S	0.5	78	218	109	<0.1	6444	63	3.91
L0400N 1675E	S	0.7	72	263	96	<0.1	6107	37	2.49
L0400N 1700E	S	0.4	55	272	124	2.1	6390	66	2.67
L0400N 1725E	S	0.2	35	67	96	<0.1	8338	25	0.96
L0400N 1750E	S	0.6	61	139	89	<0.1	9489	38	1.62
L0400N 1775E	S	0.4	40	198	97	3.4	5671	92	2.03
L0400N 1800E	S	0.5	39	308	93	3.0	1.1%	248	1.12
L0400N 1825E	S	0.3	58	452	106	<0.1	8638	219	4.86
L0400N 1850E	S	2.0	42	670	102	10.8	9810	172	2.65
L0400N 1875E	S	2.2	48	125	103	<0.1	6345	105	4.50
L0400N 1900E	S	2.2	60	170	75	<0.1	4716	61	5.2%
L0400N 1925E	S	0.5	55	121	79	<0.1	7476	56	4.13
L0400N 1950E	S	0.5	46	119	97	<0.1	6790	47	4.22
L0400N 1975E	S	1.4	49	429	92	1.7	8590	353	3.55
L0600N 1500E	S	4.0	32	86	84	<0.1	3575	41	0.72
L0600N 1525E	S	1.4	46	161	81	<0.1	2885	36	1.13
L0600N 1550E	S	0.8	31	174	73	<0.1	2515	46	1.20
L0600N 1575E	S	0.8	32	86	78	<0.1	3404	38	0.81
L0600N 1600E	S	0.7	62	94	105	<0.1	2989	55	1.65
L0600N 1625E	S	0.8	40	77	82	<0.1	2117	78	1.23
L0600N 1650E	S	0.5	45	219	107	<0.1	6622	40	2.92
L0600N 1675E	S	2.3	86	172	85	<0.1	8031	29	3.72
L0600N 1700E	S	2.6	49	111	83	<0.1	4626	34	1.20
L0600N 1725E	S	0.7	47	95	64	<0.1	4684	24	1.15
L0600N 1750E	S	0.4	58	120	92	<0.1	5900	26	3.22
L0600N 1775E	S	0.6	46	52	93	<0.1	5370	28	1.30
L0600N 1800E	S	0.7	71	105	120	<0.1	6074	103	3.05
L0600N 1825E	S	0.8	41	45	94	<0.1	4642	28	0.80
L0600N 1850E	S	3.1	65	96	101	<0.1	4400	36	2.01
L0600N 1875E	S	0.5	65	80	97	<0.1	6178	59	3.22
L0600N 1900E	S	2.4	31	95	88	<0.1	4314	39	0.99
L0600N 1925E	S	0.7	55	127	85	<0.1	9517	30	1.86
L0600N 1950E	S	0.7	55	88	88	<0.1	5505	44	1.35
L0600N 1975E	S	0.6	62	99	91	0.4	4261	80	2.50

	Ag	Pb	Zn	As	Cd	Ba	Mn	Fe
Min Limit	0.1	2	1	5	0.1	2	1	0.01
Max Reported*	100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

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CERTIFICATF OF ANALYSIS
iPL 96G0593

Client: Inmet Mining Corporation iPL: 96G0593 M Out: Jul 27, 1996 Page 3 of 7 Section 1 of 1
Project: 677 238 Soil In: Jul 18, 1996 [059320:54:5] 96] Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L0600N 2025E	S	0.4	38	359	101	3.8	1.6%	149	2.81
L0600N 2050E	S	1.9	37	925	104	2.4	8253	260	4.08
L1000N 1500E	S	1.5	43	223	106	<0.1	8208	52	3.70
L1000N 1525E	S	2.9	31	273	120	<0.1	6627	49	4.52
L1000N 1550E	S	3.5	29	332	150	0.4	5305	49	3.89
L1000N 1575E	S	2.0	49	249	122	<0.1	6584	59	3.66
L1000N 1600E	S	4.9	36	336	145	<0.1	7990	62	3.53
L1000N 1625E	S	2.2	26	347	97	<0.1	4852	39	4.00
L1000N 1650E	S	2.5	28	151	64	2.2	5307	46	1.22
L1000N 1675E	S	3.9	30	281	91	<0.1	6155	29	4.06
L1000N 1700E	S	2.2	27	263	85	1.0	5421	32	2.98
L1000N 1725E	S	0.5	33	492	83	1.6	4783	31	2.50
L1000N 1750E	S	1.9	36	4786	115	55.2	3062	85	3.78
L1000N 1775E	S	3.3	40	503	107	1.7	4403	33	2.86
L1000N 1800E	S	0.5	40	194	95	<0.1	3622	25	3.19
L1000N 1825E	S	0.4	55	148	105	<0.1	5812	50	4.04
L1000N 1850E	S	0.3	34	170	72	0.4	5841	50	2.24
L1000N 1875E	S	2.6	32	459	87	1.9	4574	235	4.03
L1000N 1900E	S	1.6	36	1262	94	9.8	1.2%	145	2.93
L1000N 1925E	S	1.9	49	136	116	<0.1	2433	32	2.54
L1000N 1950E	S	0.5	42	219	96	0.4	5063	43	2.97
L1000N 1975E	S	1.8	40	143	95	<0.1	3749	45	3.71
L1000N 2025E	S	0.5	35	122	89	<0.1	3591	46	1.42
L1000N 2050E	S	0.5	38	160	97	<0.1	2533	39	1.91
L1000N 2075E	S	1.9	33	154	86	<0.1	6808	56	2.54
L1000N 2100E	S	0.4	35	199	89	<0.1	7026	83	3.30
L1000N 2125E	S	1.2	35	399	103	2.0	7698	160	3.43
L1000N 2150E	S	1.4	45	906	122	3.0	7746	103	4.71
L6400S 1825E	S	1.5	42	1274	106	9.8	6585	351	2.49
L6400S 1850E	S	0.4	48	809	106	6.0	3365	344	2.62
L6400S 1875E	S	0.4	48	1266	93	13.3	2418	279	2.45
L6400S 1900E	S	1.7	47	1575	92	37.0	2114	405	2.08
L6400S 1925E	S	2.1	48	1205	91	13.2	2788	291	2.24
L6400S 1950E	S	0.5	37	2554	79	48.7	2186	581	1.95
L6400S 2000E	S	0.9	41	2741	95	40.4	2971	922	2.09
L6400S 2025E	S	0.5	42	895	100	14.7	2612	91	2.18
L6400S 2050E	S	0.4	36	210	110	0.6	2447	43	1.67
L6400S 2075E	S	1.5	27	169	96	<0.1	1746	56	1.28
L6400S 2100E	S	0.5	30	100	93	<0.1	1548	44	1.20
L6400S 2125E	S	0.3	46	103	90	<0.1	1702	47	1.26
L6400S 2150E	S	0.4	65	177	99	0.5	1887	46	2.12
L6400S 2175E	S	0.4	45	213	94	1.1	2616	74	1.95
L6400S 2200E	S	1.5	49	443	108	2.2	2560	70	2.11
L6600S 1875E	S	0.3	23	10160	175	150.8	2695	4.7%	3.54
L6600S 1925E	S	0.5	32	3307	82	36.7	1890	3231	2.43
L6600S 1950E	S	0.9	35	1501	99	8.7	3027	196	1.82
L6600S 1975E	S	0.4	38	332	102	0.7	2043	162	1.80
L6600S 2000E	S	2.7	48	2878	106	27.3	2302	343	2.68
L6600S 2025E	S	2.1	37	1666	107	12.0	5849	292	2.16
L6600S 2050E	S	0.5	54	1867	110	8.9	2302	434	2.29
L6600S 2075E	S	0.6	67	1917	106	7.1	3319	245	3.86
L6600S 2100E	S	0.5	60	339	92	1.4	2785	74	2.35
L6600S 2125E	S	0.4	51	509	110	2.8	3237	111	2.93
L6600S 2150E	S	0.4	53	395	105	1.8	2812	66	2.43
L6600S 2175E	S	0.2	42	402	108	2.1	2057	129	2.48
L6600S 2200E	S	0.4	36	290	103	1.1	1915	78	2.19
L6600S 2225E	S	0.5	37	262	118	0.4	1582	56	2.88
L6600S 2250E	S	0.5	35	257	95	2.2	1371	60	1.64
L6600S 2275E	S	0.5	47	236	94	1.4	1832	65	2.00
L6600S 2300E	S	1.6	42	303	124	3.3	2697	62	2.35
L6800S 1100E	S	<0.1	20	91	57	0.5	732	391	1.73
L6800S 1125E	S	0.1	25	88	62	0.1	745	364	1.85
L6800S 1150E	S	<0.1	27	126	79	<0.1	967	361	2.38
L6800S 1175E	S	0.1	25	219	56	0.7	919	504	1.77
L6800S 1200E	S	0.1	15	68	37	<0.1	660	434	1.09
L6800S 1225E	S	<0.1	28	463	83	0.6	1395	443	1.81
L6800S 1250E	S	0.1	20	457	60	2.8	1457	369	1.74
L6800S 1275E	S	0.3	35	1180	90	7.5	2658	343	2.57
L6800S 1300E	S	0.4	31	340	53	3.5	3825	351	1.81
L6800S 1325E	S	0.5	29	245	59	2.3	4035	249	1.72
L6800S 1350E	S	0.3	28	246	70	1.3	2638	392	1.90
L6800S 1375E	S	0.3	36	362	66	2.7	2128	413	2.02
L6800S 1400E	S	0.3	32	313	69	0.9	1704	480	2.13
L6800S 1425E	S	0.2	35	165	58	0.4	911	532	2.18
L6800S 1450E	S	0.1	35	165	47	1.0	879	354	1.58
L6800S 1475E	S	<0.1	23	191	42	0.9	630	429	1.44
L6800S 1500E	S	0.2	40	216	65	<0.1	921	561	1.77
L6800S 1525E	S	0.1	28	123	58	<0.1	1106	683	2.04
Min Limit		0.1	2	1	5	0.1	2	1	0.01
Max Reported*		100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method		ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

CERTIFICATF OF ANALYSIS
iPL 96G0593

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Client: Inmet Mining Corporation | iPL: 96G0593 M | Out: Jul 27, 1996 | Page 5 of 7 | Section 1 of 1
Project: 677 238 Soil | In: Jul 18, 1996 [059320:55:0] 96] | Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L6800S 1550E	S	0.1	33	124	47	0.1	1058	496	1.79
L6800S 1575E	S	0.3	38	320	73	1.4	1.9%	462	3.29
L6800S 1600E	S	0.2	41	1222	81	9.1	1910	419	2.61
L6800S 1625E	S	0.3	38	2104	91	24.8	1979	660	2.62
L6800S 1650E	S	2.2	42	5126	99	24.6	1880	616	3.07
L6800S 1675E	S	0.3	41	3879	77	41.3	1914	653	2.62
L6800S 1700E	S	0.2	39	4187	75	29.3	2050	686	2.55
L6800S 1725E	S	0.3	29	3034	64	33.2	1697	628	2.00
L6800S 1750E	S	0.3	36	2363	77	10.1	1701	206	2.74
L6800S 1775E	S	0.4	41	561	81	3.5	1857	719	3.21
L6800S 1825E	S	0.7	29	1907	76	18.7	1746	361	2.19
L6800S 1850E	S	0.5	38	365	72	2.4	1910	504	2.78
L6800S 1875E	S	0.2	34	308	71	2.7	2120	279	2.40
L6800S 1900E	S	0.2	36	442	81	3.7	2501	332	2.48
L6800S 1925E	S	0.6	36	477	91	1.8	2115	531	3.01
L6800S 1950E	S	0.3	37	579	72	3.7	1628	169	2.81
L6800S 1975E	S	0.7	37	1020	85	5.7	1788	298	2.37
L6800S 2000E	S	0.4	42	1228	93	4.0	1847	226	2.53
L6800S 2025E	S	2.6	54	1178	84	17.5	2471	411	2.24
L6800S 2050E	S	0.5	43	343	79	2.2	2305	83	2.11
L6800S 2075E	S	3.0	53	1710	84	39.4	2713	511	2.52
L6800S 2100E	S	0.4	36	339	89	1.2	1949	109	1.72
L6800S 2125E	S	0.3	33	193	76	2.5	911	65	1.55
L6800S 2150E	S	0.5	51	3507	87	31.1	1996	172	2.51
L6800S 2175E	S	0.4	43	5636	74	24.5	1776	85	1.76
L6800S 2200E	S	0.4	48	1673	80	7.9	2136	143	2.73
L6800S 2225E	S	1.2	34	181	93	0.6	1565	86	2.45
L6800S 2250E	S	0.7	34	279	74	1.1	1042	78	2.02
L6800S 2275E	S	0.3	51	461	93	1.8	2726	81	2.51
L6800S 2300E	S	0.2	54	287	76	1.0	2635	80	2.34
L6800S 2325E	S	0.4	44	231	82	0.6	2791	122	1.73
L6800S 2350E	S	1.6	53	816	84	6.8	2544	352	2.39
L6800S 2375E	S	3.0	42	200	85	2.1	1130	61	2.15
L6800S 2400E	S	1.9	32	396	90	2.6	1083	45	2.69
L6800S 2425E	S	16.2	31	389	126	0.7	1311	58	5.0%
L6800S 2450E	S	6.6	34	232	103	1.2	2048	60	2.72
L6800S 2475E	S	7.0	52	399	98	2.5	1920	97	3.02
L6800S 2500E	S	2.9	41	152	99	1.2	1942	44	1.98
L7000S 1525E	S	<0.1	22	408	39	3.1	633	387	1.32
L7000S 1550E	S	<0.1	24	340	45	1.4	627	452	1.52
L7000S 1575E	S	0.3	30	246	55	2.4	2111	321	2.16
L7000S 1600E	S	0.1	38	300	79	<0.1	2054	358	3.09
L7000S 1625E	S	0.2	39	545	80	0.3	1712	546	3.16
L7000S 1650E	S	0.1	33	853	68	7.8	2267	473	2.66
L7000S 1675E	S	0.1	29	817	60	5.4	2847	278	2.01
L7000S 1700E	S	0.1	34	401	60	2.3	2671	283	3.10
L7000S 1725E	S	0.2	32	418	65	6.7	2153	415	2.01
L7000S 1750E	S	0.2	30	386	62	2.7	2578	294	2.03
L7000S 1825E	S	0.2	30	291	67	<0.1	1849	157	2.42
L7000S 1850E	S	0.9	39	310	74	0.5	1938	638	3.26
L7000S 1875E	S	0.2	37	332	70	0.6	1881	158	2.12
L7000S 1900E	S	0.1	33	352	79	0.5	1854	266	2.79
L7000S 1925E	S	0.2	31	308	83	<0.1	2001	178	2.57
L7000S 1950E	S	0.3	33	418	74	0.4	1819	157	2.45
L7000S 1975E	S	0.1	36	632	75	1.9	1466	254	2.78
L7000S 2000E	S	0.4	34	249	89	2.0	1109	49	1.66
L7000S 2025E	S	2.0	36	294	103	2.8	1219	114	2.22
L7000S 2075E	S	1.1	31	514	100	5.3	1983	101	3.21
L7000S 2100E	S	0.3	30	343	67	1.5	1516	83	2.06
L7000S 2125E	S	0.7	33	499	114	5.3	2053	192	2.86
L7000S 2150E	S	6.0	32	430	83	31.0	1630	1597	5.5%
L7000S 2175E	S	3.3	30	643	74	2.8	1364	321	4.10
L7000S 2200E	S	0.4	37	130	95	0.6	1194	47	1.37
L7000S 2250E	S	1.3	33	339	69	4.0	1962	140	1.60
L7000S 2275E	S	0.3	38	225	81	0.4	2363	73	1.86
L7000S 2300E	S	0.3	38	344	80	2.0	2475	120	2.04
L7000S 2325E	S	0.4	32	366	93	4.9	1651	139	2.67
L7000S 2350E	S	0.3	38	289	88	1.0	2420	114	1.96
L7000S 2375E	S	3.5	28	289	84	2.3	937	80	1.62
L7000S 2400E	S	0.6	27	106	66	0.5	726	41	0.79
L7000S 2425E	S	1.9	40	481	92	1.4	1680	115	3.15
L7000S 2450E	S	0.4	42	255	81	0.1	2513	51	1.99
L7000S 2475E	S	0.3	41	280	78	3.3	2214	95	1.90
L7000S 2500E	S	4.3	45	1779	101	14.1	2170	2348	3.34
L7000S 2525E	S	3.5	13	12705	24	81.7	421	8216	15%
L7000S 2550E	S	8.8	35	1566	98	20.2	1307	1362	4.78
L7000S 2575E	S	0.3	40	109	146	0.4	877	60	2.17
L7000S 2600E	S	0.2	28	209	79	2.0	965	72	2.19
Min Limit		0.1	2	1	5	0.1	2	1	0.01
Max Reported*		100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method		ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

—=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

CERTIFICATE OF ANALYSIS
iPL 96G0593

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Client: Inmet Mining Corporation iPL: 96G0593 M Out: Jul 27, 1996 Page 7 of 7 Section 1 of 1
Project: 677 238 Soil In: Jul 18, 1996 [059320:55:1] 96] Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L7000S 2625E	S	0.1	39	273	86	0.7	1954	90	3.78
L7000S 2650E	S	0.3	42	809	80	2.6	1805	242	2.40
L7000S 2675E	S	0.3	45	300	99	0.5	1547	43	3.21
L7000S 2700E	S	0.3	47	268	120	0.1	1949	29	2.43

Sample Name	Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %

Min Limit	0.1	2	1	5	0.1	2	1	0.01
Max Reported*	100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

Min Limit	0.1	2	1	5	0.1	2	1	0.01
Max Reported*	100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

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CERTIFICATE OF ANALYSIS
iPL 96G0659

Client: Inmet Mining Corporation — iPL: 96G0659 M — Out: Aug 06, 1996 — Page 1 of 3 — Section 1 of 1
Project: 677 80 Soil — In: Jul 30, 1996 [065916:06:4] 96] — Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L7000S 1775E	S	0.2	35	531	72	1.0	1422	213	2.64
L7200S 1550E	S	0.1	27	252	67	2.0	2216	301	2.01
L7200S 1575E	S	0.3	34	434	70	3.4	2310	281	2.29
L7200S 1600E	S	0.2	27	341	63	3.1	2251	261	1.90
L7200S 1625E	S	0.2	33	378	78	5.6	2240	265	2.38
L7200S 1650E	S	0.5	34	363	65	3.4	2479	289	2.13
L7200S 1675E	S	0.3	36	387	95	2.4	2439	358	2.60
L7200S 1700E	S	0.2	32	282	67	3.7	2316	398	2.04
L7200S 1725E	S	<0.1	39	211	102	0.8	1688	433	2.85
L7200S 1750E	S	0.3	32	318	82	0.7	2137	361	2.53
L7200S 1775E	S	0.2	30	232	72	1.3	1343	526	1.80
L7200S 1825E	S	0.1	28	273	77	<0.1	1509	598	3.28
L7200S 1850E	S	0.2	30	260	69	1.5	1621	555	2.72
L7200S 1875E	S	0.1	38	375	74	1.3	1910	537	3.03
L7200S 1900E	S	0.2	34	439	58	1.7	1208	204	2.61
L7200S 1925E	S	0.3	37	296	79	1.5	1495	167	2.35
L7200S 1950E	S	0.1	30	509	30	4.4	1012	524	9.6%
L7200S 1975E	S	0.1	46	362	79	1.5	1493	203	3.67
L7200S 2000E	S	0.2	37	516	92	2.5	1589	241	2.87
L7200S 2025E	S	0.2	31	371	75	1.9	1108	290	1.94
L7200S 2050E	S	0.3	8	2894	<5	8.0	119	94	0.10
L7200S 2100E	S	0.3	36	418	78	3.3	1315	276	2.34
L7200S 2125E	S	0.3	37	485	92	2.3	2036	232	2.44
L7200S 2150E	S	0.3	30	245	96	2.8	1472	187	1.66
L7200S 2175E	S	0.3	31	276	104	2.4	1272	172	1.78
L7200S 2200E	S	0.3	32	309	100	3.0	1291	194	1.89
L7200S 2225E	S	0.4	30	275	94	3.2	1305	192	1.54
L7200S 2250E	S	0.4	34	289	92	1.7	1086	91	1.71
L7200S 2275E	S	0.3	35	472	89	4.9	978	78	2.08
L7200S 2300E	S	1.6	44	525	90	6.2	2845	297	2.51
L7200S 2325E	S	0.4	36	284	84	3.0	2068	89	2.01
L7200S 2350E	S	0.4	45	277	82	1.6	2214	56	2.24
L7200S 2375E	S	1.1	38	355	78	1.4	2057	150	2.71
L7200S 2400E	S	0.3	43	474	78	13.9	2317	220	1.97
L7200S 2425E	S	0.3	43	323	104	1.3	2272	121	2.56
L7200S 2450E	S	1.9	43	378	94	5.6	2210	241	2.67
L7200S 2475E	S	0.3	52	312	92	1.0	2216	63	2.26
L7200S 2500E	S	1.6	66	243	145	3.5	1894	116	3.74
L7200S 2525E	S	0.2	43	216	93	4.2	791	435	3.60
L7200S 2550E	S	0.2	49	88	141	<0.1	727	44	3.47
L7200S 2575E	S	<0.1	46	345	88	6.2	734	623	4.36
L7200S 2650E	S	1.6	43	381	93	4.1	2530	210	2.68
L7200S 2675E	S	0.6	44	188	128	0.3	3074	91	3.55
L7200S 2700E	S	0.2	41	264	82	1.3	1702	221	2.21
L7400S 1825E	S	<0.1	35	316	75	0.9	1216	569	2.04
L7400S 1850E	S	<0.1	24	781	58	2.9	1134	296	1.53
L7400S 1875E	S	0.2	27	1402	63	4.9	1311	202	1.77
L7400S 1925E	S	1.4	41	1585	101	5.7	1757	281	3.03
L7400S 1950E	S	0.2	37	1854	96	4.0	1943	363	2.47
L7400S 1975E	S	1.1	34	601	94	2.0	2100	379	2.09
L7400S 2000E	S	0.9	43	1048	99	4.1	2395	34	1.35
L7400S 2075E	S	0.2	49	4933	76	50.2	1108	491	2.86
L7400S 2100E	S	0.7	44	1956	89	35.1	2544	141	2.60
L7400S 2125E	S	0.6	41	523	85	2.9	2149	165	2.40
L7400S 2150E	S	0.2	37	478	88	3.0	2248	138	2.43
L7400S 2175E	S	1.1	42	943	82	11.7	2602	216	2.36
L7400S 2200E	S	0.2	39	216	71	2.2	1776	177	2.07
L7400S 2225E	S	0.2	39	233	89	2.7	1911	131	2.13
L7400S 2250E	S	0.3	31	274	79	2.3	1793	150	1.77
L7400S 2275E	S	0.2	39	358	85	2.9	1874	166	2.74
L7400S 2300E	S	0.1	33	496	83	2.3	1541	189	2.66
L7400S 2325E	S	0.3	34	416	84	3.8	1970	167	2.17
L7400S 2350E	S	0.3	28	443	67	7.1	1579	276	2.25
L7400S 2375E	S	<0.1	21	162	55	1.4	1012	327	1.81
L7400S 2400E	S	1.3	34	946	81	13.5	1680	410	2.16
L7400S 2425E	S	0.7	44	431	130	3.0	2192	383	3.44
L7400S 2450E	S	1.9	38	222	101	0.7	2146	271	2.52
L7400S 2475E	S	1.8	87	116	171	<0.1	3199	37	2.77
L7400S 2500E	S	0.2	43	305	93	1.5	1714	100	2.38
L7400S 2525E	S	0.2	36	171	120	0.3	1173	67	2.47
L7400S 2550E	S	0.1	38	405	93	2.0	994	100	2.75
L7400S 2575E	S	0.1	36	560	116	0.9	1695	192	3.19
L7400S 2600E	S	0.3	38	243	89	1.2	1162	78	1.94
L7400S 2625E	S	0.2	45	980	108	2.1	1719	231	3.24
L7400S 2650E	S	1.8	36	251	116	1.4	2135	104	2.27
L7400S 2675E	S	2.1	36	823	91	12.9	1692	819	2.27
L7400S 2700E	S	0.2	38	443	99	17.8	1560	817	2.06
L7400S 2725E	S	1.4	61	600	99	3.5	2049	295	2.56
Min Limit		0.1	2	1	5	0.1	2	1	0.01
Max Reported*		100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method		ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

CERTIFICATF OF ANALYSIS
iPL 96G0659

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Client: Inmet Mining Corporation iPL: 96G0659 M Out: Aug 06, 1996 Page 3 of 3 Section 1 of 1
Project: 677 80 Soil In: Jul 30, 1996 [065916:06:5] 96] Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L7400S 2750E	S	9.1	76	709	90	4.6	2062	509	3.19
L7400S 2775E	S	1.9	47	911	71	4.4	1484	753	2.46
Min Limit		0.1	2	1	5	0.1	2	1	0.01
Max Reported*		100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method		ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

Sample Name	Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
Min Limit	0.1	2	1	5	0.1	2	1	0.01
Max Reported*	100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

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Client: Inmet Mining Corporation — iPL: 96I0874 — Out: Sep 16, 1996 — Page 1 of 1 — Section 1 of 1
Project: 677 27 Soil — In: Sep 11, 1996 [087417:06:38:69091696] — Certified BC Assayer: David Chiu

Sample Name			Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L1000S	1325E	S	0.2	38	124	81	0.3	1189	50	1.27
L1000S	1350E	S	0.5	21	108	82	<	1529	29	1.03
L1000S	1375E	S	0.3	24	109	94	<	1329	27	1.05
L1000S	1400E	S	1.0	18	64	81	<	1076	42	0.80
L1000S	1425E	S	0.2	20	84	82	<	1086	27	0.91
L1000S	1450E	S	0.3	26	134	81	<	1317	40	1.18
L1000S	1475E	S	0.4	45	130	105	<	1974	51	1.50
L1000S	1500E	S	1.8	33	302	100	0.8	3681	407	2.85
L1000S	1525E	S	1.6	42	572	103	4.9	3294	415	2.75
L1000S	1550E	S	0.5	41	399	112	1.3	3554	297	2.13
L1000S	1575E	S	0.3	36	214	96	0.4	2242	194	1.66
L1000S	1600E	S	<	25	152	88	0.1	2594	51	1.09
L1000S	1775E	S	1.3	48	171	118	1.0	4116	36	2.77
L1000S	1800E	S	0.9	39	240	119	<	4795	162	4.76
L1000S	1825E	S	1.5	58	228	141	0.5	6026	84	3.70
L1000S	1850E	S	0.7	33	151	111	0.8	2842	49	2.70
L1000S	1875E	S	0.9	39	140	130	0.2	3015	29	2.78
L1000S	1900E	S	0.6	30	122	123	0.1	2422	26	2.65
L1000S	1925E	S	1.9	37	546	108	<	2858	684	5.2%
L1000S	1950E	S	1.8	38	184	117	0.8	3331	53	2.59
L1000S	1975E	S	1.8	39	157	120	0.5	3337	33	2.65
L1000S	2000E	S	1.8	41	225	119	0.9	2689	47	2.82
L1200S	1325E	S	0.8	39	98	82	<	1329	43	1.21
L1200S	1375E	S	3.8	30	92	87	<	1089	47	1.07
L1200S	1400E	S	1.5	30	87	90	<	1058	38	1.07
L1200S	1425E	S	0.5	25	87	84	<	939	31	1.05
L1200S	1450E	S	0.4	29	97	96	<	1161	32	1.12
Min Limit			0.1	2	1	5	0.1	2	1	0.01
Max Reported*			100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method			ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

---=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPL 96J0989

2036 Columbia Street
Vancouver, B.C
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Client: Inmet Mining Corporation | iPL: 96J0989 | Out: Oct 08, 1996 | Page 1 of 1 | Section 1 of 1
Project: 677 7 Soil | In: Oct 03, 1996 | [098916:11:44:69100896] | Certified BC Assayer: David Chiu

Sample Name		Ag ppm	Pb ppm	Zn ppm	As ppm	Cd ppm	Ba ppm	Mn ppm	Fe %
L12+00S	14+60ES	0.7	39	121	89	0.4	1185	40	1.19
L12+00S	14+65ES	1.3	45	123	81	0.2	1307	207	1.21
L12+00S	14+70ES	0.8	41	141	81	0.1	1186	43	1.05
L12+00S	14+75ES	2.2	40	96	85	0.1	1358	45	1.08
L12+00S	14+80ES	0.7	41	101	84	<	1553	297	1.12
L12+00S	14+85ES	0.9	31	61	81	<	1008	61	0.83
L12+00S	14+90ES	1.1	37	76	93	<	1253	41	1.04
Min Limit		0.1	2	1	5	0.1	2	1	0.01
Max Reported*		100.0	20000	20000	10000	10000.0	10000	10000	5.00
Method		ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM	ICPM

--=No Test ins=Insufficient Sample S=Soil R=Rock C=Core L=Silt P=Pulp U=Undefined m=Estimate/1000 %=Estimate % Max=No Estimate

APPENDIX III

1996 AKIE DIAMOND DRILL LOGS

- A-95-19
- A-96-20
- A-96-21
- A-96-22
- A-96-23
- A-96-24
- A-96-25
- A-96-26
- A-96-27
- A-96-28
- A-96-29

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 7
LOCATION: NTS 94F/7

PLOTTING COORDS GRID: AKIE
NORTH: 2830.00S
EAST: 570.00W
ELEV: 1693.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -88° 0' 0"
LENGTH OF THE HOLE: 1192.40m
START DEPTH: 0.00m
FINAL DEPTH: 1192.40m

COLLAR GRID AZIMUTH : 75° 0' 0"

COLLAR ASTRO. AZIMUTH : 35° 0' 0"

DATE STARTED: September 16, 1995
DATE COMPLETED: July 3, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: YES

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: HQ/NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 14.00M
CORE STORAGE: ON SITE

PURPOSE: Deep test of the Cardiac Creek zone, downdip of hole A-11.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
23.80	-	-88° 0'	ACID	OK		-	-	-	-	-	
61.00	25° 0'	-84° 0'	SING.SHOT	OK		-	-	-	-	-	
121.90	22° 0'	-83°30'	SING.SHOT	OK		-	-	-	-	-	
182.90	24° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
243.80	21° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
304.80	21° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
365.80	16° 0'	-81° 0'	SING.SHOT	OK		-	-	-	-	-	
426.70	14° 0'	-80° 0'	SING.SHOT	OK		-	-	-	-	-	
487.70	14° 0'	-79° 0'	SING.SHOT	OK		-	-	-	-	-	
548.60	18° 0'	-74° 0'	SING.SHOT	OK		-	-	-	-	-	
609.60	25° 0'	-67° 0'	SING.SHOT	OK		-	-	-	-	-	
670.60	27° 0'	-65° 0'	SING.SHOT	OK		-	-	-	-	-	
710.50	26° 0'	-64° 0'	SING.SHOT	OK		-	-	-	-	-	
773.30	29° 0'	-59° 0'	SING.SHOT	OK		-	-	-	-	-	
883.90	26° 0'	-53° 0'	SING.SHOT	OK		-	-	-	-	-	
917.50	29° 0'	-48° 0'	SING.SHOT	OK		-	-	-	-	-	
947.00	29° 0'	-45° 0'	SING.SHOT	OK		-	-	-	-	-	
984.00	26° 0'	-41° 0'	SING.SHOT	OK		-	-	-	-	-	
1015.00	25° 0'	-34° 0'	SING.SHOT	OK		-	-	-	-	-	
1079.00	31° 0'	-26°30'	SING.SHOT	OK		-	-	-	-	-	
1115.60	32° 0'	-25° 0'	SING.SHOT	OK		-	-	-	-	-	
1149.10	31° 0'	-24° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 14.00	CASING					
14.00 TO 52.10	ROAD RIVER GROUP ORDOVICIAN GRAPTOLITIC SHALES. «R.R. GRAPT SH»	Black, fine grained, well foliated, moderately hard. Common straight graptolites (digraptus?) along foliation planes. 21.00 Foliation @ ---------- 33.60 Foliation @ ---------- 51.70-52.10 Fault Zone. Sheared, graphitic healed by calcite quartz veining.	 15 17		3-5% Finely dissseminated pyrite.	Broken, rubbly core recovery.
52.10 TO 59.10	ROAD RIVER GROUP «R.R. SH»	Black, finegrained, well foliated. Common <1cm calcareous pyritic lenses/beds transposed and pulled apart by foliation. 55.0-56.20 Massive, light grey limestone. 58.60 Foliation @ ----------	 24		2-3% Fine pyrite disseminated within calcareous lenses.	
59.10 TO 213.10	ROAD RIVER GROUP SHALEY LIMESTONE. «R.R. SHY L ST»	Dark grey, fine grained, foliated limestone mud, shaley limestone. Occaissional 2-3m wide beds of massive light grey, cleaner limestone. 64.80 Foliation @ ---------- 71.30-73.60 Dark grey to black, muddy limestone with abundant <1cm light grey, transported lenses. 71.80 Foliation @ ---------- {73.60-77.80}«FAULT» Fault Zone. 73.60-75.30 <10% recovery of graphitic shale and gouge. 75.30-76.80 Strongly graphitic sheared shale. 76.80-77.80 Milled fault breccia. Faulting @ ----------	 20 23 36		 71.30-73.60 5% Pyrite, disseminated and fine laminations.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Below 77.80 Well bedded light and dark grey, fine grained limestone mud. Bedding thickens generally <10cm, darker grey beds usually thicker, up to 20cm.				
		78.30 Bedding @ ----------	33			
		88.00 Bedding @ ---------- Foliation @ ----------	35 44			
		90.90-91.30 Fault Zone. Brecciated limestone with 5cm sheared and calcite veined healed lower fault contact @----------	42			
		95.40 Bedding @ ---------- 106.30 Bedding @ ----------	20 22			
		102.50-123.90 Limestone. 125.00 Bedding @ ---------- 133.00 Bedding @ ----------	10 15			
		140.1-142.0 very broken and rubbly, fault?				
		142.2 Bedding @ - - - - - - - - - - - - - - - - 147.0 Bedding @ - - - - - - - - - - - - - - - - 152.0 Bedding @ - - - - - - - - - - - - - - - -	10 25 10			
				158.8-160.2 30% quartz - carbonate veins.		
		160.2-161.0 Fault, abundant gouge at - - - - - - 163.4-163.6 Fault, abundant gouge at - - - - - -	20 55			
		163.7-197.5 Core is very broken and rubbly, rare to see a piece of core over 5 cm in length.				
		167.0-169.2 Fault, local gouge sections to 30 cm. Core broken to <1cm fragments.				
		175.5-177.7 milled and healed quartz-carbonate and limestone.				
		177.7-179.8 «FAULT»				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Common gouge seams and quartz-carbonate veins to 10cm. 194.9 Bedding @ -	25			
		197.5-206.5 Thin well bedded limestone with very minor, <5%, interbeds of siltstone and shale. Local cross-cutting quartz-carbonate veins to 5cm. 205.2 Bedding @ -	18			
		206.5-213.1 Predominantly thin to medium bedded limestone, minor calcareous siltstone and 10% interbedded strongly graphitic black shale. 211.2 Bedding @ -	30			
213.10 TO 246.90	ROAD RIVER GROUP SHALE «R.R. SH»	Black, fine grained, thinly bedded graphitic shale interbedded with 5-20% limestone and calcareous siltstone. 213.1-227.6 Thin black graphitic shale with 15-20% interbedded limestone and calcareous siltstone. Entire unit is strongly sheared. 213.1-218.5 «FAULT» Very broken and rubbly, rubbly sections in excess of 1m. Common gouge seams, local healed breccia sections, common quartz-carbonate veins which are also brecciated. 227.6-246.9 95% thinly bedded black graphitic shales, minor limestone to limy siltstone interbeds. Bedding contorted throughout interval. 227.6-231.0 Strongly sheared and contorted. 233.5-234.4 Strongly sheared and contorted. 242.3-246.9 Very broken and rubbly, local gouge sections. No solid core pieces over 5cm.		226.6-227.6 90% quartz-carbonate veins		
246.90 TO 636.00	ROAD RIVER GROUP. INTERBEDDED SILTSTONE AND SHALE.	Light grey thinly bedded siltstone interbedded with black shale. Sequence of alternating siltstone rich and shale rich intervals. 246.9-315.5			Local patchy disseminated pyrite, pyrite can also occur as cores to carbonate blebs.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	«R.R. SLT-SH»	70% light grey siltstone interbedded with black shale. Beds are <1cm alternating silt and shale. Siltstone is locally calcareous with minor limestone.				
		248.7 Bedding at - - - - - - - - - - - - - - - -	25			
		⎨249.3-259.4⎬«FAULT, SH» Predominantly black weakly graphitic shale, strongly brecciated and very rubbly. 80% brecciated quartz veins.				
		264.5 Bedding at - - - - - - - - - - - - - - - -	12			
				276.2-278.5 40% quartz veining, locally sheared.		
		278.5-282.9 moderate to strongly sheared, local gouge seams to 5cm.				
				282.9-283.2 90% quartz veining.		
		288.5 Bedding at - - - - - - - - - - - - - - - -	8			
		298.4 Bedding at - - - - - - - - - - - - - - - -	8			
				299.4-306.2 60% quartz veining.		
				310.0-313.0 15% quartz veining.		
				313.0-315.5 80% quartz veining.		
		315.5-323.8 Black shale to siltstone with a minor amount of interbedded light to medium grey siltstone. Moderately graphitic.				
		318.5 Bedding at - - - - - - - - - - - - - - - -	32			
		323.8-332.3 60% light to medium grey siltstone with 40% interbedded black shale to siltstone. Weakly graphitic. Interbeds are generally <1cm.				
		327.0 Bedding at - - - - - - - - - - - - - - - -	15			
		332.3-345.3 Mainly black moderately graphitic shale to siltstone, with less than 10% interbedded light to medium grey siltstone.			Minor laminated pyrite.	
		338.6-339.2 very strongly sheared, minor gouge.				
		340.0 Bedding at - - - - - - - - - - - - - - - -	22			
		⎨342.5-345.3⎬«FAULT» Very strongly sheared, broken and rubbly with common gouge sections.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		345.3-381.5 Light to medium grey, finely bedded siltstone with minor black shale interbeds. Siltstone is locally calcareous, local limestone interbeds. 352.0 bedding at - - - - - - - - - - - - - - - -	18			
		356.2-360.5 50% interbedded black graphitic shale. Very broken and rubbly, local quartz veining. Minor strongly sheared sections with gouge.				359.4 Reduce from HQ to NTW
		366.7 Bedding at - - - - - - - - - - - - - - - -	18	368.7-369.5 70% quartz veins, locally brecciated and healed. 374.5-377.7 80% quartz veins, locally brecciated and healed. Host rock is locally very strongly sheared. 377.7-381.5 10-15% quartz veining, host rock locally sheared.		
		381.5-392.8 50% black graphitic shales interbedded with siltstone. {384.6-385.9}«FAULT» 30% quartz veining, very strongly sheared shales and common gouge. 389.6-390.3 strongly sheared, minor gouge.		383.2-384.6 15% quartz veining. 389.6-390.3 5-10% quartz veining,		
		392.8-397.2 Mainly black, weak to moderately graphitic shale to siltstone. Very minor interbedded grey siltstone. {392.8-395.3}«FAULT» 30% quartz veining. Host rock strongly sheared, abundant gouge between 394.1-395.3				
		397.2-401.4 90% light to medium grey siltstone, 10% black shale interbeds. 399.6 Bedding at - - - - - - - - - - - - - - - -	15			
		401.4-411.5 90% black, weakly graphitic shale and 10% light to medium grey siltstone.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		404.3 Bedding at - - - - - - - - - - - - - - - -	17			
		411.5-436.2 Mainly fine bedded (<1cm) siltstone with 10-15% black shales, locally weakly graphitic. Rare argillite interbeds to 20cm.				415.7 Reduce from NTW to NQ
		420.0 Bedding at - - - - - - - - - - - - - - - -	18			
		433.0 Bedding at - - - - - - - - - - - - - - - -	20			
		436.2-439.2 60% shale with 40% finely interbedded siltstone.				
		439.2-443.2 60% siltstone, 40% shale.				
		443.2-447.8 Black moderately graphitic shale with 30% interbedded siltstone. Very rubbly from 446.8-447.8				
		447.8-468.3 Finely bedded siltstone with 10-15% interbedded shale. 452.2-453.2 80% shale.				
		448.0 Bedding at - - - - - - - - - - - - - - - -	22			
		454.0 Bedding at - - - - - - - - - - - - - - - -	23			
		468.3-502.0 60% siltstone with 40% interbedded black weakly graphitic shale. Bedding generally <1cm, locally to 20cm of finely bedded shale. Thicker shale interbeds moderately graphitic.				463.0-463.9 no core recovered.
		481.3 Bedding at - - - - - - - - - - - - - - - -	20			
		496.5 Bedding at - - - - - - - - - - - - - - - -	22			
		502.0-517.7 Black, weakly graphitic, finely bedded shale, 10-15% medium to dark grey interbedded siltstone.			505.3 1cm band of bedded pyrite. 516.5 5cm band of 30% blebs of pyrite in a weak quartz gangue.	
		508.5 Bedding at - - - - - - - - - - - - - - - -	21			
		517.7-535.6 Siltstone with 40% interbedded black shale. Bedding generally <1cm.			local patchy pyrite	
		535.1 Bedding at - - - - - - - - - - - - - - - -	34			
		535.6-551.4 Siltstone with 15-20% interbedded black shale. Bedding <1-20cm scale.			local patchy pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		546.0 Bedding at - - - - - - - - - - - - - - - -	33			
		551.4-604.7 Siltstone with 20-25% interbedded black shale. Bedding at <1cm - 1.5m			local patchy pyrite	
		561.1 Bedding at - - - - - - - - - - - - - - - -	33			
		577.9 Bedding at - - - - - - - - - - - - - - - -	37			
		587.7 Bedding at - - - - - - - - - - - - - - - -	36			
		⟨593.1-595.0⟩«FAULT» Badly broken, local gouge and quartz veins.				
		604.7-611.5 Mainly black shale with 10% <1-8cm siltstone interbeds.				
		605.0 Bedding at - - - - - - - - - - - - - - - -	40			
		611.5-636.0 Mainly medium grey laminated to thinly bedded siltstone.				
		623.3 bedding at - - - - - - - - - - - - - - - -	36			
		629.9-636.0 Becoming weakly brecciated, bedding folded and distorted, minor quartz-calcite veining. Sharp faulted lower contact at - - - - -	40			
		No fault gouge development.				
636.00 TO 1068.90	GUNSTEEL FORMATION. GRAPHITIC SILICIFIED SHALE. «GRAPH SIL SH»	Black, very fine grained, weakly foliated with strongly graphitic foliation planes. Locally more strongly foliated or locally massive.		Moderately silicified throughout.	Rare pyrite laminations possibly secondary and parallel to foliation.	
		636.0-641.6 Quartz-calcite veining adjacent to fault contact.		636.0-641.6 10% quartz-calcite veins. 10cm strong veining at contact.	636.0-641.6 common brassy pyrite and traces of sphalerite within quartz-calcite veins.	
		646.5 Foliation - - - - - - - - - - - - - - - -	40		644.7-649.1 5% pyrite as common <<1mm discontinuous singular laminations and wisps parallel to foliation.	
		652.3 45cm of dark grey massive chert.				
		653.0 Foliation at - - - - - - - - - - - - - - - -	65			
		654.1 1cm wide siliceous shear at - - - - - - - -	75			
		⟨657.1-659.5⟩«FAULT» Fault zone. Strongly graphitic shale, graphitic				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fault gouge, poor recovery.				
		662.2 Foliation at - - - - - - - - - - - - - - - -	40			
		663.8 5cm of a calcareous, coarse, light grey chert grain sand. 663.8-666.3 Weak fragmental texture, indistinct shale fragment patchy 2-3% light grey chert sand grains.				
		664.5-664.9 Patchy chert fragments to 1cm. Disturbed beds of coarse chert grain sands mixed with shale.				
		⌈666.3-667.8⌋«FAULT» Fault Zone. Soft, strongly graphitic gougy shale sharp lower contact at - - - - - - - - - - - - - -	17			
		667.8-682.6 Silicified Shale			667.8-682.6 2-3% finely disseminated pyrite.	
		671.0 20cm zone with 5% light grey limestone and chert fragments up to 5mm.				
		673.0-673.4 Limestone. Dark grey nodular limestone mixed with shale becoming more massive in last 20cm.				
		672.8 6cm with distorted beds containing coarse sand to small pebble (up to 6mm) of light grey chert.				
		673.1 Foliation at - - - - - - - - - - - - - - - -	50			
		682.6-688.3 Baritic shales. 2-3% mm scale dark grey nodular and wormy barite. 2-3% wispy and <<1mm white weakly calcareous, weakly pyritic baritic? grains. 686.3 Foliation at - - - - - - - - - - - - - - - -	50		682.6-688.3 Patchy singular massive brassy pyrite laminations parallel to foliation. Secondary in nature.	
		688.3-699.8 Strongly silicified shales, cherty shales, indistinct bedding becoming stronger below 694m. Bedding below 694m defined by occassional faint		below 688.3 Strongly Silicified.	Rare patchy nodular pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fine pyrite laminations and dark-medium grey weakly pyritic silty shales. 694.7 Bedding at - - - - - - - - - - - - - - - - - 695.5 Bedding at - - - - - - - - - - - - - - - - -	60 67			
		699.8-703.5 Silicified Shale with patchy up to 30cm zones of laminated and thinly bedded shale and pyritic shale and <<1mm nodular pyritic barite forming laminations. Bedding at - - - - - - - - - - - -	52	699.8-717.2 Strongly silicified	699.8-717.2 3-5% very fine disseminated pyrite.	
		703.5-717.2 Silicified shale, weakly pyritic, weak silty appearance.				
		706.7-706.8, 708.5-709.7 and 710.4-710.6 Coarse clastic intervals. Coarse 1-2mm sand grains and small fragments up to 5mm. Rock fragments of flattened shale and dark grey pyritic silts and shales. Possible 1-2% white feldspar? grains.			2-3% granular brassy pyrite within clastic sections.	
		713.5-717.2 Patchy 5% <<1mm barite nodules.				
		717.2 70cm of dark grey massive chert. Minor inter-bedding with shales at - - - - - - - - - - - - -	65			
		717.9-722.0 Silicified shale, patchy <<1mm nodular barite.				
		722.0-724.8 Black graphitic chert.				
		┤724.8-736.4├«Ba Shale» Baritic Shale. Black, silicified, weakly graphitic shale hosting common generally <20cm zones of up to 15% disseminated <<1mm barite flecks.		Strongly silicified	2-5% ultra fine grained disseminated pyrite.	
		725.9 Bedding at - - - - - - - - - - - - - - - - - 728.2 20cm dark grey massive chert. 734.3 Bedding at - - - - - - - - - - - - - - - - -	62 45			
		┤736.4-754.4├«no core» drilled with strata-pack bit, no core recovered.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		754.4 Begin coring again into black strongly silicified shale with distorted silty laminations.				
		754.7 8cm of quartz veining, possible fault?		754.6-755.4 10-15% quartz veining.		
		754.8-755.25 abundant distorted lighter grey silty calcareous laminations.				
		755.25-756.5 Baritic pyritic shales, 10-15% <1-1mm nodular barite forming distinct cm wide beds interbedded with pyritic shales.		strongly silicified	7-10% ultra fine disseminated pyrite	
		755.4 2cm wide boundined dark grey limestone band within baritic and pyritic shales.				
		755.5 Bedding at - - - - - - - - - - - - - - - -	47			
		756.4 Bedding at - - - - - - - - - - - - - - - -	36			
		756.5-796.2 Silicified shale. Black, weakly foliated, weakly graphitic along foliation planes. Local cherty appearance.		756.5-796.2 Stong pervasive silicification	3-4% finely disseminated pyrite.	
		760.6 Foliation at - - - - - - - - - - - - - - - -	40			
		763.7-769.6 Patchy nodular barite over <10cm widths of 5% barite.				
		764.9 Bedding defined by nodular barite at - - -	65			
		769.2 4cm quartz healed fault at - - - - - - - -	43			
		769.6-781.4 Silicified Shale with 15% ultra fine grained laminar bedded pyrite		strongly silicified	769.6-781.4 «15% Lam PY» 15% finely laminar pyrite	
		770.6 Bedding at - - - - - - - - - - - - - - - -	55			
		771.5-774.5 broken, rubbly, poor recovery, minor quartz veining.				
		774.5-774.9 Strong fine brecciation into 1-2cm pieces recemented by a dark grey very fine siliceous network and 7-8% white weakly calcareous soft mineral.				
		776.0 Bedding at - - - - - - - - - - - - - - - -	62			
		778.0 Bedding at - - - - - - - - - - - - - - - -	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		779.1 Bedding at - - - - - - - - - - - - - - - -	55			
		781.2 Bedding at - - - - - - - - - - - - - - - -	42			
		782.3 2cm siliceous shear at - - - - - - - - - -	65			
		⌈784.2-787.4⌋«Nod Ba» 2-3% siliceous pyritic nodular to wormy barite		784.2-801.7 2-3% quartz +/- calcite veinlets, small gashes and brecciation fillings.	traces of red sphalerite within quartz calcite veinlets and gashes.	
		⌈787.4-787.8⌋«Nod-Bdd Ba» 30-40% wormy to continuous wavy barite layers 2-3mm thick. Rare coarse dark grey calcite nodules. Bedding at - - - - - - - - - - - - - - -	58		784.2-787.8 2-3% faint laminar bedded pyrite, 2-3% disseminated pyrite	787.4-787.8 all core taken for ICP lith sample no. 33844
		791.9-797.3 2-3cm wide siliceous shears as follows: 791.9, 793.5, 794.3			787.8-797.3 patchy laminar pyrite often distorted and probably transposed.	
		793.1 30cm dark grey-black massive chert				
		796.6-797.8 shales taking on a strong sheared to milled texture.				
		⌈797.3-797.4⌋«FAULT» Brecciated, milled quartz-calcite healed fault @	45			
		797.4-803.1 Silicified shale, black, weak to moderately foliated, local weak sheared texture.		797.4-803.1 Strongly silicified	797.4-803.1 Patchy transposed laminar pyrite. 1-2% disseminated pyrite.	
		798.7 Foliation at - - - - - - - - - - - - - - -	42		Best laminar pyrite from 802.3-803.1	
		802.8 Foliation at - - - - - - - - - - - - - - -	30			
		⌈803.1-806.4⌋«CHERT» Chert. Dark grey to black, graphitic partings, massive, weakly brecciated with fine quartz veinlets. Possible bedding but bedding distorted or brecciated.				
		806.4-822.9 Silicified Shale. Black, massive to weakly foliated, nongraphitic.		806.4-..... Strongly silicified	806.4-809.4 2-3% and locally 5-7% disseminated pyrite.	
		808.4 Foliation at - - - - - - - - - - - - - - -	42			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					{809.4-822.9}«5% LAM PY» 5-7% faint pyrite laminations throughout.	
		810.8 Fault Zone. 20cm strongly graphitic gougy shales. Faulting possibly at - - - - - - - - - -	55			
		813.4 Bedding at - - - - - - - - - - - - - - - -	60			
		814.1 Foliation at - - - - - - - - - - - - - - -	50			
		814.5 Bedding at - - - - - - - - - - - - - - - -	65			
		818.7-818.8 Fault. 10cm of layered milled, sheared and silica healed fault. Layering curved, faulting possibly	37			
		818.9 Bedding at - - - - - - - - - - - - - - - -	65			
		Below 822.9 Strongly silicified shales, weakly graphitic along foliation planes.			822.9- 5-7% ultra fine disseminated pyrite.	
		824.0 Foliation at - - - - - - - - - - - - - - -	40			
		827.8 5cm fault zone, milled and silica healed. Fault a	60			828.1 Rods broke 260 feet off bottom run down hole with tap. Break off tap in fault zone at 657 m. Drilling out tap but freeze 5500 feet of water line. Hole stopped for the winter, to be continued in 1996. Reduce to BTW at 828.1m
		827.8-837.3 variable bedding angles from 15-39 degrees and some minor folding adjacent to fault structure.			{827.8-847.3}«10-15% LAM PY» 10-15% very faint finely laminar pyrite, fairly continuous throughout.	
		840.3 Bedding at - - - - - - - - - - - - - - - -	45			
		847.3-848.5 Chert, black, ribbon banded with common graphitic parting.				
		847.4 foliation -	64			
					848.5-854.8 5% laminar bedded pyrite	
		850.1				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		bedding @ -	45			
		852.2-853.4 4cm and 10cm wide zones of thinly bedded highly calcareous thinly bedded fragments or boudined beds, breccia texture.				
					854.8-863 3-4% disseminated pyrite throughout localised zones of laminar pyrite occurring in 4cm intervals.	
		862.2 fault @ -	75			
		8cm fault zone contains silica and calcite				
		863.0-871.5 laminar to thinly bedded shale bedding most evident on dry core. Interlayering of black shale and lighter grey shales with laminar bedded pyrite. Moderately to strongly silicified.			863.0-871.5 laminar pyrite beds start to appear 2-3% pyrite in beds.	
		864.5 5cm fault that has been milled and silica healed, contains sphalerite bits. fault @ -	50			
				865.6-891.5 minor quartz calcite veinlets crosscutting and parallel to foliation	865.6-879.5 sphalerite blebs found in quartz calcite veinlets. yellow to reddish brown in color.	
		866.9 bedding @ -	54			
		foliation @ -	54			
		869.6 bedding @ -	57			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		876.0-890.4 <1% calcareous nodular concretions, rounded contain trace amounts of pyrite @ 1.5cm wide.			876.9-891.5 3-4% small (<1cm) irregular shaped blebs of calcite coated or rimmed with pyrite in trace amounts.	thinly layered lime/calcareous fragments resemble calcareous zone seen in footwall to mineralization.
		880.2-890.7 <1% calcareous fragments 3-4cm wide subrounded to rounded. contain thinly bedded limestone. as you move lower down you find shale fragments occurring. some barely discernable. strong pseudofragmental texture occurs.				
		891.0 bedding @ -	50			
		891.5-892.2 fault @ -	70			
		calcite and quartz milled, heavily veined. brecciation with trace amounts of pyrite.				
		892.2-894.9 strongly sheared sone, associated with fault above it. contains calcite and quartz veining that crosscuts and runs parallel to bedding. bedding? transposed into shearing.			892.2-894.9 sphalerite traces appear in calcite healed fractures.	
		898.8-904.3 10-15cm zones of Ca/Ba blebs. Dark grey 1-2mm wide. 2-5% nodules within zones.				
		904.4-908.3 more consistent zone of Ba/Ca blebs. lighter grey and a little bit bigger, up to 3cm. overall nodule content 5-7%				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		occasional calcareous concretions that contain 1-2% pyrite small, less than 1cm. some show good pressure shadows.				
		906.8 foliation @ -	44			
		below 908.3 Silicified black moderately foliated shales, local 20-30 cm zones of graphitic chert which is strongly foliated.		Below 908.3 moderate to strongly silicified	1-3% ultra fine grained disseminated pyrite throughout. Some zones of graphitic chert contain <1% laminar pyrite which is usually highly distorted	
		925.3 Foliation @ - - - - - - - - - - - - - - - -	45			
					930.8-934.0 traces of red and honey yellow sphalerite within quartz - calcite veinlets.	
		934.2 Bedding defined by faint pyrite laminations within cherty zone @ - - - - - - - - - - - - - - - - - - Bedding possibly transposed.	54			
		940.1-956.4 Bedding defined by faint pyrite laminations which also contain <1-1mm white barite/silica? -pyrite clots. 940.1-943.0 bedding highly irregular then becoming more consistent in orientation very shallow to core axis.		Weak to moderately silicified	940.1-956.4 2-3% very faint laminar bedded pyrite.	
		951.0 Bedding at - - - - - - - - - - - - - - - -	8			
		Foliation at - - - - - - - - - - - - - - - -	50			
		951.6 Strong sheared appearance over 20cm. Below 951.8 bedding becoming slightly steeper to core axis.		Silicification increasing below 951.8m		
		955.6 Bedding at - - - - - - - - - - - - - - - -	30			
		956.4-956.8 «FAULT» Fault Zone. very rubbly and poor recovery, graphitic, some fault gouge recovered.				
		959.8-981.0 Patchy 4cm-30cm zones of weakly laminar pyrite which also contains <1-2mm white clots with		Strongly silicified	959.8 Patchy zones of <5% laminar pyrite, 1-2% finely disseminated pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		brassy pyrite cores also defining bedding. Overall sulfide content of these zones <5% Py. Pyrite content seems to be increasing downward. Start to see 1-5cm zones of 'buckshot' pyrite occurring.		<1% sphalerite in veinlets	throughout.	
		959.9 Bedding @ - Foliation @ -	 35 50			
		964.9 Bedding @ -	 60			
		969.7 Foliation @ -	 55			
		971.8 Bedding @ -	 70			
		983.0-1001.6 Well foliated zone of shale. Breaks have graphite in them. No bedding.		Strongly silicified	983.0-1001.6 Disseminated Pyrite <5%	
		997.6 Foliation @ -	 58			
		1006.3-1006.5 Concretion siliceous, rimmed with pyrite at each end. 1006.8-1010.6 strongly foliated zone		 Strongly silicified		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					1017.9-1025.0 trace of sphalerite appears	
		1023.0-1027.3 moderately foliated. some calcareous concretions rimmed with a calcareous pyritic zone.		Strongly silicified	1023.0-1041.0 5-7% Pyrite increase in disseminated pyrite. larger grains in with smaller grains. some sphalerite <1%.	
		1025.0 Foliation @ -	65		white clots <1-2mm, with pyrite inside.	
		1031.3 Foliation @ -	66			
				1040.2 small <1mm calcareous veinlets appear occasionally.		
		1041.0 Fault @ -	68		1041.0-1052.4 7-8% pyrite grain size increasing. looks to be a slowly gradational change occurring.	
		1048.5 Foliation @ -	66			
				strongly silicified		
		1052.4-1057.2 pyrite grain size getting gradationally larger, 1-5mm.			1052.4-1057.2 6-8% disseminated pyrite to pyrite/ quartz clots occurring as 1-5mm in size.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					round to elongate, parallel to foliations.	
		1057.2-1058.6 zone of rare pyrite laminar beds <1.5cm interspersed with beds of calcite, barite clots interfingered with each other (2-3cm in width) distorted in appearance rare calcareous fragments siliceous pyritic clots			1057.2-1058.6 5-7% pyrite trace of sphalerite barite fragments @ 5mm	
		1058.6-1068.9 occassional, irregular intervals containing fractured calcite veins with pyrite clots in them. some laminar pyrite layers 1-3mm wide. independant pyrite fragments angular to sub rounded with quartz in them up to 1cm in size. contains some calcite nodules and fragments.			1058.6-1068.9 3-5% pyrite in irregular quartz inclusions.	
1068.90 TO 1081.50	INTERBEDDED SHALE AND LAMINAR PYRITE «SH - LAM PY»	1068.9-1073.0 Black fine grained strongly silicified massive shale with <1cm zones of very fine grained laminar bedded pyrite.		strongly silicified minor quartz calcite veinlets	1068.9-1073.0 7-8% laminar bedded pyrite, trace sphalerite common traces of red sphalerite and rare galena within quartz calcite veinlets and within quartz and calcite healing fault zones.	
		1070.2 Bedding @ -	82			
		1070.8 4cm milled, sheared and silica healed fault zone @ -	83			
		1071.0 6cm sheared, milled, and quartz calcite healed				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fault zone				
		1073.0-1082.5 interlaminated mix of black shale and very fine grained finely laminar bedded pyrite.			1073.0-1074.5 30-35% laminar pyrite, trace sphalerite in quartz veinlets.	<1% zn
		occassional 10-30cm zones of black, moderately silicified massive shale with minor disseminated and laminar pyrite.			1074.5-1076.0 35-40% finely laminar pyrite. interval contains one 2cm bed with 0.5-0.75mm grains of reddish sphalerite.	<1% zn
		1073.0-1077.8 bedding fairly consistent @ - - - - - - - - - - -	78			
					1076.0-1077.4 30% laminar pyrite	<1% zn
		1077.8-1082.5 bedding becoming shallower and distorted				
					1077.4-1078.8 50-60% finely laminar pyrite finely interlaminated with shale.	<1% zn
					1078.8-1080.2 65-70% laminar pyrite.	<1% zn
					1080.2-1081.5 65-70% laminar bedded massive pyrite. traces of red sphalerite within quartz veinlets.	
				1080.7-1081.5 common quartz +/- calcite veinlets. interval moderately deformed.		
		1081.4 «FAULT» fault zone strongly milled and silica healed. sharp lower fault contact @ - - - - - - - - - - -	65			
1081.50 TO 1104.40	SILICIFIED GUNSTEEL SHALES «SIL SHALE»	1081.5-1103.8 black, fine grained shale with occassional 1mm veinlets of calcite. fine grained disseminated pyrite throughout.		strongly silicified	1081.5-1103.9 4-6% finely disseminated pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		occassional clots of pyrite up to 2cm wide.				
		1084.2 foliation @ -	80			
		1086.5-1088.7 chert with veinlets of calcite.				
				1099.7-1103.0 veining associated with faulting becomes common. calcite veinlets crosscutting and parallel to bedding.		
		1103.0-1104.4 «FAULT» fault zone				
		1103.0-1103.9 strongly silicified to cherty shales. fairly abundant distorted quartz calcite veining. moderate brecciated appearance, strongly graphitic				
		1103.9-1104.4 strongest zone of deformation. strongly sheared, abundant graphite, local clay gouge.				
		fault @ -	72			
1104.40 TO 1119.20	ROAD RIVER CALCAREOUS SILTSTONES «R.R. CALC SLTST»	Interlayered, thinly laminated layers of light grey more calcareous silty layers with darker grey less calcareous silty layers. layering mm to cm scale.		occassional calcite veinlets.	minor trace of sphalerite in a 4-5mm calcite veinlet. 2-3% pyrite blades of pyrite <1mm long.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		1113.7-1114.3 black, shaly, non calcareous zone that contains blades of pyrite aligned with foliations. faulted upper contact and sharp sedimentary lower contact.				
		1115.7 layering @ -	76			
		1118.5 1cm milled, silica healed fault @ - - - - - - - -	78			
		1119.2 «FAULT» faulted lower contact, 3cm milled and silica healed fault @ - - - - - - - - - - - - - - - - - -	70			
1119.20 TO 1134.00	GUNSTEEL SILICIFIED SHALE «GS, SIL SHALE»	Black, fine grained shales that contain fairly regular silty, light grey, semi calcareous layers to 1122.0m.				
		1120.6 fault @ -	70			
		3cm wide silica calcite healed fault with traces of sphalerite.				
		1122.0 bedding @ -	68			
		layers <1cm thick containing pyrite as well as pyrite slivers 1-2mm long. slivers are all oriented in the same direction. makes a type of fabric through shale.				
		pyrite foliations @ - - - - - - - - - - - - - - - - -	70			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		1127.3-1129.6 fault quartz and silica healed fault with minor pyrite bands. 3cm wide folded faulted <5 degrees to core axis.				
		1128.0 pyrite foliations @ - - - - - - - - - - - - - - -	70			
		1133.8 pyrite foliations @ - - - - - - - - - - - - - - -	60			
		- possible faulted lower contact. rubbly broken siliceous shales with 1-2cm of graphitic clay gouge at contact.				
1135.10 TO 1192.40	ROAD RIVER GROUP CALCAREOUS SILTSTONE-SILTSTONE BRECCIA «R.R. CALC SLTST, BX»	Medium to dark grey streaky layered calcareous siltstone hosting brecciated layers and fragments of lighter grey calcareous siltstone. gradual decrease in layering to core axis angle down hole. 1135.6 layering/foliation @ - - - - - - - - - - - - - - -	68			
		1136.4 layering/foliation @ - - - - - - - - - - - - - - -	62			
		1139.4 layering/foliation @ - - - - - - - - - - - - - - -	40			
		1141.0 layering/foliation @ - - - - - - - - - - - - - - -	33			
		1142.2 layering/foliation @ - - - - - - - - - - - - - - -	25			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		1144.9 2-3cm milled, silica healed fault, gougy slip plane @ -	53			
		1147.0 light grey fragments stop, more of a consistent layering, minor brecciation/disruption of layering				
		1149.7 layering @ -	30			
		1150.0 layering @ -	25			
		{1156.4-1158.7} «FAULT» fault zone, very broken and rubbly. local 5-7cm zone of clay gouge, sharp upper fault contact @ -	55			
		1156.7 gougy fault plane @ - - - - - - - - - - - - - - - - - -	80			
		{1165.3-1168.0} «FAULT» heavy calcite veining crosscutting and parallel to foliations. some clay gouge in <1cm wide zones. broken rubbly recovery, graphite along breakage surfaces.				
		1165.2 clay gouge fault @ - - - - - - - - - - - - - - - - - -	70			
		1165.8 clay gouge fault @ - - - - - - - - - - - - - - - - - -	70			
		sharp upper and lower contacts to fault.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		lower fault contact @ - - - - - - - - - - - - - - -	65			
		1178.0 layering @ -	30			
		1181.5 foliation @ -	68			
						1192.4 rods stuck in hole. unable to free rods, unable to recover last 3m of core in tube. Break rods and leave 870 ft of B rods at bottom of hole. Unable to retrieve all H rods, 490 ft of H left in hole from 690 to 1180 ft.

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47726	1067.40	1068.90	1.50	.24	.03	1.7	.98			2443	389	1.3		.1	40				
47727	1068.90	1070.40	1.50	.64	.14	3.6	.66			6887	1598	2.9		.1	51				
47728	1070.40	1071.70	1.30	.89	.15	4.3	.52			9406	1680	3.4		.1	53				
47729	1071.70	1073.00	1.30	.76	.11	3.1	.54			8076	1256	2.7		.1	55				
47730	1073.00	1074.50	1.50	.65	.11	5.9	.52			7014	1222	4.0		.1	58				
47731	1074.50	1076.00	1.50	1.14	.25	7.2	.68			10000	2860	4.6		.1	55				
47732	1076.00	1077.40	1.40	1.55	.37	7.3	.66			10000	3928	5.6		.1	47				
47733	1077.40	1078.80	1.40	.58	.12	10.3	.82			6350	1316	6.5		.1	54				
47734	1078.80	1080.20	1.40	.02	.09	7.6	.94			171	948	3.7		.1	48				
47735	1080.20	1081.50	1.30	.17	.09	7.5	1.46			1737	973	4.9		.1	60				
47736	1081.50	1083.00	1.50	.01	.01	1.6	1.79			34	47	1.2		.1	37				
AVE.	1074.50	1077.40	2.90	1.34	0.31	7.25	0.67					5.08		0.10	51.14				

Total amount of samples= 11
Total length sampled = 15.6M

HOLE NUMBER: A-96-20

MINNOVA INC.
DRILL HOLE RECORD

DATE: 8-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 8
LOCATION: NTS 94/F7

PLOTTING COORDS GRID: AKIE
NORTH: 5202.00S
EAST: 19.00E
ELEV: 1077.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 438.30m
START DEPTH: 0.00m
FINAL DEPTH: 438.30m

COLLAR GRID AZIMUTH : 90° 0' 0"

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

DATE STARTED: July 5, 1996
DATE COMPLETED: July 12, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 6.1m pulled
CORE STORAGE: ON SITE

PURPOSE: TEST SOIL AND LITHOGEOCHEM ANOMALY AT CARDIAC CK. TIME HORIZON.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
124.10	-	-60° 0'	ACID	OK	
224.00	-	-58° 0'	ACID	OK	
319.30	-	-57° 0'	ACID	OK	
413.90	-	-50° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.10	CASING				No core recovered.	No core recovered.
6.10 TO 391.20	SILICIFIED GUNSTEEL SHALE «G.S SIL SHALE»	6.1-29.9 Black, poker chip, foliated shale. 6.2-6.5 and 7.9-8.1 Zones of coarser sediment influx. Lighter grey granular texture. Shale chip fragments up to 3-4mm in a calcareous matrix. 8.7 Foliation @ - - - - - - - - - - - - - - - -	60	Moderately silicified.	6.1-29.9 2-3% finely disseminated pyrite. 7.0-7.6 Barite blebs. 11.6-20.7 Rubbly core, poor recovery, approx 40%.	
		22.8-29.2 Several large brecciated calcareous nodules up to 30cm with calcite infillings. 29.9-55.6 Core becoming more massive, less foliated. Local bedding defined by laminar pyrite. 31.8 Bedding @ - - - - - - - - - - - - - - - - -	52	29.9-55.6 Strongly silicified shales.	29.9-55.6 3-5% very finely disseminated pyrite throughout. 31.7-36.2 7-8% laminar pyrite concentrated within <10cm wide zones hosted by silicified shales with fine disseminated pyrite.	
		39.5 Bedding @ - - - - - - - - - - - - - - - - -	70		39.0-40.0 7-8% laminar pyrite as described above.	
		43.2 Foliation @ - - - - - - - - - - - - - - - -	65			
		45.8 Foliation @ - - - - - - - - - - - - - - - -	58		45.2-48.7 1-2mm wispy discontinuous pyrite layers parallel to foliation.	
		46.6 Bedding defined by lighter grey black laminations @ -	75			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		47.2 Bedding @ - - - - - - - - - - - - - - - - - -	75			
		54.9 foliation @ - - - - - - - - - - - - - - - - -	55			
		┤55.6-57.3├«CHERT» Chert. Lighter grey, massive brecciated with quartz veining becoming ribbon banded with graphitic partings below 56.0m Bedding as defined by graphitic partings at 57.1 @	70			
		57.3-91.4 Poker chip shales, less silicified, well foliated local bedding defined by light and dark grey layering. Some lighter colored beds silty and calcareous. Common stronger silicification and development of chert banding.			57.3-91.4 <1-1% fine disseminated pyrite. Occassional 1-2mm wide brassy pyrite layers. Rare very faint dark brass colored pyrite mud laminations.	
		63.2 Bedding @ - - - - - - - - - - - - - - - - - -	60			
		64.6 Bedding @ - - - - - - - - - - - - - - - - - -	50			
		65.3 Bedding @ - - - - - - - - - - - - - - - - - -	58			
		70.0 Foliation @ - - - - - - - - - - - - - - - - -	60			
		77.3 Bedding @ - - - - - - - - - - - - - - - - - -	63			
				80.3-85.8 Calcareous concretions 20-80cm long occur within the poker chip shales.		
		80.4 Shale shows very faint laminations containing pyrite grains.				
		Bedding @ -	62			
		83.5 Bedding @ - - - - - - - - - - - - - - - - - -	73			
		86.9 Bedding @ - - - - - - - - - - - - - - - - - -	80			
		90.3 Foliation @ - - - - - - - - - - - - - - - - -	58			
		91.4-92.1				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Shales are more competent. Moderte to well silicified, no local bedding showing light and dark zones - now just dark. Minor calcareous beds.				
		92.1-92.9 «FAULT» Fault. Upper contact fault gouged. Competent and strongly milled and brecciated, silica healed, calcareous. Sharp upper fault @ - - - - - - - - - - - - - - - -	60			
		92.9-96.9 Alteration zone affected from fault above. 5cm calcite fracture runs the length of the core.		92.9-96.9 Abundant quartz - calcite veining.		
		96.9-100.0 Limestone breccia. 20% 1-10cm light grey laminated limestone fragment in a black foliated shale matrix. Rare fragments with blebs of pyrite. Fragments oriented mainly with foliation 1-10cm.				
		98.1 Foliation @ - - - - - - - - - - - - - - - - - -	50			
		99.4-100.0 Fault. Brecciated limestone fragments in a calcite healed matrix. Fragments are <5cm. Rock is quite competent. Faulting possibly parallel to core axis.				
		100.0-112.2 Black, fairly massive to weakly foliated shale.		Moderate to strong silicification	3% finely disseminated pyrite, locally up to 5%, some <2mm pyrite blebs encased in qtz - calcite pressure shadows.	
		112.2-131.0 Very faint laminar pyrite beds occur. Bed thickness is @ 1mm. Beds are deformed and folded. Hosted in a dark black shale with calcareous zones <10cm in length. Calcareous zones contain a larger grain of disseminated pyrite.			112.2-131.0 <5% pyrite,patchy,very fine, very faint laminar pyrite as very faint brownish laminations.	
		115.2 Foliation @ - - - - - - - - - - - - - - - - - -	42			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		125.0 Foliation @ - - - - - - - - - - - - - - -	50			
		130.6 Bedding @ - - - - - - - - - - - - - - - -	50			
		131.0-135.1 «CHERT» Chert. Massive medium to dark grey. Contains graphitic fracture coatings.				
		132.3 Foliation @ - - - - - - - - - - - - - - -	45			
		135.1-135.2 Fault that is sheared and milled with qtz - ca healed fractures.				
		135.1-145.5 Black, poker chip style shale, moderately silicified with localized zones of very faint laminar pyrite <1mm. Gets more cherty towards base, small calcite veinlets get more abundant as you get towards base.				
		136.9-137.3 Fault. Upper and lower contacts have fault gouge Broken up shale without much veining.			139.6-140.0 25-30% laminar pyrite beds <1mm.	
		145.5-145.7 Fault. Sheared and milled calcite healed. Minor brecciation. Contains traces of sphalerite in calcite veins Shearing @ -	47			
		145.7-149.8 Black, moderately silicified, poker chip grading to massive, contains localised barite nodules.			145.7-149.8 <3% disseminated pyrite, traces of sphalerite within qtz-calcite veins.	
		149.8-158.5 Shale becomes more massive with localised zones of disseminated pyrite. Some laminar pyrite in a 4cm zone, lighter brown layering.			149.8- <3% pyrite locally disseminated. Some pyrite nodules <10mm.	
		156.9 Bedding @ - - - - - - - - - - - - - - - -	46			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		158.5-160.0 Shale has calcareous fragments as well as laminated limestone fragments 1-9cm. Also contains pyrite blebs in calcite pressure shadows. Moderately fractured. 160.0-164.0 Moderately fractured, calcareous concretions up to 20cm in length. Minor disseminated pyrite poor to moderately silicified. 164.0 Foliation @ - - - - - - - - - - - - - - - -	45			
		164.0-193.0 Black, moderate to well foliated shale. Contains calcareous nodules/zones up to 8cm long. Occaissonal <2cm calcareous veinlets parallel to foliation. 170.1 Foliation @ - - - - - - - - - - - - - - - -	46	164.0-193.0 Moderately silicified.	164.0-197.5 Irregular clots of pyrite with calcite or quartz rims. Clots <2cm in diam.	
		173.4 Foliation @ - - - - - - - - - - - - - - - -	28		173.2-179 <3% disseminated pyrite.	
		179.0 Bedding @ - - - - - - - - - - - - - - - -	45		179.0-179.2 small zone of laminar pyrite beds <5%.	
		184.2-184.4 Fault. Broken up, rubbly, with sharp upper and lower contacts. Sheared with qtz/ca healed fracture. Fault contact (upper) @ - - - - - - - - - - - -	53			
		(lower) @ - - - - - - - - - - - -	45			
		189.4 Foliation @ - - - - - - - - - - - - - - - -	45			
		193.0-194.9 Calcareous, baritic?, nodules appear in 10cm zones of 20% nodules. <5mm in diameter. 195.7-197.5 Shale breccia. 10-15% fragments, mainly dark lime stone to calcareous silts. Rare fragment which looks like Road River calcareous siltstone.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Fragments up to 4cm in size. 5-7% calcareous nodules.				
		197.5-219.3 Core becoming more massive, less foliated.			197.5-226.8 Pyrite content decreasing.	
		200.3 Foliation @ - - - - - - - - - - - - - - -	28	Moderately silicified.	4% disseminated pyrite.	
		210.0 Foliation @ - - - - - - - - - - - - - - -	35			
		218.5 Foliation @ - - - - - - - - - - - - - - -	32			
		219.3-234.4 Core is more foliated, poker chip style, moderate silicification.		219.3-231.0 Common fine quartz-calcite veinlets parallel and crosscutting foliation.	219.3-231.0 <1% sphalerite in qtz-ca veinlets.	
		224.2 Foliation @ - - - - - - - - - - - - - - -	45			
					226.8-241.2 <3% disseminated pyrite.	
		234.4-261.5 Core becomes more massive again. Less foliated. Contains some calcareous zones 10cm long.				
		237.1 Foliations @ - - - - - - - - - - - - - - -	42			
		241.7 Bedding @ - - - - - - - - - - - - - - -	65		241.2-258.5 <5% patchy laminar pyrite beds <1mm. Brownish alternating with black beds.	
		246.3 Foliation @ - - - - - - - - - - - - - - -	48		Disseminated pyrite occurs throughout at around 3%.	
		249.1 Bedding @ - - - - - - - - - - - - - - -	62			
		252.4 Foliation @ - - - - - - - - - - - - - - -	38			
					258.5-282.7 Zones of 5-7% laminar bedded pyrite. Bed colors alternate between light grey, brown and black.	
		259.6 Bedding @ - - - - - - - - - - - - - - -	40			
		261.6 Bedding @ - - - - - - - - - - - - - - -	35			
		261.6-286.5 Poker chip black shales, well foliated, local bedding defined by pyrite laminations.		261.6 Moderate silicification. Patchy weaker and stronger silicification.	268.8-270.1	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Occassional dark grey calcareous concretions up to 20cm long.			<3% zone disseminated pyrite.	
		267.6 Foliation @ - - - - - - - - - - - - - - -	65			
		268.5 Bedding @ - - - - - - - - - - - - - - -	50			
					270.1-282.6 <10% laminar pyrite bedding. Light brown and grey bands mixed with dark shales. Occaissonal larger grained layers. <5% of pyrite.	
		279.7 Bedding @ - - - - - - - - - - - - - - -	46			
		280.1 10cm wide fault zone, milled, sheared, graphitic and silica healed. Sharp upper and lower contacts @ - - - - - - - - - - - - - - - - - - -	45		279.7 Traces of sphalerite in qtz\ca veinlets	
		285.3 Foliation @ - - - - - - - - - - - - - - -	45			
		286.5-319.3 Shales become less poker chip and more rubbly, moderately massive.		Moderate to strongly silicified	286.5-288.7 <3% disseminated pyrite.	
		288.7-289.0 Fault zone. Brecciated, milled, sheared and healed by qtz-calcite veining. faulting @ - - - - - - - - - - - - - - - - - - -	43		288.7-289.0 Traces of sphalerite within quartz calcite veins in fault zone.	
		301.1 foliation @ - - - - - - - - - - - - - - -	38			
		306.2-319.3 Massive, strongly silicified shale. Small calcite veinlets occcur occassionally.			303.5-306.2 Common sphalerite in quartz-calcite veinlets <1%.	
		307.5 Foliation @ - - - - - - - - - - - - - - -	42			
		319.4-327.3 «FAULT» Fault Zone. Poker chip shales within 4-5cm zones of abundant gouge. Graphite in foliations. Sharp upper contact and lower contact. 15cm sheared, milled, healed, graphite zone at top. upper contact @ - - - - - - - - - - - - - - - -	65			
		325.5 3cm milled and quartz healed fault @ - - - - - -	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		327.3 10 cm brecciated, gougy fault at base @ - - - -	48			
		327.3-391.2 Weakly foliated, strongly silicified shales. Bedding defined by common laminar bedded pyrite and calcareous silty beds.		Below 327.3 Strongly silicified. Weak quartz calcite veining.	327.3-357.2 10-12% laminar bedded pyrite throughout interlaminated with shale.	
		330.9 Foliation @ - - - - - - - - - - - - - - -	35			
					333.1-335.8 Traces of sphalerite <1%, in quartz-calcite veinlets.	
		335.0 Bedding @ - - - - - - - - - - - - - - - -	38			
		338.5 Foliation @ - - - - - - - - - - - - - - -	43			
						344.1 Possible Ammonite
					346.0 1cm wide, massive sulfide bed. Light grey, calcareous color suggests presence of sphalerite.	
		346.3 foliation @ - - - - - - - - - - - - - - -	45			
					349.0 4cm wide bed of laminar massive pyrite with a 1cm lighter grey calcareous bed probably zinc rich.	
					349.0-349.6 15% laminar bedded pyrite interlaminated with shale	
		349.9 Bedding @ - - - - - - - - - - - - - - - -	30			
					352.2-352.8 35-40% laminar bedded pyrite. Interval contains 5cm wide light grey highly calcareous bed - possibly zinc enriched	
					357.2-361.7 15-17% laminar bedded pyrite concentrated into 30-50cm wide zones.	
					361.7-384.4 <1-2% finely disseminated pyrite, rare laminar pyrite. Patchy 2-3% brassy	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					pyrite as cores to <1mm white spots.	
		371.0-371.2 Fault zone. Soft gougy, strongly graphitic. Fault @ -	35			
		371.0-383.4 Graphitic silicified shales, minor chert, sheared with abundant 5-15cm zones of graphitic gouge. Shearing @ -	30 40			
		374.8 5cm milled, quartz-calcite healed fault @ -	55			
		377.4 10cm quartz-calcite healed fault @ - - - -	45		377.4-377.8 Traces of sphalerite in quartz-calcite veinlets.	
		⎨383.0-383.3⎬«FLT GOUGE» Massive graphitic fault gouge.			384.4-386.9 Massive silicified shale with <1-1% disseminated pyrite hosting three zones 2-5cm wide of massive laminar pyrite. ⎨386.9-387.4⎬«50% LAM PY» 50% laminar bedded pyrite. ⎨389.3-389.8⎬«35% LAM PY»	
		Rubbly sheared lower contact.				
391.20 TO 393.40	FAULT ZONE «THR FAULT»	Interlaminated shale and laminar pyrite, strongly sheared and disrupted by quartz calcite veining. Local milling and healing by quartz and calcite.		Strongly silicified, abundant wormy quartz-calcite veining and quartz flooding of fault zone.	391.2-392.7 5% straw colored sphalerite clots and <1% disseminated galena within quartz calcite veins. 20% laminar bedded pyrite, possibly with sphalerite.	
		391.2 Fault @ - - - - - - - - - - - - - - - - -	50			
		391.5 Bedding @ - - - - - - - - - - - - - - - - -	30			
		392.0 Milled sulfide shear @ - - - - - - - - - -	45			
		392.7 Milled and quartz healed zone @ - - - - -	65			
		392.7-393.4 Strongly brecciated and quartz vein healed siliceous shale. Milled and sheared base @ - - -	50		392.7-393.4 Trace sphalerite within quartz-calcite veining.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
393.40 TO 438.30	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Medium grey, weak to moderately calcareous siltstone, laminated to thinly layered/bedded. 395.5 Layering/Bedding @ - - - - - - - - - - - 402.3 Layering/Bedding @ - - - - - - - - - - - 414.0 Layering/Bedding @ - - - - - - - - - - - 432.0 Layering/Bedding @ - - - - - - - - - - - 438.3 E.O.H.	 55 60 58 57			Usual Road River shut down rock.

HOLE NUMBER: A-96-20 ASSAY SHEET DATE: 6-November-1996

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47737	349.00	349.60	0.60	.06	.04	2.0	.91			495	366	.9		.1	45				
47738	352.20	353.00	0.80	.01	.04	3.3	1.08			25	379	1.5		.1	58				
47739	356.30	357.20	0.90	.01	.02	1.4	.92			43	236	.9		.1	46				
47740	386.20	386.90	0.70	.59	.24	4.6	1.61			5403	2214	3.4		.1	29				
47741	386.90	387.40	0.50	.06	.13	8.9	2.01			539	1155	5.5		.1	56				
47742	387.40	389.30	1.90	.03	.06	3.2	3.35			297	564	2.2		.1	28				
47743	389.30	391.20	1.90	.50	.08	6.5	1.70			5200	761	4.5		.1	47				
47744	391.20	392.70	1.50	3.59	1.54	9.4	1.68			10000	10000	8.3		.1	48				
47745	392.70	393.40	0.70	.08	.01	1.7	.77			800	80	1.5		.1	49				
47746	393.40	394.40	1.00	.01	.01	1.8	.35			37	1	2.5		.1	18				
AVE.	391.20	392.70	1.50	3.59	1.54	9.40	1.68					8.30		0.10	48.00				

Total amount of samples= 10
Total length sampled = 10.5M

HOLE NUMBER: A-96-21

MINNOVA INC.
DRILL HOLE RECORD

DATE: 8-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 7
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 3025.00S
EAST: 287.00E
ELEV: 1460.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -84° 0' 0"
LENGTH OF THE HOLE: 601.10m
START DEPTH: 0.00m
FINAL DEPTH: 601.10m

COLLAR GRID AZIMUTH : 243° 0' 0"

COLLAR ASTRO. AZIMUTH : 203° 0' 0"

DATE STARTED: July 9, 1996
DATE COMPLETED: August 8, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: H,N,

CONTRACTOR: FALCON DRILLING LTD.
CASING: 5.2m
CORE STORAGE: ON SITE

PURPOSE: DEEP DOWNDIP TEST OF CARDIAC CREEK ZONE BELOW HOLE A-95-18

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
29.60	179° 0'	-85° 0'	SING.SHOT			-	-	-	-	-	
60.00	211° 0'	-84° 0'	SING.SHOT	OK		-	-	-	-	-	
90.50	214° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
121.00	214° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
151.50	218° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
182.00	218° 0'	-83° 0'	SING.SHOT	OK		-	-	-	-	-	
273.40	222° 0'	-82° 0'	SING.SHOT	OK		-	-	-	-	-	
337.40	231° 0'	-80° 0'	SING.SHOT	OK		-	-	-	-	-	
367.90	231° 0'	-79° 0'	SING.SHOT	OK		-	-	-	-	-	
404.50	231° 0'	-78° 0'	SING.SHOT	OK		-	-	-	-	-	
425.80	229° 0'	-78° 0'	SING.SHOT	OK		-	-	-	-	-	
433.40	238° 0'	-77° 0'	SING.SHOT	OK		-	-	-	-	-	
451.70	242° 0'	-76°30'	SING.SHOT	OK		-	-	-	-	-	
460.90	236° 0'	-76° 0'	SING.SHOT	OK		-	-	-	-	-	
477.60	241° 0'	-75°30'	SING.SHOT	OK		-	-	-	-	-	
494.70	246° 0'	-75° 0'	SING.SHOT	OK		-	-	-	-	-	
511.10	245° 0'	-75° 0'	SING.SHOT	OK		-	-	-	-	-	
523.30	247° 0'	-75° 0'	SING.SHOT	OK		-	-	-	-	-	
541.60	239° 0'	-74° 0'	SING.SHOT	OK		-	-	-	-	-	
554.70	242° 0'	-74° 0'	SING.SHOT	OK		-	-	-	-	-	
601.10	245° 0'	-73° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 5.20	CASING «OB»					No core recovered
5.20 TO 58.40	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Mottled light and dark grey, massive to very weakly layered, banded. Light grey areas strongly calcareous, darker grey areas dolomitic. Mottled texture result of disrupted layering which is locally preserved. 16.5 Layering @ - - - - - - - - - - - - - - - -	67	27.4-29.3 Bull quartz vein. contacts <10 degrees to core axis. 34.6-42.5 Abundant quartz veining		5.2-54.6 Patchy strong surface oxidation, local very rubbly recovery. 44.1-46.5 Strongly oxidized, 50cm oxidized clay.
		50.5 Layering @ - - - - - - - - - - - - - - - -	58			
58.40 TO 78.90	FAULT BRECCIA «FAULT BX»	Black to light grey, massive, composed of fragments of black shale (possibly gunsteel), pinstripe shales, Road River, sandstone and rare Kwadacha fossiliferous limestone in a coarse grained graphite and creamy white semi-translucent silica matrix. Locally graphite will make up to 80% of matrix. Upper fault contact @ - - - - - - - - - - - - - - -	15			
		68.0-72.3 Massive Road River hosting occassional 10cm networks of fragments in graphite silica matrix. 76.1-78.5 Road River, brecciated and quartz veined from 77.0-77.7 78.5-78.9 Last occurrence of fragments in graphite-silica matrix. Lower contact @ - - - - - - - - - - - - - - -	15			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
78.90 TO 601.10	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Medium to dark grey, weakly calcareous siltstone with lighter grey highly calcareous layers/beds. Lighter grey layers locally disrupted producing patchy and mottled textures.				
		85.6 Layering/bedding @ - - - - - - - - - - - -	50			
		94.4 Layering/bedding @ - - - - - - - - - - - - -	55			
		103.4 Layering/bedding @ - - - - - - - - - - - -	65			
		113.7 Layering/bedding @ - - - - - - - - - - - -	58			
		134.1 Fault. Sheared and calcite healed, <4cm wide.				
		134.8 Layering/bedding @ - - - - - - - - - - - -	48			
		147.8 Layering/bedding @ - - - - - - - - - - - -	45			
		178.4-179.5 Broken up, rubbly, oxidized from surface.			176.9-192.1 Trace of disseminated pyrite. Minor patches of pyrite around 4mm wide.	
		179.6 Layering/bedding @ - - - - - - - - - - - -	45			
		210.0 Layering/bedding @ - - - - - - - - - - - -	38			
		221.6-223.8 Broken up, rubbly zone.			212.2-212.4 20% disseminated pyrite. Zone of pyrite that is loosely oriented at 30 degrees to core axis.	
		222.2 Layering/bedding @ - - - - - - - - - - - -	32			
		250.0 Bedding @ - - - - - - - - - - - - - - - -	25			
		254.7 Bedding @ - - - - - - - - - - - - - - - -	25			
		255.8-257.4 «FAULT»				
		255.8-256.0 Fault breccia, fragments of siltstone in fault gouge matrix. Sharp upper fault contact @ - - -	15			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		256.0-257.4 Very rubbly and broken recovery. Rubbly core continues to 258.8				
		260.3 Bedding @ - - - - - - - - - - - - - - - -	28		260.3 2cm wide bedding parallel zone of qtz -calcite veining with clots of pyrite -sphalerite and trace chalcopyrite. 260.8 2cm wide bedding paralled shear and quartz veining with <1% pyrite, trace of sphalerite, chalcopyrite.	
		266.0 Bedding @ - - - - - - - - - - - - - - - -	32			
		268.7 Bedding @ - - - - - - - - - - - - - - - -	37	268.8-272.8 Weak, patchy veining as minor 7-30cm wide crosscutting qtz-ca veins. 268.8 Quartz vein crosscutting bedding at right angles.		
		280.5 Bedding @ - - - - - - - - - - - - - - - -	20			
				280.9-284.1 Qtz-Calc-Sp veins Brecciated siltstone with 10-30cm wide crosscutting quartz-ca veining networks, some with coarse grained graphite.	┤280.9-284.1├«Qtz-Calc-Sp Vns» 2-3% coarse grained red brown sphalerite within qtz-ca veins. <1% pyrite, trace chalcopyrite. Locally sp clots quite massive.	
		288.3 Bedding @ - - - - - - - - - - - - - - - -	32			
				290.0-301.9 Weak crosscutting qtz-ca veinlets. ┤301.9-314.0├«QTZ-CALC VNS» Moderate to strong <5cm wide crosscutting qtz-ca veining networks. Trace py and cp in qtz-ca veins. 314.0-332.9 Weak crosscutting and bedding parallel <1cm qtz-ca veinlets.		

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		338.8 Bedding @ - - - - - - - - - - - - - - - -	25			
		359.9 Bedding @ - - - - - - - - - - - - - - - -	32			
		390.0 Bedding @ - - - - - - - - - - - - - - - -	30			
		401.5 Fault zone. 30cm wide zone of fault gouge, sharp upper and lower contacts cross-cutting bedding (70 degrees to bedding). Fault-core axis angle -	30			419.7 use Devitool to directional drill the hole towards section 3200S. Go back downhole with core barrel and snap off barrel. Retrieve core barrel and go down hole with hexagonal core barrel and begin coring new hole - will not follow devitool hole. 435.6 sperry sun shot indicates hole has pulled considerably to the north. Stop hole, back up to above 419.7 and set wedge at 417.6m to continue hole.
		420.5 Gradational lower contact into next interval.				
		420.5-528.7 Interbedded sequence of Road River calcareous siltstone with black, fine grained weakly foliated shale with common 1-2cm wide weakly calcareous lighter grey speckled silty interbeds. Shale intervals very similar to shale seen in the footwall of the mineralization.			1-3% wispy pyrite parallel to foliation	
		438.5-439.1 Fault Breccia and soft gouge. Breccia very angular, up to 1cm in size.				
		475.1 Bedding @ - - - - - - - - - - - - - - - -	36			
		507.4 Bedding @ - - - - - - - - - - - - - - - -	38			
		528.7-566.0 Massive, light grey calcareous siltstone. Minor soft sediment deformation of beds, mottled appearance.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		558.8 Foliation @ - - - - - - - - - - - - - - - - - - 566.0-582.0 Interfingered and microfaulted Road River. Lighter, more calcareous fragments mixed with darker less calcareous (dolomitized) layers. Beds are continuous through color changers showing patchy discontinuous nature of dolomitization. 582.0-601.1 Dark grey, massive, moderately calcareous fine grained siltstone.	42		585.6-601.1 Occassional pyrite wisps. Weakly layered up to 1 cm wide. Smaller pyrite wisps <4mm long occur in local 15cm zones.	601.1 Hole stopped due to excessive deviation towards the north, towards hole A-96-19 and to steepness of hole.

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47826	280.90	282.50	1.60	6.37	.01	1.8	1.50			10000	1	1.5		100.0	285				
47827	282.50	284.10	1.60	1.28	.01	1.4	.81			10000	1	1.1		100.0	113				

Total amount of samples= 2
Total length sampled = 3.2M

HOLE NUMBER: A-96-22

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 9
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 6209.00S
EAST: 250.00E
ELEV: 943.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 282.90m
START DEPTH: 0.00m
FINAL DEPTH: 282.90m

COLLAR GRID AZIMUTH : 90° 0' 0"

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

DATE STARTED: July 13, 1996
DATE COMPLETED: July 17, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 8.6m
CORE STORAGE: ON SITE

PURPOSE: TEST SOIL AND LITHOGEOCHEM ANOMALIES AT THE CARDIAC CREEK TIME HORIZON.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
63.40	-	-50° 0'	ACID	OK	
124.40	-	-50° 0'	ACID	OK	
188.40	-	-48° 0'	ACID	OK	
246.30	-	-48° 0'	ACID	OK	
282.90	-	-47° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 8.60	CASING					No core recovered
8.60 TO 171.40	SILICIFIED GUNSTEEL SHALE «SIL GUN SHALES»	Black, well silicified shales 8.6-20.6 Poker chip shale. Bedding defined by occassional large grained pyrite beds.		8.6-46.2 Strongly silicified Small <1mm calcite veinlets.	8.6-46.2 <2% disseminated pyrite. Some larger grained laminar pyrite beds <2mm thick. Patchy, very faint, laminar pyritic muds.	
		17.7 Bedding @ - - - - - - - - - - - - - - - -	50			
		20.6-46.2 Shale becomes more massive.				
		22.0 Foliation @ - - - - - - - - - - - - - - -	55			
		26.8 Bedding @ - - - - - - - - - - - - - - - -	60			
		29.9 Foliation @ - - - - - - - - - - - - - - -	52			
		37.0-45.2 Calcareous concretion zone. Some concretions up to 6cm wide.				
		43.5-43.7 Fault. Massive,quartz-calcite. Sharp lower and upper contact.				
		Upper @ -	60			
		Lower @ -	58		46.2-46.6 Concentrated 20% micro blebby barite, calcareous. 0.5cm wide beds. Trace of pyrite within beds.	
		46.3 Bedding @ - - - - - - - - - - - - - - - - -	58			
		46.2-50.8 Shales become more foliated.				
		48.5 Foliation @ - - - - - - - - - - - - - - - -	58			
		50.8-51.1 Fault. Milled. Sheared, quartz and calcite healed. Rubbly to moderately massive. Brecciated calcareous fragments locally up to 2cm wide.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Shear zone (gouge) @ - - - - - - - - - - - - - -	49			
		51.5-78.0 Well silicified, semi-massive, patchy laminar bedded pyrite. Some concretions up to 10cm wide.			51.5-62.3 10-15% laminar bedded pyrite.	
		54.0 Bedding @ - - - - - - - - - - - - - - - - - -	52			
		56.1 Bedding @ - - - - - - - - - - - - - - - - - -	52			
		61.6 Bedding @ - - - - - - - - - - - - - - - - - -	60			
					62.3-78.0 <2% disseminated pyrite decreases in concentration as you move down in zone. Patchy areas of thin laminar pyrite beds.	
		62.7 Foliation @ - - - - - - - - - - - - - - - - -	58			
		74.6 Bedding @ - - - - - - - - - - - - - - - - - -	58			
		78.0-104.5 Black, well silicified shale with calcareous silt layers, laminar beds of pyrite and occassional veinlets parallel to bedding. Silty layers <1cm wide.		Well silicified.	78.0-81.1 7-10% Laminar bedded pyrite.	
		81.6 Foliation @ - - - - - - - - - - - - - - - -	54			
		84.9 Bedding @ - - - - - - - - - - - - - - - - - -	56			
		85.9-90.7 Occassional 2-3cm wide zones of 3-7% 1mm dark grey barite nodules.				
		90.9 Bedding @ - - - - - - - - - - - - - - - - - -	60			
		94.8 Bedding @ - - - - - - - - - - - - - - - - - -	58			
		95.2 Foliation @ - - - - - - - - - - - - - - - - -	58			
		102.3 Foliation @ - - - - - - - - - - - - - - - -	60			
		103.4 Bedding @ - - - - - - - - - - - - - - - - -	60		103.0-104.1 7-10% laminar bedded pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		104.5-113.8 Poker chip shales, moderately silicified. Occassional <2mm veinlets of qtz-ca. Some calcareous zones around 10cm wide throughout.				
				108.2-113.8 Numerous quartz-calcite veinlets. Veinlets are up to 2mm wide.		
		114.0-117.0 Shale becomes more massive.			114.0-117.0 <2% disseminated pyrite. Decrease in concentration as you move down zone.	
		117.0-117.4 Fault. Sharp lower and upper contacts. Sheared and milled. Quartz and calcite healed. Soft gouge 4cm thick.				
		Upper fault contact @ - - - - - - - - - - - - - - -	69			
		Lower fault contact @ - - - - - - - - - - - - - - -	63			
		117.0-124.6 Shale foliations alternate between mainly very foliated (poker chip), to semi massive zones.				
		Traces of bedding from laminar pyrite zone @ - - -	70			
		120.8 Bedding @ - - - - - - - - - - - - - - - - -	72		120.8-122.4 5% laminar bedded pyrite.	
		124.6-147.3 Poker chip shales, moderately silicified with occassional quartz-calcite veinlets.		124.8 Irregular clots of pyrite rimmed with quartz - calcite.		
		125.6 Foliation @ - - - - - - - - - - - - - - - -	70			
					130.5-147.3 <3% disseminated pyrite. Pyrite becomes more abundant in the form of irregular clots. Forms into very weak layers.	
		133.6 Pyrite layering @ - - - - - - - - - - - - -	68			
		137.1-137.4 Fault. Very competent, milled, sheared. Quartz healed with some calcite. Sharp upper and lower contact.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Upper fault contact @ - - - - - - - - - - - - - - -	48			
		Lower fault contact @ - - - - - - - - - - - - - - -	80		137.1-137.4 Trace of sphalerite and pyrite in fault veinlets.	
			80			
		147.4-151.8 Shale becomes more massive.			147.4-151.8 <3% pyrite. Disjointed <1.5cm lenses of pyrite parallel to foliation.	
		148.7 Layering of Pyrite @ - - - - - - - - - - - -	68			
		Foliation @ - - - - - - - - - - - - - - - - -	68			
		151.8-158.8 Shale becomes more foliated. Some rubbly sections <20cm long.				
		154.2-154.6 Fault. Massive quartz-calcite,sheared. Good upper contact.				
		Upper contact @ - - - - - - - - - - - - - - - - -	75			
		158.8-159.1 Fault. Milled and sheared. Quartz-calcite healed				
		Lower contact @ - - - - - - - - - - - - - - - - -	75			
		158.8-164.2 Shale becomes massive. Localized zones of micro faulted, wavy laminar pyrite beds. Peppered with calcite bits and veinlets. Mixed with irregular clots of pyrite.			162.2-164.0 Clusters of sphalerite in veinlets <3mm wide.	
					165.9-166.1 <5% laminar bedded pyrite.	
		166.7 Bedding @ - - - - - - - - - - - - - - - - -	73			
		166.9 Foliation @ - - - - - - - - - - - - - - - -	45			
					170.0-171.4 5-7% laminar pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
171.40 TO 176.00	INTER LAMINATED PYRITE AND SHALE «LAM PY-SH»	Thinly laminated very fine grained pyrite with interlaminations of shale. Rare calcite concretions. 172.0 Bedding @ - - - - - - - - - - - - - - - - -	75		171.4-172.7 25-30% laminar pyrite, trace sphalerite within quartz-calcite veinlets. 172.7-174.4 75% laminar pyrite. 174.4-176.0 30-35% laminar pyrite. Trace of sphalerite within quartz-calcite veinlets.	<1% Zn <1-1% Zn
		173.3-174.0 Core angles swing from 75 to less than 10 degrees to core axis.				
176.00 TO 190.10	GUNSTEEL FORMATION PYRITIC SHALE «PY SHALE»	Black fine grained siliceous shale with common pyrite laminations, patchy dark grey <0.5cm calcareous nodules locally concentrated up to 10% and patchy 10-20cm zones of brassy nodular pyrite, some intergrown with barite. 177.0 Bedding @ - - - - - - - - - - - - - - - - -	65	Moderate silicification.	176.0-177.2 15-20% laminar pyrite. Coarse sphalerite clots in quartz-calcite veining from 176.1-176.3. 177.2-178.4 15-20% laminar pyrite. 178.4-185.9 7-8% pyrite, laminar and brassy mm scale nodules. 179.4-183.5 Common sphalerite within quartz-calcite veinlets.	
				182.1-182.4 and 183.6-183.9 Massive quartz-calcite veins.		
		184.2 Foliation @ - - - - - - - - - - - - - - - -	51			
		185.9-187.6 Common irregular shaped dark grey <2cm calcareous nodules.		185.9-190.1 Moderate to strong quartz-calcite veining from <1mm-3cm wide. Veins are mostly subparallel to foliation.	185.9-190.1 2-3% pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
190.10 TO 251.80	GUNSTEEL FORMATION SILICIFIED SHALES «G.F. SIL SHALE»	Black, fine grained fairly massive shale, occassional <5cm calcareous zones. {190.1-190.6}«FAULT» Fault zone. Intense milling, silica healed, graphitic partings, minor graphitic gouge. Fault planes at 60 and 80 degrees. 194.0-194.1 Fault. Milled and sheared, quartz and calcite healed. Upper contact @ - - - - - - - - - - - - - - - - Lower contact @ - - - - - - - - - - - - - - - - 194.3 Foliation @ - - - - - - - - - - - - - - - 200.2 Foliation @ - - - - - - - - - - - - - - - 210.0 Foliation @ - - - - - - - - - - - - - - - Pyrite bands @ - - - - - - - - - - - - - - 221.9 Foliation @ - - - - - - - - - - - - - - - Below 232.3 Occassional cm scale beds of lighter grey silt. Sharp lower contact.	 50 40 32 46 30 85 38	Moderately silicified. 190.6-194.6 Moderate fine quartz-calcite veinlet network.	200.7-251.8 3-5% pyrite. Wispy <1mm regularly spaced bands and layers of pyrite. Occassional irregular clots of pyrite <0.5cm wide and <0.5cm wide brassy pyrite layers.	
251.80 TO 252.10	KWADACHA FOSSILIFERO US LIMESTONE «FOS LST»	Light grey, massive, fossiliferous limestone comprised mainly of coral debris.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
252.10 TO 282.90	ROAD RIVER CALCAREOUS SILTSTONE «R.R CALC SLTST»	Light to medium grey, weak to moderately calcareous, well developed fine layering/bedding. 256.0 Layering/bedding @ - - - - - - - - - - - 269.2-282.9 Patchy black hairlines crosscutting layering. 275.2 Layering/bedding @ - - - - - - - - - - - 282.9 E.O.H	 62 55		Trace pyrite.	

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47766	46.10	46.50	0.40				8.69			53	136	.7		.1	48				
47767	53.30	54.70	1.40				1.31			2991	259	1.5		.1	50				
47768	54.70	56.10	1.40				1.58			1537	218	1.1		.1	47				
47769	56.10	57.50	1.40				1.88			915	198	1.1		.1	45				
47770	57.50	58.90	1.40				1.29			1687	181	1.0		.1	39				
47771	58.90	60.30	1.40				1.54			2425	198	1.2		.1	39				
47772	60.30	61.60	1.30				1.19			953	181	1.2		.1	40				
47747	158.80	160.20	1.40				.35			1826	261	1.5		.1	51				
47748	160.20	161.60	1.40				.38			4082	429	2.0		19.6	50				
47749	161.60	163.00	1.40				.34			5017	438	2.3		32.4	52				
47750	163.00	164.70	1.70				.23			3597	239	2.0		7.6	45				
47751	164.70	165.80	1.10				.36			430	144	2.0		.1	42				
47752	165.80	167.00	1.20				.31			3641	343	2.4		9.2	54				
47753	167.00	168.50	1.50				.39			2983	354	2.1		3.3	52				
47754	168.50	170.00	1.50				.39			3223	407	1.8		5.0	47				
47755	170.00	171.40	1.40	.19	.03	1.2	.40												
47756	171.40	172.70	1.30	.25	.03	1.3	.47												
47757	172.70	174.40	1.70	1.36	.06	3.2	.40												
47758	174.40	176.00	1.60	.48	.04	2.1	.53												
47759	176.00	177.20	1.20	.60	.06	2.6	.61												
47760	177.20	178.40	1.20	.10	.03	3.0	1.39												
47761	178.40	179.90	1.50	.46	.03	2.7	4.28												
47762	179.90	181.40	1.50	.36	.02	2.1	3.17												
47763	181.40	182.90	1.50	.31	.02	2.2	2.58												
47764	182.90	184.40	1.50				3.78			3722	138	1.7		16.9	35				
47765	184.40	185.90	1.50				1.48			1485	129	1.6		.1	36				
AVE.	172.70	174.40	1.70	1.36	0.06	3.20	0.40												

Total amount of samples= 26
Total length sampled = 35.8M

HOLE NUMBER: A-96-23

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 10
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 6970.00S
EAST: 462.00E
ELEV: 890.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -50° 0' 0"
LENGTH OF THE HOLE: 206.70m
START DEPTH: 0.00m
FINAL DEPTH: 206.70m

COLLAR GRID AZIMUTH : 90° 0' 0"

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

DATE STARTED: July 18, 1996
DATE COMPLETED: July 20, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD
CASING: 4.3
CORE STORAGE: ON SITE

PURPOSE: TEST SOIL AND LITHOGEOCHEM ANOMALIES AT GUNSTEEL -ROAD RIVER CONTACT.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
61.00	-	-50° 0'	ACID	ok	
124.30	-	-51° 0'	ACID	OK	
185.30	-	-50° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.30	CASING					NO ROCK RECOVERED.
4.30 TO 71.40	SILICEOUS GUNSTEEL SHALES «SIL GUN SHALES»	4.3-26.6 Black, siliceous shales with calcareous, brecciated zones up to 20cm wide. Bedding defined by rare laminar bedded pyrite. 5.6 Bedding @ - - - - - - - - - - - - - - - - - - 7.5 Foliation @ - - - - - - - - - - - - - - - - - - 11.7 Foliation @ - - - - - - - - - - - - - - - - - 17.7 Foliation @ - - - - - - - - - - - - - - - - - 23.8 Foliation @ - - - - - - - - - - - - - - - - - 29.9 Foliation @ - - - - - - - - - - - - - - - - - {30.4-31.5}«SH-SLT BX» Fragmental zone. Fragments up to 5cm. Some calcareous, others have pyrite blebs. Silicified. 31.5-32.0 Fault. Sheared and milled. Calcite and quartz healed. Good upper and lower contacts. Upper fault contact @ - - - - - - - - - - - - - - Lower fault contact @ - - - - - - - - - - - - - - 32.9 Foliation @ - - - - - - - - - - - - - - - - - {40.6-42.1}«FLT» Fault zone. Chert and silicified shale, brecciated and quartz veined. 10cm milled and silica healed upper fault @ - - - - - - - - - - - -	 65 71 70 76 66 50 76 43 68 75	4.3-26.6 Veinlets less than 2mm wide, cross-cutting and parallel to foliation. Shale is strongly silicified.	5.1-5.7 <3% laminar pyrite in a very faint zone. 10.0-10.4 <3% interbedded laminar pyrite with irregular nodules of pyrite rimmed with quartz. Nodules are <2mm wide. 16.7-20.9 7-10% laminar pyrite. Beds spread out and in between occassional massive pyrite layers <2mm thick, as well as veinlets. Traces of red sphalerite in fault at	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					40.6.	
		42.1-69.6 Massive, poorly foliated siliceous shale. Patchy massive black chert.		Moderately silicified becoming stronger downhole.	<1-1% pyrite as rare laminations, fine disseminations and brassy clots.	
		45.8 Bedding defined by laminar pyrite @ - - - -	78			
		48.7 Foliation @ - - - - - - - - - - - - - - - -	62			
		Below 61.2 Begin to see occassional <1cm dark grey calcareous nodules.				
				63.3-69.6 Weak quartz veining.	Trace of sphalerite within quartz veinlets.	
					65.4-67.4 5-7% laminar pyrite. Pyrite layers sheared and distorted.	
		68.5 Bedding? @ - - - - - - - - - - - - - - - -	55		¦67.4-69.4¦«20% LAM PY» 20% faint laminar pyrite. Pyrite laminations sheared and transposed.	
		¦69.6-71.4¦«Fault» Major fault zone.			69.4-70.3 5% sheared laminar pyrite. Trace of sphalerite within quartz veinlets of fault zone.	
		69.6-70.3 Weak shearing and quartz veining. 70.3 10cm fault gouge. 70.4-71.4 Intense shearing, strongly graphitic and siliceous.				
		70.4 Faulting @ - - - - - - - - - - - - - - - -	70			
		71.2 Shearing @ - - - - - - - - - - - - - - - -	70			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
71.40 TO 82.90	SOFT SHALE «SHALE»	Black, fine grained, soft, almost soapy shale. Weakly foliated. 72.3-72.4 Fault zone. Brecciated, sheared, healed by creamy colored carbonate. Faulting possibly @ - - - - - - - - - - - - - - -	80	Non siliceous.	<1-1% pyrite. Disseminated and coarse clots within veins. 77.9-79.4 7-10 pyrite as <1mm thick laminations throughout. 79.7-80.8 Trace sphalerite in quartz-calcite veinlets.	Rocks are completely unlike Gunsteel shales drilled to date. May not be Gunsteel shales. Different appearance to pyrite layers than seen in Gunsteel shales.
		80.2 20cm chert. 81.9 1cm bed of coarse sand. Bedding @ -	85			
		Sharp lower contact but difficult to see. Contact possibly @ - - - - - - - - - - - - - - -	75			
82.90 TO 206.70	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Medium grey, fine siltstone. Massive with pervasive thin laminations to thin beds. Weak to moderately calcareous. 84.7 Layering/bedding @ - - - - - - - - - - - -	80			Usual Road River shut down rock. Excellent RQD.
		106.4 Bedding @ - - - - - - - - - - - - - - -	82			
		130.5 Bedding @ - - - - - - - - - - - - - - -	83			
		151.8 Bedding @ - - - - - - - - - - - - - - -	80		133.9-152.4 3-5% pyrite as discontinuous wisps and disseminations parallel to bedding.	
		178.0 Bedding @ - - - - - - - - - - - - - - -	78			
		206.7 E.O.H.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47773	65.40	66.40	1.00				.32			1173	228	2.4		.1	58				
47774	66.40	67.40	1.00				.35			3804	228	1.9		11.9	58				
47775	67.40	68.40	1.00				.38			3231	297	2.1		.1	61				
47776	68.40	69.40	1.00				.40			3213	334	1.9		.1	55				
47777	69.40	70.30	0.90				.48			2618	261	1.8		.1	53				

Total amount of samples= 5
Total length sampled = 4.9M

HOLE NUMBER: A-96-24

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 2
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 400.00S
EAST: 150.00W
ELEV: 1610.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -60° 0' 0"
LENGTH OF THE HOLE: 541.90m
START DEPTH: 0.00m
FINAL DEPTH: 541.90m

COLLAR GRID AZIMUTH : 90° 0' 0"

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

DATE STARTED: July 21, 1996
DATE COMPLETED: July 30, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 6.0m
CORE STORAGE: ON SITE

PURPOSE: TEST LEAD SOIL GEOCHEM ANOMALY WITHIN GUNSTEEL SHALES.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
60.40	-	-62° 0'	ACID	ok	
124.40	-	-62° 0'	ACID	OK	
185.30	-	-62° 0'	ACID	OK	
243.80	-	-61° 0'	ACID	OK	
307.20	-	-60° 0'	ACID	OK	
368.20	-	-59° 0'	ACID	OK	
426.70	-	-61° 0'	ACID	OK	
487.70	-	-59° 0'	ACID	OK	
529.70	-	-57° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 6.00	CASING					NO CORE RECOVERED.
6.00 TO 233.60	SILICEOUS GUNSTEEL SHALES «SIL GUN SHALES»	Black, siliceous shales.				
		Shale is quite rubbly in sections, getting more massive at bottom of zone. Shale has alternating light and dark grey bands.		11.3-24.3 Intense quartz and calcite veining associated with fault zone.		
		{20.8-24.3}«FAULT» Fault. Good upper and lower contacts. Some graphite in foliation plane. Sheared and milled. Quartz and calcite healed.				
		Upper fault contact @	50			
		Lower fault contact @	70			
					24.3-24.7 5% blebby barite.	
					24.7-36.7 <3% disseminated pyrite.	
		26.8 Foliation @	60			
		29.1 Layering/bedding @	75			
		30.4-34.6 Occassional small, 10cm, calcareous fault zones occur in a semi massive shale matrix.				
				38.2-51.2 Intense quartz-calcite veining associated with fault zone.		
		{40.6-49.4}«FAULT» Fault zone. Strong zone of intense quartz and calcite veins, shearing, milling and brecciation. Contains <4cm wide fragments of chert, laminar pyrite. Core quite competent, massive. Veining from 5cm-mm scale. Strongly graphitic in areas of most intense shearing and milling as follows:				
		40.6-42.3 @	36			
		46.2-47.0 and 49.3-49.4				
		52.7 Foliation @	45			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		62.0-64.1 «FAULT» Fault zone. Milled, sheared, brecciated, calcite and quartz healed. Lower contact @ - - - - - - - - - - - - - - - - - -	75			
		64.1-80.8 Rubbly core zone.				
					70.6-74.6 5% laminar pyrite.	
		70.7 Bedding/layering @ - - - - - - - - - - - -	84			
		74.6-75.0 Fault. Milled, sheared quartz and calcite healed. Fault gouge at lower contact. Lower contact @ - - - - - - - - - - - - - - - - - -	52			
					76.1-77.6 <3% disseminated pyrite.	
		77.9 Bedding @ - - - - - - - - - - - - - - - - - -	60		77.8-84.7 5% laminar pyrite. Zones up to 70cm wide in <3% disseminated pyrite.	
		81.7-108.8 Shale has rough texture to it due to shallow foliation angle. Massive. Foliations well defined. Local soft gouges 5cm thick.		81.7-108.8 Strongly siliceous. Occassional quartz-calcite veinlets.	81.7-108.8 5-7% disseminated pyrite.	
		82.7 Bedding @ - - - - - - - - - - - - - - - - - -	52			
		90.9 Foliation @ - - - - - - - - - - - - - - - - -	48			
		99.3 Foliation @ - - - - - - - - - - - - - - - - -	54			
		108.8-115.3 Very rubbly, poker chip shale. Some graphite associated with foliation planes.				
		115.3-127.4 Poler chip shale. Strongly siliceous. Bedding loosely defined by pyrite bands.				
					117.1-127.9	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					5% pyrite. Pyrite layers/bands occur. Loosely spaced, coarse grained. Some minor laminar bedded pyrite zones.	
		120.7 Foliation @ - - - - - - - - - - - - - - -	72			
		127.9 Bedding/layering @ - - - - - - - - - - - -	65		130.4-145.8 <3% disseminated pyrite.	
					135.8-136.0 Highly deformed, calcareous and pyritic beds.	
					136.0-152.8 Blebby barite zones up to 20cm wide. Zones are spaced every 3 to 4m. Blebs are mm scale with local concentrations of 7-10%	
		139.6-151.8 Poker chip shales. Well silicified.		Strong silicification.	145.9-151.8 Light layering of pyrite. Bands <2mm thick, coarse grained.	
					152.8-154.2 7-10%, <1-3mm light grey, siliceous, pyritic nodular barite. 5-7% pyrite within nodules and minor faint laminations.	
		155.8-156.3 Fault. Milled, sheared, quartz and calcite healed. Upper contact @ - - - - - - - - - - - - - - - -	65			
		158.9-159.0 Fault. Same as above. Upper contact @ - - - - - - - - - - - - - - - -	80		157.9-160.9 <3% laminar bedded pyrite. Loosely spaced beds, mixed with lighter bands and coarser grained pyrite.	
		Lower contact @ - - - - - - - - - - - - - - - -	88			
		167.7 Foliation @ - - - - - - - - - - - - - - -	47		169.2-184.1 5% laminar bedded pyrite. Very faint. Difficult to see.	
		169.9 Bedding @ - - - - - - - - - - - - - - - -	70		{189.1-196.9}«5-10% LAM PY»	
		190.8-190.9			189.1-190.8 %5 laminar pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Fault. Milled and sheared, with quartz and calcite healing.		Strongly silicified.	191.2-192.5 7% laminar pyrite.	
		192.3 Bedding @ - - - - - - - - - - - - - - - - -	78		193.5-193.8 10% laminar pyrite.	
		203.8-209.8 «FAULT» Fault zone. Zone of intense brecciation. Milled and sheared. Quartz and calcite healed. Breccia fragments up to 2cm. Minor localized pyrite clouds. Zone of most intense sheering and milling at 208.1-209.5.		203.8-209.8 Intense quartz and calcite veining assoaciated with fault zone.	196.2-196.9 10% laminar pyrite.	
		Lower contact @ - - - - - - - - - - - - - - - - -	62			
		209.9-219.7 Shale has subtle lighter fragments (chert?) mixed with darker matrix. Slightly calcareous.		209.9-219.7 Zones up to 20cm of calcite and quartz veining. Crosscutting and parallel to foliation.		
		211.8-212.2 Fault. Sheared and milled. Quartz and calcite healed.				
		Lower fault contact @ - - - - - - - - - - - - - -	65			
		215.4 Foliation @ - - - - - - - - - - - - - - - -	50			
		227.1-227.5 Chert. Moderate calcite veinlets.			228.4-228.7 Compressed zone of blebby barite. Blebs @ 1mm. Have pyrite hazes mixed in as a layer.	
		232.4-232.6 Brecciation zone. Fragments up to 3cm.			229.6-229.7 Blebby barite. Blebs a bit bigger and more defined, up to 2mm. 232.5 Trace of sphalerite in brecciation zone.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
233.60 TO 289.40	SILTSTONE SANDSTONE «SILTSTONE»	Light grey, fine to coarse grained silt, massive. Unit becoming coarser grained downhole indicating tops uphole. (Fining upwards).				
		233.6-242.2 Fine brecciation, crackle brecciation with a darker grey hairline network. Locally minor mm calcite veinlets.		233.6-246.4 weak calcite veining		
		240.6 Foliation @ - - - - - - - - - - - - - - - -	40			
		249.5 Foliation @ - - - - - - - - - - - - - - - -	55			
		281.0-281.8 Fault zone. Sharp upper fault @ - - - - - - - - Brecciated and veined, <1-1cm zones of milling and quartz-calcite healing.	24	281.0-281.8 strong wormy quartz-calcite veining.		
		Below 283.0 Local well developed thin bedding.				
		Below 285.3 2-3% black subangular shale chip fragments generally 1-3mm and rare to 0.5-1cm				
		286.0 Bedding @ - - - - - - - - - - - - - - - -	70			
		288.0 Bedding @ - - - - - - - - - - - - - - - -	84			
		Sharp lower contact possibly faulted? @ - - - - -	30			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
289.40 TO 472.40	GUNSTEEL FORMATION SILICEOUS SHALE	Black, fine grained, massive to very weakly foliated.		Moderately silicified	291.8-310.5 3% laminar pyrite as common <0.5cm wide beds. Fining upwards of pyrite beds indicate tops uphole.	
	«G.F. SIL SHALE»	302.0 Bedding @ - - - - - - - - - - - - - - - -	71			
		313.3-313.7 Fault. milled sheared and quartz calcite healed @	35			
		319.4 Foliation @ - - - - - - - - - - - - - - -	51	Below 320.3 occassional quartz calcite veinlets, moderately siliceous decreasing downhole.	320.3-353.1 1-2% disseminated pyrite, rare layers of concentrated disseminated pyrite <0.5cm possibly defining bedding.	
		328.6-328.8 Fault. Strongly sheared, quartz-calcite healed. sharp upper contact @ - - - - - - - - - - - - -	56			
		lower contact @ - - - - - - - - - - - - - - - -	55			
		333.4 foliation @ - - - - - - - - - - - - - - -	35			
		343.0 Bedding @ - - - - - - - - - - - - - - - -	48			
		249.0 Foliation cross-cutting bedding at angle of 80 degrees				
		349.7 20cm zone strongly sheared, milled and quartz calcite healed. Fault @ - - - - - - - - - - - -	50			
		352.8 30cm strongly sheared zone as above @ - - -	35			
				353.1- weakly silicified	353.1-377.8 <1% disseminated pyrite	
		363.5 10cm shear @ - - - - - - - - - - - - - - -	40			
		365.1-365.5 Sheared, brecciated and quartz calcite veined.				
		371.5-371.8 Fault zone. Brecciated, sheared and quartz-calcite veined. Strongest shearing and milling in 10cm zone at 371.6 @ - - - - - - - - - - - - - - -	65			
		374.5-376.9 Fault zone. Common patchy brecciation and quartz				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		calcite veining. 376.2 4cm of strong milling @ -	48		377.8-395.0 1-2% very finely disseminated pyrite.	
		381.9 Foliation @ - - - - - - - - - - - - - - -	40			
		395.0-395.6 Fault zone. 395.0-395.2 milled, brecciated, quartz-calcite healed. Faulting @ - - - - - - - - - 395.2-395.6 quartz-calcite veining.	72		395.6-405.4 <1% disseminated pyrite.	
					405.4-410.5 2-3% disseminated pyrite.	
		Below 410.5 Massive non to weakly silicified shale hosting zones of laminar bedded pyrite.			Below 410.5 Begin to see occassional 1-2cm wide zones of massive finely laminar bedded pyrite which also contains 1-2mm brassy pyrite nodules. Laminar pyrite hosted by shales with 2-3% disseminated pyrite	
		411.6 Bedding @ - - - - - - - - - - - - - - - -	90			
		419.3 Foliation @ - - - - - - - - - - - - - - -	35			
		419.9-420.3 Fault zone. Graphitic fault gouge mixed with quartz-calcite healed milled zones. Sharp lower fault contact @ - - - - - - - - - - - - - - - -	50			
		421.8 Bedding @ - - - - - - - - - - - - - - - -	82			
		428.8 Bedding @ - - - - - - - - - - - - - - - -	85		428.3-436.2 5-7% laminar bedded pyrite within common 1-3cm wide zones of massive laminar pyrite. Laminar zones also contain nodular to wormy calcareous brassy pyrite clots. Rare dark grey calcareous septarian nodules only within sulfide beds.	
		433.9 Bedding @ - - - - - - - - - - - - - - - -	80			
		Below 436.2 Zones of laminar bedded pyrite become more common. Within sulfide beds dark grey <1cm calcareous septarian nodules become quite common.		Shales hosting mineralization are non-siliceous but massive.	436.2-440.4 «12% LAM PY» 12% laminar bedded massive pyrite in 1-4cm wide zones.	
					440.4-457.1 «7-8% LAM PY» 7-8% laminar bedded pyrite. Laminar	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		442.0 Foliation @ - - - - - - - - - - - - - - - -	47		zones contain abundant nodular to wormy calcareous, baritic? brassy pyrite. Shales hosting mineralization contain 1-3% very finely disseminated pyrite	
		442.5 Bedding @ - - - - - - - - - - - - - - - -	75			
		456.6 Bedding @ - - - - - - - - - - - - - - - -	70			
				weakly siliceous	ǂ457.1-461.6ǂ«10-12% LAM PY» 10-12% laminar bedded pyrite as common 1-2cm wide beds interbedded with shales Trace sphalerite within some lamination Common calcite nodules within sulfide beds. 1-2% disseminated pyrite within shales.	
		459.3 Bedding @ - - - - - - - - - - - - - - - -	73			
					461.6-465.9 1-2% disseminated pyrite	
					465.9-468.1 5-7% fine laminar pyrite throughout	
		469.5 Bedding @ - - - - - - - - - - - - - - - -	75		ǂ468.1-469.9ǂ«75% LAM PY» 70-75% fine laminar pyrite inter-laminated with shale. Minor sphalerite within some pyrite laminations.	1% Zn
		469.9-470.15 Fault zone. Strongly brecciated, healed by quartz calcite, 5cm clay fault gouge and 5cm strong shearing at base. Faulting @ - - - - - - - - - -	65 70		469.9-470.15 <1-1% disseminated sphalerite within quartz veinlets.	
					470.15-470.9 7-8% fine laminar pyrite.	
					470.9-472.3 <1-1% fine disseminated pyrite.	
					472.3-472.4 5% massive pyrite and sphalerite fragments up to 7mm.	
472.40 TO 473.20	MASSIVE SULFIDES «MASS SULF»	Brassy brown, fine to medium grained, massive with minor faint layering by pyrite and galena. First 15cm vuggy massive pyrite. Last 20cm galena rich in a baritic matrix.			20% galena, 15-20% sphalerite and 50% pyrite in a baritic matrix.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
473.20 TO 475.60	SHALE SILTSTONE LIMESTONE BRECCIA «SH-SLT-LST BX»	<3cm angular fragments of shale, speckled siltstone and weakly fossileferous limestone in a shale and locally gritty matrix. sharp scoured lower contact.			Trace disseminated sphalerite within gritty matrix, <1-1% pyrite.	
475.60 TO 541.90	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Light and medium grey calcareous siltstone. Light grey areas strongly calcareous, medium grey very weakly calcareous. Thinly layered, laminated, bedded with local areas of disrupted layering. 475.6-479.0 Disrupted layering. 479.3 Layering/bedding @ - - - - - - - - - - - - 485.5 Layering/bedding @ - - - - - - - - - - - - 492.6 Layering/bedding @ - - - - - - - - - - - - 497.6-505.0 Layering disrupted, patchy mottled texture. 506.5 Layering/bedding @ - - - - - - - - - - - - 541.9 E.O.H.	 45 37 42 65	 523.3-530.0 moderately developed calcite veining network.	 523.3-530.0 Patchy 3-4% pyrite, disseminated within siltstones and as clots within veining.	

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47787	435.20	436.20	1.00				1.14			1394	8	1.2		4.8	32				
47788	436.20	437.60	1.40				1.22			324	69	2.4		.1	39				
47789	437.60	439.00	1.40				1.35			496	55	2.1		.1	32				
47790	439.00	440.40	1.40				.97			1000	65	2.2		.1	39				
47791	440.40	441.90	1.50				.96			518	1	.8		.1	23				
47792	441.90	443.40	1.50				1.49			170	56	2.1		.1	35				
47793	457.10	458.60	1.50				1.05			1219	44	2.1		.1	35				
47794	458.60	460.10	1.50				.49			595	88	3.0		.1	41				
47795	460.10	461.60	1.50				.34			138	98	3.0		.1	41				
47778	465.90	467.00	1.10	.39	.01	2.7	.50			4401	137	2.6		.1	72			2.63	
47779	467.00	468.10	1.10	.84	.01	1.8	.49			7212	82	1.9		24.2	67			2.59	
47780	468.10	469.00	0.90	.13	.04	5.6	.32			2544	356	.1		.1	40			2.95	
47781	469.00	469.90	0.90	.05	.07	7.4	.31			909	526	.3		.1	36			2.88	
47782	469.90	470.90	1.00	.14	.04	4.5	.34			2342	479	2.7		.1	72			2.65	
47783	470.90	472.40	1.50	.54	.03	1.2	.54			5377	210	.8		7.1	28			2.61	
47784	472.40	473.20	0.80	11.60	9.05	3.5	.11			10000	10000	.1		.1	30			3.99	
47785	473.20	474.20	1.00	.29	.11	1.4	.12			4566	1508	.1		19.3	32			2.63	
47786	474.20	475.60	1.40				.13			2055	753	.9		1.6	32				
AVE.	472.40	473.20	0.80	11.60	9.05	3.50	0.11					0.10		0.10	30.00				

Total amount of samples= 18
Total length sampled = 22.4M

HOLE NUMBER: A-96-25

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 2
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 780.00S
EAST: 85.00E
ELEV: 1480.00

COLLAR GRID AZIMUTH : 90° 0' 0"

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

COLLAR DIP: -46° 0' 0"
LENGTH OF THE HOLE: 214.60m
START DEPTH: 0.00m
FINAL DEPTH: 214.60m

DATE STARTED: August 1, 1996
DATE COMPLETED: August 4, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 9.1m
CORE STORAGE: ON SITE

PURPOSE: 400m STEP OUT AND UPDIP TEST OF MASSIVE SULFIDES IN HOLE A-96-24

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
38.10	-	-49° 0'	ACID	OK		-	-	-	-	-	
78.00	-	-49° 0'	ACID	OK		-	-	-	-	-	
122.00	-	-48° 0'	ACID	OK		-	-	-	-	-	
185.30	-	-48° 0'	ACID	OK		-	-	-	-	-	
214.60	-	-47° 0'	ACID	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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-	-	-	-	-		-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 9.10	CASING					
9.10 TO 54.30	GUNSTEEL FORMATION SHALE, PYRITIC SHALE «G.F. SHALE PY SHALE»	Black, fine grained, massive to weakly foliated, minor bedding defined by laminar bedded pyrite.		Non-siliceous	9.1-28.7 <1-1% fine disseminated pyrite. Occassional 2-3cm wide zones of laminated massive pyrite with 2-3mm siliceous, calcareous, baritic? nodules containing brassy pyrite.	9.1-28.5 very rubbly core recovery
		30.2 Bedding @ - - - - - - - - - - - - - - - -	75	non siliceous	28.7-47.1 6-7% laminar bedded pyrite as 3-6cm wide beds of massive pyrite. 2-3% fine disseminated pyrite within host shales.	
		34.3 Bedding @ - - - - - - - - - - - - - - - -	78			
		35.0-35.1 Fault. Milled and silica healed. Faulting @ - -	70		Below 40.6 Begin to see dark grey calcite nodules within sulfide beds	
		45.2 Bedding @ - - - - - - - - - - - - - - - - -	80		⎧47.1-51.0⎫«10% LAM PY» 10% laminar bedded massive pyrite within abundant <1-2cm zones of massive pyrite with calcite and pyritic barite nodules. Host shales contain 3-5% disseminated pyrite.	Equivalent to laminar bedded sulfides above the massive sulfides in hole A-96-24
		47.6-47.9 Ribbon Chert				
		49.4 Bedding @ - - - - - - - - - - - - - - - - -	76			
		⎧51.0-54.3⎫«FAULT» 51.0-51.8 shattered shale, minor graphitic gouge. 51.8-54.3 drillers report 8 foot mud seam, minor graphitic fault gouge recovered.				Massive sulfides from hole A-96-24 faulted out, zone shifted to the east.
54.30 TO 67.20	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Light and dark grey layered calcareous siltstone. Usual Road River shut down rock. Layering deformed with common mottled texture especially below 63.6. Patchy brecciation with clay gouge development.		Minor quartz-calcite veining.		
		63.6-65.8 Soft, gougy, weakly quartz veined. Sharp upper bounding fault @ - - - - - - - - - - - - - - - -	60			
		67.2 Faulted lower contact @ - - - - - - - - - -	70			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
67.20 TO 83.00	GUNSTEEL FORMATION SHALE «G.F. SHALE »	Black, very fine grained, fairly massive. Numerous soft graphitic gougy zones from 67.2-73.4 More major fault zones as follows: {67.2-68.8}«FAULT» 25cm soft graphitic fault gouge progressing into shale with fault gouge seams. 72.9-73.4 Black graphitic fault gouge and shale. {82.5-83.0}«FAULT» Fault zone. 10cm fault gouge followed by strongly milled quartz healed zone. Faulting @ - - - - -	 30	Weakly silicified, minor quartz-carbonate veining. Carbonate a combination of calcite and straw colored carbonate mineral which fizzes with HCl ankerite? siderite? 7-8% straw colored carbonate (ankerite, siderite?) within quartz healed fault.	73.4-77.3 traces of nodular baritic pyrite. 78.6-79.3 1% laminar pyrite 80.2-82.5 3% very fine disseminated pyrite.	
83.00 TO 123.30	GUNSTEEL FORMATION? SILTSTONE «SLTST»	Medium to dark grey, white speckled, massive siltstone to fine sandstone. 90.2-90.6 Fault Breccia. fault zone, silica healed hosting up to 2cm siltstone fragments. Sharp fault contacts @ - Below 120.9 becoming soft with local gouge development. 122.5 Shale chip fragments {122.6-123.3}«FAULT» Intense silicification and quartz veining. First 20cm brecciated and quartz-calcite healed. Fault planes @ - - - - - - - - - - - - - - - - - -	 38 45	83.0-98.3 Strong quartz-calcite veining 98.3-123.3 Weak to moderate quartz-calcite veining	trace red sphalerite within veins.	Strike equivalent of siltstone seen in hole A-96-24.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
123.30 TO 169.50	GUNSTEEL FORMATION SHALE «G.F. SHALE »	Black, very fine grained, massive to very weakly foliated. Rare bedding defined by rare laminar pyrite or silty laminations. 140.5-141.4 Fault zone. Graphitic fault gouge and rubbly shale. 145.4 Foliation @ - - - - - - - - - - - - - - - 157.9 Foliation @ - - - - - - - - - - - - - - - 160.8 Bedding @ - - - - - - - - - - - - - - - - 165.5-165.7 Fault zone. Sheared and silica healed. Fault @ -- 167.5 Foliation @ - - - - - - - - - - - - - - - - 169.3-169.5 Faulted lower contact. Milled and silica healed Faulting possibly @ - - - - - - - - - - - - - - -	 67 68 65 70 62 55 67	non siliceous 123.3-124.3 Strong quartz calcite veining adjacent to faulted upper contact.	123.3-141.4 <1% disseminated pyrite. 141.4-169.5 1-2% very fine disseminated pyrite. Below 160.2 Rare <1cm wide beds of nodular siliceous calcareous barite with pyrite and <0.5cm dark grey calcite nodules. 168.5 20cm with 1-2cm bedded calcareous barite.	
169.50 TO 181.40	GUNSTEEL FORMATION SHALE AND BEDDED BARITE «G.F. SHALE -BDD BARITE »	Black, fine grained, weakly siliceous massive shale hosting 10-30cm wide zones of laminar bedded barite with minor shale laminations. Minor calcite nodules within bedded barite zones.			3-4% finely disseminated pyrite within shales, minor pyrite laminations interlaminated with barite. 169.5-170.4 50% laminar barite 170.4-171.5 2% disseminated pyrite 171.5-172.8	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					25% laminar bedded barite	
		173.7 Bedding @ - - - - - - - - - - - - - - - -	68		172.8-174.5 50% laminar bedded barite, <1% laminar pyrite.	
					174.5-175.6 3-4% disseminated pyrite	
		176.5 Bedding @ - - - - - - - - - - - - - - - -	75		175.6-177.1 45% laminar barite, 7-8% laminar pyrite	
					177.1-180.9 3% disseminated pyrite, <1% laminar pyrite.	
		180.9-181.2 Weak fragmental texture, highly calcareous and baritic.			180.9-181.2 7-10% interfragmental and internodular pyrite.	
		181.2-181.4 20cm zone with 15cm of limestone mud.				
181.40 TO 214.60	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Light and medium grey, thinly layered siltstone. Highly calcareous.			2-3% finely disseminated pyrite.	
		185.9 Layering @ - - - - - - - - - - - - - - - -	72			
		189.9 Layering @ - - - - - - - - - - - - - - - -	72			
		190.7 Layering @ - - - - - - - - - - - - - - - -	67			
		194.0 Layering @ - - - - - - - - - - - - - - - -	53			
		204.0 Layering @ - - - - - - - - - - - - - - - -	41			
		209.7-210.7 Fault zone. Brecciated, minor fault gouge, sharp gougy upper fault contact @ - - - - - - - - - -	55			
		214.1 Layering @ - - - - - - - - - - - - - - - -	35			
		214.6 E.O.H.				

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47796	47.10	48.40	1.30	.08	.01	3.7	2.24			840	30	2.8		0.1	35				
47797	48.40	49.70	1.30	.01	.01	3.3	2.52			215	61	2.1		0.1	35				
47798	49.70	51.00	1.30	.03	.01	4.6	1.13			335	61	2.4		0.1	37				
47799	169.50	170.40	0.90	.01	.01	2.1	27.90			131	20	0.6		0.1	17				
47800	170.40	171.50	1.10	.07	.01	.4	1.56			782	97	0.5		0.1	30				
47801	171.50	172.80	1.30	.15	.01	1.3	18.00			1697	101	0.4		0.1	29				
47802	172.80	174.50	1.70	.04	.01	.5	30.40			568	64	0.3		0.1	19				
47803	174.50	175.60	1.10	.20	.01	.2	1.93			2196	73	0.4		0.1	33				
47804	175.60	177.10	1.50	.01	.02	.8	27.90			34	143	0.3		0.1	30				
47805	177.10	178.10	1.00	.21	.02	.3	2.56			2171	252	0.6		0.1	24				
47806	180.90	181.20	0.30	.04	.02	2.2	19.20			417	123	0.5		0.1	33				
AVE.	169.50	177.10	7.60	0.08	0.01	0.83	19.19			870.58	86.79	0.40		0.10	26.26				

Total amount of samples= 11
Total length sampled = 12.8M

HOLE NUMBER: A-96-26

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 2
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 780.00S
EAST: 85.00E
ELEV: 1480.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -87° 0' 0"
LENGTH OF THE HOLE: 129.50m
START DEPTH: 0.00m
FINAL DEPTH: 129.50m

COLLAR GRID AZIMUTH : 90° 0' 0"

COLLAR ASTRO. AZIMUTH : 50° 0' 0"

DATE STARTED: August 4, 1996
DATE COMPLETED: August 6, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 12.8
CORE STORAGE: ON SITE

PURPOSE:

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
72.50	-	-87° 0'	ACID	OK	
130.50	-	-87° 0'	ACID	OK	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 11.60	OVERBURDEN					
11.60 TO 80.90	GUNSTEEL FORMATION PYRITIC SHALES «G.F. PY SHALES»	Black, fine grained, massive to very weakly foliated shale. Hosting common <10cm wide beds of laminar bedded massive pyrite.		Non siliceous, minor patchy 20-30cm strong silicification.	2-3% very finely disseminated pyrite within host shales. Common <10cm wide beds of laminar bedded fine massive pyrite with brassy pyrite nodules. 11.6-26.8 5-7% laminar bedded massive pyrite.	
		16.3 Bedding @ - - - - - - - - - - - - - - - - - -	65			
		20.6 Bedding @ - - - - - - - - - - - - - - - - - -	75			
		26.8 Bedding @ - - - - - - - - - - - - - - - - - -	70			
					30.6-31.9 55% laminar bedded massive pyrite.	<1% Zn
		30.8 Bedding @ - - - - - - - - - - - - - - - - - -	68			
					31.9-37.2 15% laminar bedded massive pyrite. The color of some laminations suggest presence of zinc.	<1% Zn
		32.8-35.5 Several 4-30cm wide zones of shearing and quartz veining.		Quartz veining often contains disseminations of greenish straw yellow minerals.		
					37.2-45.2 <1% laminar pyrite.	
					45.2-48.3 25% laminar bedded massive pyrite.	
		45.3 Bedding @ - - - - - - - - - - - - - - - - - -	73			
		48.1 Bedding @ - - - - - - - - - - - - - - - - - -	70			
					48.3-52.3 <1% laminar pyrite.	
		53.4 Begin to see occassional dark grey calcite nodules within massive sulfide layers.				
					52.3-60.7 6-7% laminar massive pyrite	
		55.3 Bedding @ - - - - - - - - - - - - - - - - - -	60			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					60.7-65.2 10% laminar pyrite.	
		60.9 Bedding @ - - - - - - - - - - - - - - - - -	60			
		69.5 Foliation @ - - - - - - - - - - - - - - - -	26			
					72.4-80.9 7-10% laminar bedded pyrite.	<1% Zn
		76.3 Bedding @ - - - - - - - - - - - - - - - - -	65	Strongly siliceous.		72.6 7' seam
80.90 TO 98.60	LAMINATED LIMESTONE BRECCIA «G.F. LAM LST BX»	Massive, light grey limestone fragments in a shaley matrix. Strongly calcareous with occassional deformed beds of laminar pyrite. Well silicified. Brecciated fragments up to 4cm in width. Some fragments show weak lamination.				Different unit than fossiliferous limestone. Same limestone as seen in footwall to mineralization in Cardiac Creek area holes.
		98.6 Sharp faulted lower contacts @ - - - - - - -	35			
98.60 TO 102.20	SHALE SILTSTONE LIMESTONE BRECCIA «SH-SLTST-	Medium to dark grey matrix supported heterolithic breccia. Fragments of shale, siltstone, fossiliferous limestone and minor Road River calcareous siltstone. Fragments subrounded, Generally 1-2cm in size.		Minor calcite veining.	Overall <1% pyrite. Locally 7-8% interfragmental pyrite over 7-10cm.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
	LST BX»	{98.6-100.0}«FAULT» <10% recovery of clay gouge and shale.				
102.20 TO 129.50	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	Light and medium grey thinly layered dolomitized and calcareous siltstone. Light grey areas strongly calcareous, dark grey areas dolomitic with embayments into calcareous areas. {106.1-106.8}«FAULT» Fault gouge and fault breccia. Sharp fault contact @ - - - - - - - - - - - - - - - 106.8-120.7 Bedding subparallel to core axis. 118.5-120.7 Moderate fine calcite veining with a strongly sheared and gougy zone from 119.4-119.7 @ - - - 120.7-129.5 Layering more regular at 50-55 degrees but light grey areas are severely broken up. 129.5 E.O.H.	35 25	106.8-109.1 Finely brecciated with quartz-calcite veining.		

HOLE NUMBER: A-96-26 ASSAY SHEET DATE: 6-November-1996

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47807	30.60	31.90	1.30	.31	.04	4.5	.83			3066	290	1.4		0.1	31				
47808	31.90	33.20	1.30	.29	.01	3.6	1.11			3094	116	1.5		0.1	31				
47809	33.20	34.50	1.30	.47	.03	4.2	.62			4904	283	1.1		0.1	34				
47810	34.50	35.80	1.30	.11	.01	3.2	1.48			1297	82	2.4		0.1	33				
47811	35.80	37.20	1.40	.05	.01	3.4	.95			618	87	2.1		0.1	36				
47812	45.20	46.20	1.00	.02	.02	6.6	1.36			329	184	3.1		0.1	43				
47813	46.20	47.50	1.30	.17	.01	2.2	.99			1688	6	1.2		0.1	27				
47814	47.50	48.38	0.88	.07	.04	5.0	1.08			723	349	1.9		0.1	44				

Total amount of samples= 8
Total length sampled = 9.8M

HOLE NUMBER: A-96-27

MINNOVA INC.
DRILL HOLE RECORD

DATE: 6-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 8
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 5600.00S
EAST: 0.00
ELEV: 985.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -62° 0' 0"
LENGTH OF THE HOLE: 593.80m
START DEPTH: 0.00m
FINAL DEPTH: 593.80m

COLLAR GRID AZIMUTH : 110° 0' 0"

COLLAR ASTRO. AZIMUTH : 70° 0' 0"

DATE STARTED: August 9, 1996
DATE COMPLETED: August 27, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 3.9m
CORE STORAGE: ON SITE

PURPOSE: DOWNDIP TEST OF SULFIDES IN HOLES 20 AND 22

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
60.90	-	-62° 0'	ACID		
121.90	-	-62° 0'	ACID		
182.90	-	-62° 0'	ACID		
246.30	-	-62° 0'	ACID		
304.80	-	-61° 0'	ACID		
365.10	-	-61° 0'	ACID		
426.70	-	-61° 0'	ACID		
490.10	-	-60° 0'	ACID		
154.80	65° 0'	-61° 0'	SING.SHOT	OK	
307.20	65° 0'	-59° 0'	SING.SHOT	OK	
459.60	67° 0'	-57° 0'	SING.SHOT	OK	
593.80	64° 0'	-55° 0'	SING.SHOT	OK	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
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-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
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-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 3.90	CASING					No core recovered.
3.90 TO 25.40	GUNSTEEL FORMATION SHALE BRECCIA AND SHALE. «G.F. SHALE BX, SHALE»	Fragmental texture, fragments of chert, siltstone and shale. Calcareous zones up to 20cm containing blebby barite. Local 2-3cm beds of light grey chert sand. 15.0-25.4 Black shale, weakly foliated, local bedding defined by color layering. 15.9 Bedding @ - - - - - - - - - - - - - - - - - - 20.0-21.6 Chert. Light grey, massive.	53	16.3-16.8 and 20.0-20.8 Heavily veined cherty zone. Veins up to 1cm, minor shearing.	3.9-19.4 Localized zones of blebby barite up to 20cm. Blebs mm size.	
25.40 TO 44.60	GUNSTEEL FORMATION BARITIC SHALES «G.F. BA SHALES»	25.4-36.5 20-40% mm size calcareous baritic nodules within 5cm-1m wide zones interbedded with <10cm zones of barren black shale. 35.7 Foliation @ - - - - - - - - - - - - - - - - - 37.9 Bedding @ - - - - - - - - - - - - - - - - - - 37.5-44.6 Concentration of blebby barite decreases. Wormy calcite, barite and pyrite forming well defined layering. 42.6 Bedding @ - - - - - - - - - - - - - - - - - -	58 48 55	33.6-35.9 veinlets crosscutting and parallel to nodule layers. 35.9-36.2 Massive quartz-calcite vein.	Occassional pyrite blebs within barite nodules. 39.5-40.0 15-20% disseminated pyrite	
44.60 TO 65.40	GUNSTEEL FORMATION SILICIFIED SHALE «G.F. SIL SHALE»	Massive, siliceous, black, fine grained shales with calcareous zones up to 10cm. 54.4 Foliation @ - - - - - - - - - - - - - - - - - 58.4 Bedding @ - - - - - - - - - - - - - - - - - - 63.9-65.4	45 55		5-7% disseminated pyrite. 58.4 10cm of 10% laminar pyrite	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Blebby barite nodular pyrite zones up to 15cm wide				
65.40 TO 84.70	GUNSTEEL FORMATION SILICIFIED SHALE AND CHERT «G.F. SIL SHALE, CHERT»	Black fine grained silicified shale interbedded with light grey massive cherts 20cm-1m wide. 75.6 Foliation @ - - - - - - - - - - - - - - - -	50	Weak to locally well developed fine quartz veining within chert beds.		
84.70 TO 545.40	GUNSTEEL FORMATION SILICIFIED SHALE «G.F. SIL SHALE»	Black, fine grained, weakly foliated, variably silicified shale. Occassional calcareous zones to 10cm. 89.1-90.1 mm scale blebby barite. 92.3 Bedding @ - - - - - - - - - - - - - - - - - -	48		92.2-99.3 7% fine laminar pyrite grading into coarser grained poorly layered pyrite lenses.	
		100.1 Foliation @ - - - - - - - - - - - - - - - -	50	105.5-112.8 Minor calcite veinlets parallel to and crosscutting foliation.		
		106.8-137.6 Black shale with bedding defined by lighter grey layers, calcareous and pyritic layers.			106.8-112.0 <1% laminar pyrite.	
		112.2 Foliation @ - - - - - - - - - - - - - - - -	45			
		112.6 Bedding @ - - - - - - - - - - - - - - - -	55			
		123.7 Bedding @ - - - - - - - - - - - - - - - -	55			
		128.6 Foliation @ - - - - - - - - - - - - - - - -	48			
		133.7 Bedding @ - - - - - - - - - - - - - - - -	47		130.5-137.6 <5% pyrite as coarse layers, irregular blebs to 5mm and short wisps. 135.8 trace sphalerite.	
		137.6-163.0			137.6-163.0	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Sequence of poker chip shales, rubbly and semi-massive shales. Bedding defined by pyritic and calcareous shales.			<3% pyrite as <5mm wide laminations.	
		145.7 Foliation @ - - - - - - - - - - - - - - - -	44	149.0-157.9 up to 1cm calcite-quartz veins parallel to foliation.		
		150.2 Bedding @ - - - - - - - - - - - - - - - -	36			
		154.8 Foliation @ - - - - - - - - - - - - - - - -	30			
		162.9 Bedding @ - - - - - - - - - - - - - - - -	23			
		163.0-181.9 Black siliceous shale with regularly spaced 2mm wide pyrite beds. Bedding also defined by lighter colored shales and calcareous beds.		Strongly silicified	2% disseminated pyrite. 164.2 20cm of 7% laminar pyrite.	
		167.1 Bedding @ - - - - - - - - - - - - - - - -	25			
		176.3 Bedding @ - - - - - - - - - - - - - - - -	25			
		179.7-181.4 Fault zone. milled, sheared and quartz-calcite healed. Contains 4mm pyrite nodules. 1-2cm milled zones at 85 and 60 degrees to axis.				
		181.4-209.3 Shale, semi-massive, contains coarse grained py layers, quartz-calcite veinlets defining a layering.		Strongly silicified.		
		185.5 Bedding @ - - - - - - - - - - - - - - - -	48			
		197.3 Foliation @ - - - - - - - - - - - - - - - -	28	191.1-198.5 Occassional mm size veinlets.	191.1-198.5 3% disseminated pyrite.	
		198.6 Bedding @ - - - - - - - - - - - - - - - -	26		198.5-200.2 7% laminar bedded pyrite.	
					200.2-202.7 <3% disseminated pyrite.	
		202.8 Bedding @ - - - - - - - - - - - - - - - -	34		202.7-202.9 10% laminar bedded pyrite.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		206.7 Foliation @ - - - - - - - - - - - - - - -	35		202.9-209.9 <5% disseminated pyrite.	
		209.3-210.8 up to 2cm wide beds of elongated nodular barite, strong sheared appearance to interval.				
		210.8-212.4 Strongly sheared appearance, strong calcite quartz veining from 211.7-212.4. Shearing @ - -	25			
		212.4-238.1 Black silicified shale, weakly foliated			212.4-220.5 <3% disseminated pyrite.	
		213.2 Foliation @ - - - - - - - - - - - - - - -	33			
		218.8 foliation @ - - - - - - - - - - - - - - -	40		220.5-227.4 and 228.2-231.4 7-10% laminar bedded pyrite within 1m intervals. 3-4% disseminated pyrite	
		224.5 Bedding @ - - - - - - - - - - - - - - -	40			
		226.7 Bedding @ - - - - - - - - - - - - - - -	43			
		229.5 Bedding @ - - - - - - - - - - - - - - -	36			
		231.4 Bedding @ - - - - - - - - - - - - - - -	40			
		236.2 Foliation @ - - - - - - - - - - - - - - -	35		231.6-237.4 10% laminar bedded pyrite. <3% diss pyrite within shales.	
		236.8 Bedding @ - - - - - - - - - - - - - - -	42			
		238.1-242.0 Silicified shale hosting <3cm wide zones of laminar bedded pyrite and nodular to wormy barite.		Strongly silicified	238.1-242.0 3-5% laminar bedded pyrite 3% disseminated pyrite.	
		242.0-245.1 Chert				
		245.1-253.0 Massive black siliceous shale.			245.1-253.0 3% disseminated pyrite	
		253.0-255.2 Thinly bedded sequence of barren shale, nodular to weakly bedded barite, silty shale and laminar pyrite. Bedding @ - - - - - - - - - - - - - - -	48		253.0-255.2 3-4% laminar pyrite as 1-3mm lamination 2-3% disseminated pyrite.	
		255.2-361.7 Massive to weakly foliated strongly silicified		Strongly silicified	255.2-259.3 5% finely laminated pyrite,	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		shale with some thin bedding defined by pyrite laminations			3-4% disseminated pyrite.	
		259.7-260.2 Bedding at 35 degrees defined by common 2-3cm wide beds of <1mm white barite blebs.				
		261.6-261.9 Breccia, debris flow. Silt, pyrite and shale fragments, <5mm, shows fining upward sequence.				
		264.6 Foliation @ - - - - - - - - - - - - - - -	31		261.9-269.9 2-3% disseminated pyrite.	
		270.5 Bedding @ - - - - - - - - - - - - - - -	32		269.9-270.6 <3% laminar bedded pyrite.	
		273.7 Foliation @ - - - - - - - - - - - - - - -	25		270.6-291.4 3-5% disseminated pyrite.	
		284.9 Foliation @ - - - - - - - - - - - - - - -	35			
		292.0 Foliation @ - - - - - - - - - - - - - - -	42		291.4-316.5 3-4% pyrite as occassional mm laminations, discontinuous wisps and fine disseminations.	
		298.9 Bedding @ - - - - - - - - - - - - - - -	38			
		310.3 Foliation @ - - - - - - - - - - - - - - -	35			
		319.4 Foliation @ - - - - - - - - - - - - - - -	37		316.5-361.7 1-2% disseminated pyrite, minor pyrite laminations below 350.5	
		328.6 Foliation @ - - - - - - - - - - - - - - -	38			
		333.7 20cm zone of folded and faulted 5cm milled and quartz healed fault.				
		339.9 Bedding @ - - - - - - - - - - - - - - -	35			
		340.8 Foliation @ - - - - - - - - - - - - - - -	40			
		359.1 Bedding @ - - - - - - - - - - - - - - -	40			
		361.3-365.2 Thinly bedded sequence of siliceous black shale, thin beds of large coalescing barite nodules, silty shale and pyrite laminations. 10% barite blebs.			361.7-365.2 7-8% pyrite disseminated and fine laminations.	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
					365.2-408.1 4-5% finely disseminated pyrite.	
		370.6-400.2 Weakly foliated to rubbly shale. Local soft gouge up to 3cm		370.6-419.9 Occassional mm wide calcite veinlets.		
		388.2 Foliation @ - - - - - - - - - - - - - - -	35		381.2-381.7 Trace sphalerite in quartz veinlets.	
		414.5 Bedding @ - - - - - - - - - - - - - - - -	42		408.1-421.7 5-7% pyrite, finely disseminated and local <1m wide zones of 7-10% finely laminar pyrite.	
					421.7-459.2 3-4% pyrite, finely disseminated Locally disseminations concentrated to form <1cm wide bands. Patchy fine laminar pyrite below 444.6	
		444.6-449.1 Calcareous zones up to 20cm. Contain mm size calcite veinlets.				
		450.5 Foliation @ - - - - - - - - - - - - - - -	32			
					458.2-458.5 Traces of sphalerite within quartz-calcite vein.	
		461.1 Bedding @ - - - - - - - - - - - - - - - -	40		459.2-467.2 7% fine laminar pyrite and coarser disseminated pyrite concentrated into <1cm beds.	
		465.7 Foliation @ - - - - - - - - - - - - - - -	38			
		467.2-497.9 Black semi-massive shale. Occassional calcite-quartz veinlets, some calcareous zones <10cm.			467.2-497.9 2-3% finely disseminated pyrite and minor very faint pyritic mud lamination	
		478.2 Foliation @ - - - - - - - - - - - - - - -	31			
					486.4-492.6 3% pyrite as small irregular blebs rimmed with quartz and aligned in same direction. Minor quartz and calcite veining throughout.	
		489.4 Foliation @ - - - - - - - - - - - - - - -	40		497.8 trace sphalerite in veinlets.	
		497.9-499.3				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Massive light to medium grey chert. Minor quartz calcite veins. 501.7-504.3 <2cm calcareous nodules occurring approx. every 50cm.			502.8-503.5 7% fine grained wispy pyrite streaks <2cm long oriented at 46 degrees to core axis. 505.1-529.9 10% <1mm pyrite nodules rimmed with quartz and calcite in 10cm wide zones. Preferred orientation of roughly 80 degrees to core axis	
				511.4-511.9 stronly quartz-calcite veining at 45 degrees to core axis. Veining mm to <1cm scale.	513.4 Trace sphalerite in vein network.	
		519.7 Layering @ - - - - - - - - - - - - - - -	30		519.5-519.9 3% weakly layered pyrite	
		┤520.4-521.2├«FAULT» Fault zone. Strongly milled and sheared, quartz calcite healed. Faulting @ - - - - - - - - - - -	65			
		523.6 Foliation @ - - - - - - - - - - - - - - -	49		523.5-524.3 10% mm size blebby barite in 5-7cm zones.	
		524.3- Semi-massive, very siliceous black shale with heavily veined (faulted?) intervals of quartz and calcite <5cm wide.				
		533.1 Bedding @ - - - - - - - - - - - - - - - -	43		529.9-537.9 3-4% fine laminar pyrite and 2% coarser pyrite nodules with quartz and calcite rims.	
		535.3 Foliation @ - - - - - - - - - - - - - - - -	47			
		┤537.9-545.4├«FAULT»				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Fault zone. Intense brecciation, shearing, silica flooded and quartz-calcite veined. Patchy strong milling. Milled faults @ - - - - - - - - - - -	43			
545.40 TO 593.80	ROAD RIVER CALCAREOUS SILTSTONE. «R.R. CALC SILTSTONE»	Light grey, semi-massive, thin well bedded, calcareous. Shows partial dolomitization. 548.1 Foliation @ - - - - - - - - - - - - - - - -	48			Typical shut down rock.
		560.4 Bedding @ - - - - - - - - - - - - - - - -	55			

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47815	26.40	27.90	1.50	.09	.01	1.6	15.40			775	83	.5		.1	38				
47816	27.90	29.40	1.50	.15	.01	1.2	12.70			1313	64	.1		.1	30				
47817	29.40	30.90	1.50	.14	.01	1.1	15.70			1246	71	.1		.1	35				
47818	30.90	32.40	1.50	.10	.01	1.1	7.32			908	97	.1		.1	35				
47819	32.40	33.90	1.50	.06	.01	1.4	13.50			604	55	.1		.1	47				
47820	33.90	35.90	2.00	.11	.01	1.2	10.50			1071	58	.1		.1	51				
47821	253.00	254.50	1.50	.02	.01	2.5	21.80			182	81	.7		.1	36				
47822	254.50	255.20	0.70	.09	.01	1.9	14.60			863	83	.1		.1	42				
47823	361.70	362.90	1.20	.23	.02	1.7	6.73			2079	155	.3		.1	36				
47824	362.90	364.10	1.20	.24	.03	2.0	9.01			2201	298	.2		.1	40				
47825	364.10	365.20	1.10	.28	.04	2.1	9.23			2500	386	.5		.1	43				

Total amount of samples= 11
Total length sampled = 15.2M

MINNOVA INC.
DRILL HOLE RECORD

DATE: 8-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AKIE 7
LOCATION:

PLOTTING COORDS GRID: AKIE
NORTH: 3510.00S
EAST: 328.00E
ELEV: 1260.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -70° 0' 0"
LENGTH OF THE HOLE: 211.80m
START DEPTH: 0.00m
FINAL DEPTH: 211.80m

COLLAR GRID AZIMUTH : 270° 0' 0"
COLLAR ASTRO. AZIMUTH : 230° 0' 0"

DATE STARTED: August 13, 1996
DATE COMPLETED: August 22, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: HQ,NQ

CONTRACTOR: FALCON DRILLING LTD.
CASING: 4.6m
CORE STORAGE: ON SITE

PURPOSE: Deep downdip test of Cardiac Creek horizon below hole 18.

COMMENTS :

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments	Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
0.00	230° 0'	-70° 0'	SING.SHOT	OK		-	-	-	-	-	
9.10	232° 0'	-71° 0'	SING.SHOT	OK		-	-	-	-	-	
61.00	232° 0'	-68° 0'	SING.SHOT	OK		-	-	-	-	-	
91.40	228° 0'	-66° 0'	SING.SHOT	OK		-	-	-	-	-	
123.40	231° 0'	-65° 0'	SING.SHOT	OK		-	-	-	-	-	
153.90	233° 0'	-64° 0'	SING.SHOT	OK		-	-	-	-	-	
184.40	233° 0'	-62° 0'	SING.SHOT	OK		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
-	-	-	-	-		-	-	-	-	-	
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FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.60	CASING					No core recovered.
4.60 TO 211.80	ROAD RIVER CALCAREOUS SILTSTONE «R.R. CALC SLTST»	4.6-5.6 Rubble. 5.6-9.2 Massive, dark grey, coarse grained siltstone? Faintly calcareous. 9.2- Mottled, coarse grained siltstone. Mainly calcareous in light grey areas of core. Some possible soft sediment deformation or partial dolomitiztion? 15.7 Bedding @ - - - - - - - - - - - - - - - -	19			
		42.0-43.2 Massive quartz-calcite vein. 72.4 Bedding @ - - - - - - - - - - - - - - - - -	9			
		81.9-84.0 Fault. Quartz and calcite healed. Brecciated siltstone? fragments <1cm wide. 91.8-96.4 Bedded siltstone. Bedding @ -	2			
		129.5-135.6 Bedded siltstone showing. Bedding @ -	2			
		141.7-157.6 Mottled siltstone grades into darker shale and then back to lighter siltstone. Shale is non calcareous. 147.4 Bedding @ - - - - - - - - - - - - - - - -	12	141.7-157.7 .5cm wide calcite veins occur every metre. Some are parallel others crosscutting foliations.		
		157.6-166.1 and 190.5-199.0 Mottling is very distinct. Light white overprints				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		a light grey silty matrix. White mottled overprint is calcareous. 199.0-211.8 Mottling becomes more concentrated on one half of the core. It is massive but you can still see the same fabric on all the core. Which is the original-the calcareous mottled area or the light grey area? 200.3-201.4 Lightly mottled with large white to grey calcareous blotches running down one side of core. Blotches up to 5cm long. 206.6-211.8 White-grey blotches occur again. Cover all sides of core. Up to 20cm in length. 210.1 Foliation @ - - - - - - - - - - - - - - - - 211.8 E.O.H.	53			Set wedge plug at 95m to stop water flow. Hole stopped at 211.8m due to excessive deviation.

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
	0.00	0.00	0.00																

Total amount of samples= 1
Total length sampled = 0.0M

HOLE NUMBER: A-96-29

MINNOVA INC.
DRILL HOLE RECORD

DATE: 8-November-1996
IMPERIAL UNITS: METRIC UNITS: X

PROJECT NAME: GATAGA
PROJECT NUMBER: 677
CLAIM NUMBER: AK1E 7
LOCATION:

PLOTTING COORDS GRID: AK1E
NORTH: 3510.00S
EAST: 328.00E
ELEV: 1260.00

ALTERNATE COORDS GRID:
NORTH: 0+ 0
EAST: 0+ 0
ELEV: 0.00

COLLAR DIP: -75° 0' 0"
LENGTH OF THE HOLE: 1262.20m
START DEPTH: 0.00m
FINAL DEPTH: 1262.20m

COLLAR GRID AZIMUTH : 270° 0' 0"

COLLAR ASTRO. AZIMUTH : 230° 0' 0"

DATE STARTED: August 22, 1996
DATE COMPLETED: September 30, 1996
DATE LOGGED: 0, 0

COLLAR SURVEY: NO
MULTISHOT SURVEY: NO
RQD LOG: NO

PULSE EM SURVEY: NO
CAPPED: NO
HOLE SIZE: H,N,B

CONTRACTOR: FALCON DRILLING LTD.
CASING:
CORE STORAGE: ON SITE

PURPOSE: Deep downdip test of Cardiac Creek horizon below hole 18.

COMMENTS : This hole is a re-collar on same drill site as A-96-28.

Depth (m)	Astronomic Azimuth	Dip degrees	Type of Test	FLAG	Comments
584.60	-	-58° 0'	ACID	OK	
626.70	-	-56° 0'	ACID	OK	
1144.80	-	-32° 0'	ACID	OK	
11.00	226° 0'	-76° 0'	SING.SHOT	OK	
41.50	224° 0'	-75° 0'	SING.SHOT	OK	
62.80	226° 0'	-75° 0'	SING.SHOT	OK	
93.90	226° 0'	-75° 0'	SING.SHOT	OK	
124.00	225° 0'	-74° 0'	SING.SHOT	OK	
154.10	227° 0'	-74°30'	SING.SHOT	OK	
184.70	0° 0'	0° 0'	SING.SHOT		No film
215.20	0° 0'	0° 0'	SING.SHOT		No film
245.70	236° 0'	-73° 0'	SING.SHOT	OK	
276.10	228° 0'	-73° 0'	SING.SHOT	OK	
291.40	232° 0'	-70° 0'	SING.SHOT	OK	
304.50	239° 0'	-68°30'	SING.SHOT	OK	
319.70	243° 0'	-65°30'	SING.SHOT	OK	
352.30	243° 0'	-64° 0'	SING.SHOT	OK	
382.80	244° 0'	-63° 0'	SING.SHOT	OK	
843.10	258° 0'	-48°30'	SING.SHOT	OK	
870.50	257° 0'	-47°30'	SING.SHOT	OK	
901.00	261° 0'	-46° 0'	SING.SHOT	OK	
931.50	260° 0'	-44° 0'	SING.SHOT	OK	
961.90	261° 0'	-42° 0'	SING.SHOT	OK	
992.40	260° 0'	-39°30'	SING.SHOT	OK	
1022.90	261° 0'	-37°30'	SING.SHOT	OK	
1053.40	264° 0'	-37° 0'	SING.SHOT	OK	
1083.90	263° 0'	-35° 0'	SING.SHOT	OK	
1114.30	268° 0'	-34° 0'	SING.SHOT	OK	
1144.80	289° 0'	-32° 0'	SING.SHOT		dip ok, do not use azimuth.
1175.30	267° 0'	-28°30'	SING.SHOT	OK	
1205.80	268° 0'	-25°30'	SING.SHOT	OK	
1236.30	58° 0'	-35° 0'	SING.SHOT		
1260.70	248° 0'	-16° 0'	SING.SHOT		test 6 feet infront of rods
411.80	234° 0'	-61° 0'	TROPARI	OK	
472.70	246° 0'	-60° 0'	TROPARI	OK	
503.20	241° 0'	-58° 0'	TROPARI	OK	
655.60	242° 0'	-54°30'	TROPARI	OK	
686.10	247° 0'	-54° 0'	TROPARI	OK	
716.60	0° 0'	-53° 0'	TROPARI		
747.10	248° 0'	-53° 0'	TROPARI	OK	
777.50	250° 0'	-50°30'	TROPARI	OK	
808.00	250° 0'	-49°30'	TROPARI	OK	
838.50	260° 0'	-47°30'	TROPARI		
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	
-	-	-	-	-	

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
0.00 TO 4.30	CASING					No rock recovered.
4.30 TO 739.10	ROAD RIVER CALCAREOUS SILTSTONE AND SHALE «R.R. CALC SLTST, SH»	Light blueish grey to dark grey massive siltstone with gradational zones of dark grey to black non-calcareous shales. Mottled siltstone is very to moderately calcareous. The lesser mottled the texture, the more vigorous the reaction to acid. Mottling could be due to a partial dolomitization of the calcareous siltstone. Some areas in the core reveal windows of bedding. 12.0-12.6 Bedding @ -	20			
		24.6-24.9 Fault. Brecciated, sheared and a bit milled. Quartz and calcite healed. Lower contact @ - - - - - - - - - - - - - - - - -	22			
		30.3-38.3 Highly calcareous, non mottled zone. 38.3-42.1 Mottled zone starts again. Transition zone between calcareous and non calcareous siltstone. 51.0-52.1 Bedding @ -	24			
		62.3-67.1 Very calcareous zone. Not very heavily mottled. 75.2-76.6 Bedding @ -	15			
		102.3-102.8 Transition zone. Light grey, calcareous .5cm thick, up to 5cm long wormy textured sediment? up against bedded siltstone. Wormy blebs could be soft sediment deformation or differential dolomitization. Angle of bedded siltstone @ - - - - - - - - - - -	12			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		127.2-128.5 Bedding @ -	9			
		162.0-164.5 Brecciated siltstone. Breccia is angular and up to 3cm. In a quartz and calcite healed matrix.				
		246.3-247.0 Bedding @ -	19			
		254.7-267.8 Graded sequences of wormy (soft sed?) blebs lying over bedded siltstone. Bedding @ -	20			
		Wormy blebs are intermixed with mottled siltstone. Sequences grade over 1m intervals.				
		267.8-283.5 Bedded siltstone.				
		281.9 Bedding @ - - - - - - - - - - - - - - - - - -	10			
		298.9-330.4 Bedded siltstone.				
		309.2 Bedding @ - - - - - - - - - - - - - - - - - -	18			
		321.1 Bedding @ - - - - - - - - - - - - - - - - - -	18			
		330.4-382.8 Massive light and dark grey mottled siltstone, patchy relic bedding.			327.3-335.3 3% disseminated pyrite.	337.1-338.0 Devidrill, no core recovered
		347.9 Foliation @ - - - - - - - - - - - - - - - - - -	30			
		371.1 Foliation @ - - - - - - - - - - - - - - - - - -	50			Drill to 382.8, dip at -71, hole is staying to straight. Pull back to 281.0 and set wedge. Bullnose from 281.0-287.1 no core recovered.
		287.1-300.3 Massive calcareous siltstone, mottled light and dark grey destroying bedding. Minor relic bedding.				
		293.6 Bedding @ - - - - - - - - - - - - - - - - - -	15			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		300.3-321.9 Thinly bedded calcareous siltstone.				
		302.0 Bedding @ - - - - - - - - - - - - - - - -	15			303.6-304.5 Devidrill, no core recovered. Sperry sun test at 312.7 hole at -70 no deflection from Devi-drill. 312.7-313.6 Devidrill again, no core recovered. Sperry test at 321.9 at -69.5. Stop hole, pull back and set wedge. Top of wedge at 296.0 Bullnose 296.0-321.9 no core recovered
		321.9-355.7 Thinly bedded, light and dark grey calcareous siltstone. Minor patchy darker grey discoloration x-cutting bedding.				
		328.0 Bedding @ - - - - - - - - - - - - - - - -	12			
		343.8 Bedding @ - - - - - - - - - - - - - - - -	15			
		355.7-356.2 Fault. Two 1-2cm wide zones of calcite veining, graphitic and slickensided slip planes, very minor gouge. faulting @ - - - - - - - - - - - -	10			
		356.2-444.1 Massive calcareous siltstone, light and dark grey patchy mottled texture. Very little primary bedding remaining. Massive, patchy anastamosing dark grey network subparallel to foliation. Local 1-2mm pellets developed.				
		400.7 Bedding @ - - - - - - - - - - - - - - - -	12			
		414.2 Foliation @ - - - - - - - - - - - - - - - -	45			
		444.1-459.2 Massive calcareous siltstone, pervasive light and dark grey mottled texture.				
		459.2-479.7 Massive medium to dark grey siltstone, non-calcareous, no primary bedding.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		479.7-490.9 Massive, mottled weakly calcareous siltstone. 490.9-513.8 Massive, medium to dark grey siltstone, minor patchy mottled texture, noncalcareous. 508.0 Bedding @ - - - - - - - - - - - - - - - -	20			
		513.8-598.8 Thinly bedded dark grey and minor light grey siltstone. Dark grey siltstone generally non-calcareous light grey siltstone strongly calcareous. Some light grey bedding is bedding of mottled texture. 517.0 Bedding @ - - - - - - - - - - - - - - - -	17			
		533.4 Bedding @ - - - - - - - - - - - - - - - -	19			
		536.4 Bedding @ - - - - - - - - - - - - - - - -	20			
		554.3 Bedding @ - - - - - - - - - - - - - - - -	24			
		Below 561.3 predominantly lighter grey strongly calcareous thin bedded siltstone. 566.6 Bedding @ - - - - - - - - - - - - - - - -	28			
		Below 580 increasing percentage of darker grey weakly calcareous siltstone. 581.5 Bedding @ - - - - - - - - - - - - - - - -	28			
		595.9 Bedding @ - - - - - - - - - - - - - - - -	35			
		597.4 Bedding @ - - - - - - - - - - - - - - - -	57			
		598.3 Bedding @ - - - - - - - - - - - - - - - - - -	80			
		598.8-599.9 Weakly developed fault zone, moderate pervasive sheared appearance at 33 degrees to core axis. 599.5 3cm milled and quartz-calcite healed zone with minor fault gouge along contact planes. Faulting @ - - - - - - - - - - - - - - - - - - -	35			
		599.9-611.4 Medium and dark grey thinly bedded weakly calcareous siltstone, minor interbeds of more massive black shale with <1cm wide discontinuous				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		beds of weakly calcareous white speckled silt.				
		607.8 Bedding @ - - - - - - - - - - - - - - -	60			
		611.4-617.7 Black shale, silty shale, with discontinuous cm beds of white speckled calcareous silt.			1-3% disseminated wispy pyrite.	
		617.7-650.9 Thinly bedded medium to dark grey siltstone interbedded with minor <1cm wide zones of more massive black silty shale. Local light grey mottled texture parallel to bedding.				
		623.9 Bedding @ - - - - - - - - - - - - - - - -	40			
		648.5 Bedding @ - - - - - - - - - - - - - - - -	55			
		650.9-658.0 Silty shale, shaley siltstone. Black, massive to thinly bedded, bedding defined by siltstone zones and <1-2cm beds of white speckled calcareous siltite.			2-3% pyrite, disseminated and discontinuous wisps parallel to bedding	
		658.0-662.9 Strong mottled texture parallel to bedding but bedding is partially destroyed. Dewatering or soft sediment deformation.				
		662.9-677.7 Massive to very weakly foliated weakly calcareous medium grey siltstone. foliation defined by dark grey to black wisps.				
		677.7-688.0 Thinly bedded, laminated light and dark grey highly calcareous siltstone and limestone mud. 677.7-683.5 Some thinly bedded sections are more like a laminated limestone mud. 683.5-688.0 usual thin bedded calcareous siltstone with darker grey discolorations parallel to and cross-cutting bedding.				
		683.0 Bedding @ - - - - - - - - - - - - - - - -	62			

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		688.0-702.9 Dark grey to black shaley silt, silty shale with common 1-2cm wide white speckled calcareous siltites. 693.0-694.2 breccia texture of shale and calcareous siltite fragments in a shaley matrix. 702.9-723.3 Thickly interbedded sequence of medium grey flaser bedded noncalcareous siltstone and dark grey to black shaley silt, silty shale. Shaley zones 20-30cm wide, flaser siltstones up to 1.5m 708.3 20cm poorly developed fault zone. Minor brecciated calcite veining, moderate sheared appearance. Sharp upper fault contact @ - - - -	15		1-2% brassy pyrite clots, discontinuous layers. 694.3 10cm of 20% very finely bedded pyrite.	
		710.5 Bedding @ - - - - - - - - - - - - - - - -	52			
		715.0 Bedding @ - - - - - - - - - - - - - - - -	63			
		723.3-733.1 Mix of massive mottled weakly calcareous siltstone and massive medium to dark grey siltstone with a anastamosing wispy dark grey to black hairline network at 45 degrees to core axis. 730.4 10cm sheared zone, gougy lower contact, shearing	34			
		¶733.1-734.9¶«FAULT» Fault zone, massive graphitic fault gouge with up to 1cm siltstone fragments. Faulting possibly at 35 or 65 degrees to core axis. 734.0-739.1 Massive to weakly layered calcareous siltstone.				
739.10 TO 824.10	ROAD RIVER GRAPHITIC SHALE «R.R. GRAPH SHALE»	Black, fine grained, weakkly foliated shale, Graphitic along foliation planes, Rare bedding defined by 1-2cm wide white speckled silt beds. Silt beds often fragmented and rotated. Common medium grey 1-2cm wide weakly calcareous zones, some which could be a veining with 2-5mm shale			1-2% pyrite, disseminated but mainly concentrated within broken and rotated silt beds where pyrite content will reach 25%.	Resembles Gunsteel shales but also resembles shale slivers which contain white speckled silt beds seen within the Road River in this hole and within A-96-21.

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		fragments. {740.4-741.0}«FAULT» Fault zone. Graphitic sand recovered. 741.0-741.9 rubbly core recovery, minor graphitic gouge. 748.5 Foliation @ - - - - - - - - - - - - - - -	45			
		757.1-762.6 very rubbly and poor core recovery. 770.8-771.0 Black graphitic fault gouge		Strongly silicified	755.7-772.0 2-3% fine wispy pyrite generally cross-cutting foliation possibly parallel to bedding.	
		775.2 Foliation @ - - - - - - - - - - - - - - -	40	774.1-805.9 Weak discontinuous wormy irregular 2-3 millimeter wide calcite clots/veinlets.	774.1-805.9 1-2% pyrite associated with calcite clots and veinlets.	
		791.1 Foliation @ - - - - - - - - - - - - - - -	42			
		802.4-813.0 Finely layered appearance defined by <1mm wide layers of concentrated finely disseminated pyrite and rare up to 1cm massive pyrite layers. 807.0 Layering @ - - - - - - - - - - - - - - -	58	Weak to moderately silicified	802.4-813.0 3-5% finely disseminated pyrite forming <1mm layers.	
		808.8 Foliation, x-cutting layering, @ - - - - -	58			
		807.0 Layering @ - - - - - - - - - - - - - - -	75			
		823.5 Layering @ - - - - - - - - - - - - - - -	40		813.0-824.1 3-4% pyrite, disseminated to wispy defining weak layering.	
		824.1 1cm quartz-calcite veining at contact @ --	33			
824.10 TO 1096.50	ROAD RIVER GROUP CALCAREOUS SILTSTONE «R.R. CALC SILTSTONE»	Light to dark grey, fine grained siltstone. Mix of thinly bedded siltstone, more massive flaser bedded siltstone, massive and mottled siltstone. 824.1-880.2 Thinly bedded, highly calcareous siltstone.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		824.1-837 bedding at 35 degrees then swinging to 58 degrees from 837-839.5				
		842.4-842.5 Graphite-calcite vein @ - - - - - - - - - - - -	42			
		842.8 3cm massive graphite vein @ - - - - - - -	38			
		856.7 Bedding @ - - - - - - - - - - - - - - - -	68			
		863.1 Bedding @ - - - - - - - - - - - - - - - -	82			
		863.7 5cm fault gouge @ - - - - - - - - - - - -	85			
		865.9 Bedding @ - - - - - - - - - - - - - - - -	70			
		867.3-867.7 Fault zone. Gougy sheared siltstone. Faulting @	60			
		869.5 Bedding @ - - - - - - - - - - - - - - - -	85			
		Below 869m becoming quite rubbly.				
		∮880.2-883.2∮«FAULT» Fault zone. 880.2-882.6 weakly brecciated siltstone healed by minor quartz-calcite veinlets. Weak sheared appearance. 882.6-883.2 dark grey fault gouge, sharp lower fault contact @ - - - -	55			
		883.2-889.8 Medium to dark grey siltstone, rare primary bedding. foliation defined by black hairline wisps. Foliation @ - - - - - - - - - - - - - - -	50			
		∮889.8-894.7∮«FAULT» Major fault zone. Fault breccia healed by vuggy silicification as matrix to fragments, common vuggy quartz-calcite veining. Sharp lower fault contact @ -	35		891.1-891.4 trace sphalerite within quartz-calcite veins.	893.1 Reduce to BTW
		894.7-1001.5 Medium to dark grey, massive with wispy black hairlines, massive mottled and mottled after bedding. Very little relic primary bedding. Interval non to weakly calcareous.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		906.1 Bedding @ - - - - - - - - - - - - - - - -	35			
		913.8 Bedding @ - - - - - - - - - - - - - - - -	22			
		935.8 Bedding @ - - - - - - - - - - - - - - - -	20			
					998.4-998.5 Several 0.5-1cm irregular quartz-calcit clots with large internal grains of sphalerite and traces of pyrite and chalcopyrite.	
		1001.5-1003.5 «FAULT» Fault zone. Very rubbly, poor core recovery, minor fault gouge, some silica flooded fault Bx. Strongest faulting from 1002.5-1003.5 Faulting @ -	43			
		1003.5-1034.9 Massive, dark grey, noncalcareous siltstone, wispy black hairlines, patchy mottled, no primary bedding, patchy sediment pellets developed.				
		1034.9-1038.9 «FAULT» Fault zone. 1034.9-1036.9 rubbly siltstone with 3-5cm gougy zones, 20cm strongly sheared upper fault contact @ - - - - - - - - - - - - - - - - - -	60			
		1036.9-1038.9 Fault gouge.				
		1038.9-1084.2 Medium grey, weakly calcareous siltstone, massive, weak foliation defined by hairline black wisps @ 40-45 degrees to core axis.				
		1038.9-1046.0 Rubbly core adjacent to previous fault.				
		1081.6-1083.5 «FAULT» Fault zone. Brecciated and sheared, soft gougy siltstone. 30cm fault gouge at 1083.0. Faulting at 30-40 degrees to core axis.		Weak quatrz-calcite veining.		
		1084.2-1091.5 Dark grey to black weakly layered, noncalcareous				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		siltstone. Bedding/layering generally <7 degrees to core axis. 1091.5-1096.5 Light to medium grey thinly bedded calcareous siltstone, weakly brecciated with quartz-calcite veining, some which is also brecciated. Minor gouge developed along graphitic bedding planes and cross-cutting fractures. 1091.5-1092.4 Bedding @ - - - - - - - - - - - - 1092.4 3cm fault gouge @ - - - - - - - - - - - - 1092.4-1096.5 Bedding angles generally <10 degrees to core axis and are quite wavy. Same interval stronger brecciation. 1096.5 Faulted lower contact with 6cm black graphitic fault gouge. Faulting possibly @ - - - - - - - -	50 50 50		Overall, 1081.6-1096.5 is a fault zone.	
1096.50 TO 1262.20	GUNSTEEL FORMATION SILICIFIED SHALE «G.F. SIL SHALE»	Black, very fine grained, weakly foliated rubbly shales, graphitic along foliation planes, less graphitic below 1099.4 1097.6-1099.4 Common <5mm and rare 3-5cm dark grey calcareous nodules. Same interval contains patchy 1-5cm zones of very fine wispy to very finely nodular weakly calcareous barite. 1097.6-1098.65 3-4% barite 1098.65-1099.4 10-15% wispy baritic zones. 1097.8 Bedding @ - - - - - - - - - - - - - - - - 1099.3 Bedding @ - - - - - - - - - - - - - - - - 1100.7-1220.5	 30 25	Strongly silicified	3-4% finely disseminated pyrite throughout. 1097.6-1099.4 2% fine laminar bedded pyrite as occassional 1-2mm thick laminations. 1099.4-1100.7 5-7% 2-3mm rounded to elongate wormy weakly calcareous siliceous baritic? clots with 1-2% disseminated pyrite grains. 1100.7-1220.5	Possibly similar to Lynn Jones markers.

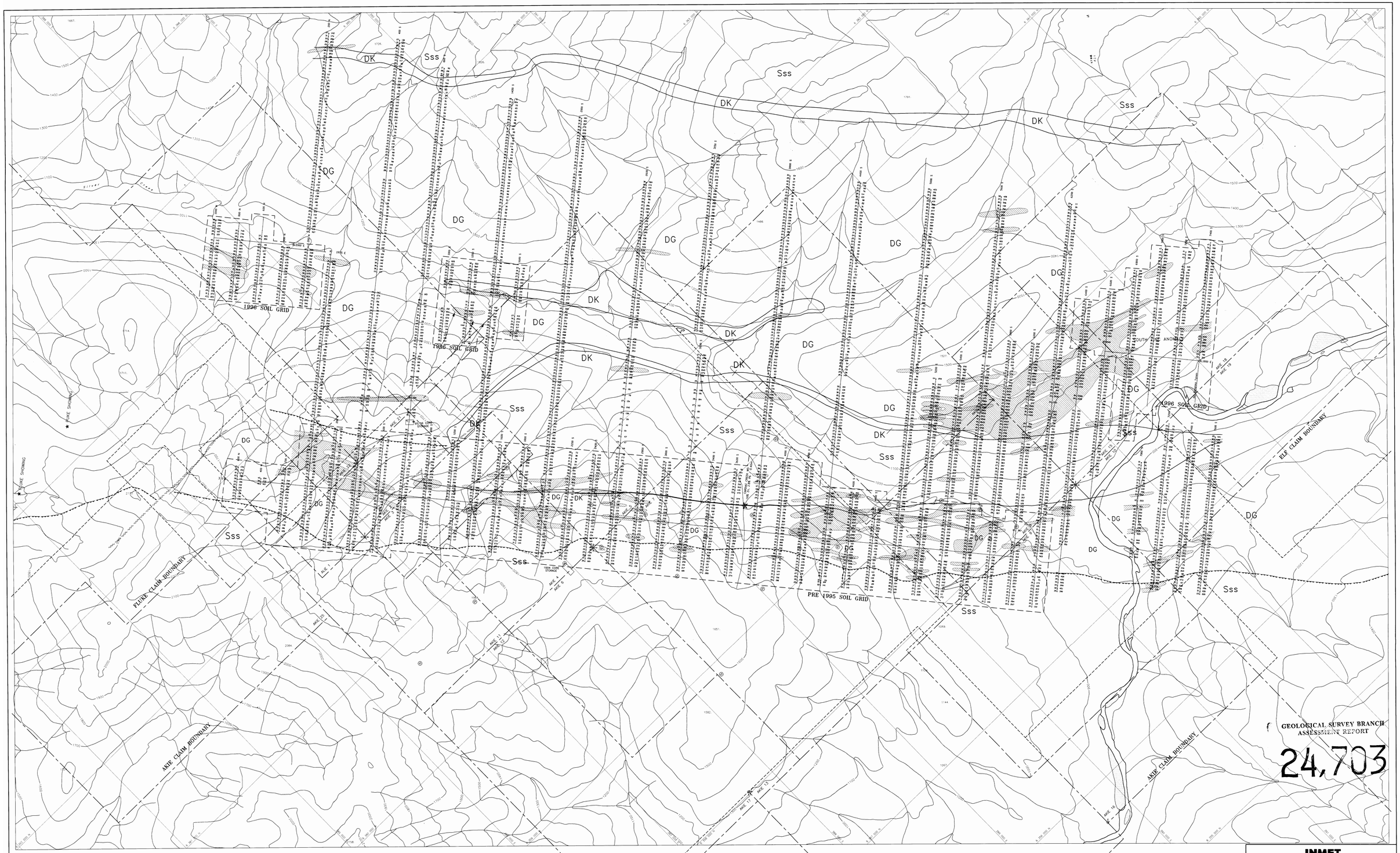
FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		Massive to weakly foliated strongly silicified shales.		1102.1-1202.7 Weak mm scale quartz veinlets parallel to foliation. Quartz veining increases through areas of faulting.	3-6% finely disseminated pyrite, locally 5-7% disseminated pyrite.	
		1109.6 Foliation @ - - - - - - - - - - - - - - -	40			
		1112.2 10cm shattered quartz vein and minor gouge.				
		1121.9 Bedding @ - - - - - - - - - - - - - - -	57		1112.9-1123.1 Rare 4-5cm wide zones of laminar bedded pyrite.	
		1115.9-1116.9 Possible fault zone. Zone of black shale with abundant swirly, discontinuous and folded quartz-calcite veins and silica healed milled areas.				
		1117.8-1118.4 3-5cm wide zones of tightly packed pyritic baritic nodules. Minor dark grey to black <1cm calcite nodules.				
		1120.0 8cm silica flooded fault @ - - - - - - - - - - -	55	1119.9-1130.3 Increased quartz-calcite veining with greatest abundance from 1127.1-1130.3		
		1125.0 10cm gougy shear @ - - - - - - - - - - - - - - -	50			
		1143 foliation @ - - - - - - - - - - - - - - - -	40			
		1175 Foliation @ - - - - - - - - - - - - - - -	45			
		1180.2-1180.9 Fault zone. 1180.2-1180.6 brecciated and quartz veined, minor milling. 1180.6-1180.9 very rubbly brecciated quartz veining and graphitic fault gouge. Faulting possibly @ - - - - - - - - - - -	30			
		1187.5 Foliation @ - - - - - - - - - - - - - - -	35			
		1206.9-1216.5 Rubbly core recovery of strongly siliceous shales.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
		1215.4 10cm fault gouge @ - - - - - - - - - - - - - - -	50			
		1215.8-1220.5 2-3% disseminated to local 1-2cm beds of 2-3mm nodules. Nodules calcareous, some siliceous with internal disseminated pyrite and pyrite cores. Some calcareous nodules have internal cellular structure - possible organic origin?				
		1220.5-1245.0 Silicified black shale hosting common 20-30cm wide zones of interlaminated pyrite and shale which also contains 1-2mm wide laminations of calcareous siliceous baritic? nodules with internal brassy pyrite grains. Local 5-7cm wide zones of light grey calcareous silty shale. Occassional <1cm septarian nodules within shales, and rare black and black pyritic nodules within shales. Bedding fairly consistent @ - - - - - - - - - -	60	Moderate to strongly silicified increasing downhole.	1220.5-1245.0 «7-10% LAM PY» 7-10% pyrite as 20-30cm wide zones of interlaminated pyrite and shale. Host shales contain 4-5% disseminated pyrite. Greatest concentration of laminar pyrite from 1222.2-1226.3 15% laminar pyrite and 1241.7-1245.0 12-15% laminar pyrite.	
		1228.3 10cm milled and silica healed fault @ - - - - - - Fault cross-cuts bedding.	60			
		1239.4 Bedding - - - - - - - - - - - - - - - - -	63			
		1245.0-1258.7 6-7% 2-5cm wide zones of nodular to coalescing nodules forming beds of calcareous baritic nodules with internal brassy pyrite grains. Barite locally mixed with fine laminar pyrite. Nodular barite layers locally folded along core axis over 50-80cm lengths.		Strongly silicified	1245.0-1258.7 1-2% laminar bedded pyrite, 3-5% finely disseminated pyrite throughout shales. 2-3% brassy pyrite within barite nodule layers where pyrite will reach 15-20% over 2-3cm.	
		1258.7-1262.2 Silicified shale, weak sheared appearance, fairly competent turning to poker chips below 1260.6			1258.7-1262.2 1-2% disseminated pyrite in shales and disseminated pyrite within quartz-calcite veinlets.	
		1260.6 Foliation @ - - - - - - - - - - - - - - -	60			
		1260.6-1261.7 Fairly rubbly broken core recovery, minor clay gouge.				

FROM TO	ROCK TYPE	TEXTURE AND STRUCTURE	ANGLE TO CA	ALTERATION	MINERALIZATION	REMARKS
						1262.2 Rods stuck. Unable to pull back, rotate or pump water past. Blast BTW rods at 676.6m. NTW rods stuck, cut N rods at 667.5m. H mechanical plug set at 30.5m to stop water flow.

Sample	From (m)	To (m)	Length (m)	ASSAYS Zn %	Pb %	Ag g/t	Ba %	Cd %	S %	GEOCHEMICAL Zn ppm	Pb ppm	Ag ppm	Ba ppm	Cd ppm	Cu ppm	Se ppm	Hg ppb	S.G.	COMMENTS
47828	1096.50	1097.60	1.10	.11	.01	1.1	1.09			1116	32	.3		.1	34				
47829	1097.60	1098.60	1.00	.01	.02	2.0	1.64			37	196	.9		.1	34				
47830	1098.60	1099.40	0.80	.01	.02	2.0	7.01			90	177	.4		.1	35				
47831	1099.40	1100.70	1.30	.23	.01	.6	1.02			2319	37	.1		.1	22				
47832	1222.20	1223.60	1.40	.01	.01	1.3	1.90			144	24	.1		.1	45				
47833	1223.60	1225.00	1.40	.04	.01	1.5	2.60			438	18	.1		.1	37				
47834	1225.00	1226.30	1.30	.01	.01	1.1	2.07			14	15	.1		.1	41				
47835	1241.70	1243.30	1.60	.01	.01	1.4	2.16			13	20	.1		.1	47				
47836	1243.30	1245.00	1.70	.01	.01	1.6	2.83			40	25	.4		.1	45				

Total amount of samples= 9
Total length sampled = 11.6M



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

24,703

N

LEGEND

DG	Gunsteel Formation
DK	Kwadacha Limestones
Sss	Road River, Ordovician to Silurian Siltstones, Shales & Limestones

NOTE: SOIL GEOCHEMISTRY PLOTTED TO IDEALIZED GRID

Pb ppm / Zn ppm

> 97 ppm Pb

> 1014 ppm Zn

N.T.S. 94F
CONTOUR INTERVAL 20 m
SCALE 1:10,000

0 200 400 600 800 1000m

INMET MINING

GATAGA PROJECT – AKIE CLAIMS

SOIL GEOCHEMISTRY
Pb ppm Zn ppm

DATE:	DRAWN BY:	FIG. NO.
NOV. 1996	PTB	5a

DK
Sss
DG
1996 SOIL GRID
1995 SOIL GRID
1994 SOIL GRID
PRE 1995 SOIL GRID
FLUKE SHOWING
FLUKE CLAIM BOUNDARY
AKIE CLAIM BOUNDARY
ELK CLAIM BOUNDARY
AKIE 1
AKIE 2
AKIE 3
AKIE 4
AKIE 5
AKIE 6
AKIE 7
AKIE 8
AKIE 9
AKIE 10
AKIE 11
AKIE 12
AKIE 13
AKIE 14
AKIE 15
AKIE 16
AKIE 17
AKIE 18
AKIE 19

N

LEGEND

DG	Gunsteel Formation
DK	Kwadacha Limestones
Sss	Road River, Ordovician to Silurian Siltstones, Shales & Limestones

NOTE: SOIL GEOCHEMISTRY PLOTTED TO IDEALIZED GRID

Ag ppm / Ba ppm
> 5.1 ppm Ag
> 6745 ppm Ba

N.T.S. 94F
CONTOUR INTERVAL 20 m
SCALE 1:10,000
0 200 400 600 800 1000m

INMET MINING

GATAGA PROJECT – AKIE CLAIMS

SOIL GEOCHEMISTRY
Ag ppm Ba ppm

DATE:	DRAWN BY:	FIG. NO.
NOV. 1996	PTB	5b

LEGEND

DG	Gunsteel Formation
DK	Kwadacha Limestones
Sss	Road River, Ordovician to Silurian Siltstones, Shales & Limestones

NOTE: SOIL GEOCHEMISTRY PLOTTED TO IDEALIZED GRID

Cd ppm / As ppm

> 11.1 ppm Cd

> 135 ppm As

N.T.S. 94F

CONTOUR INTERVAL 20 m

SCALE 1:10,000

0 200 400 600 800 1000m

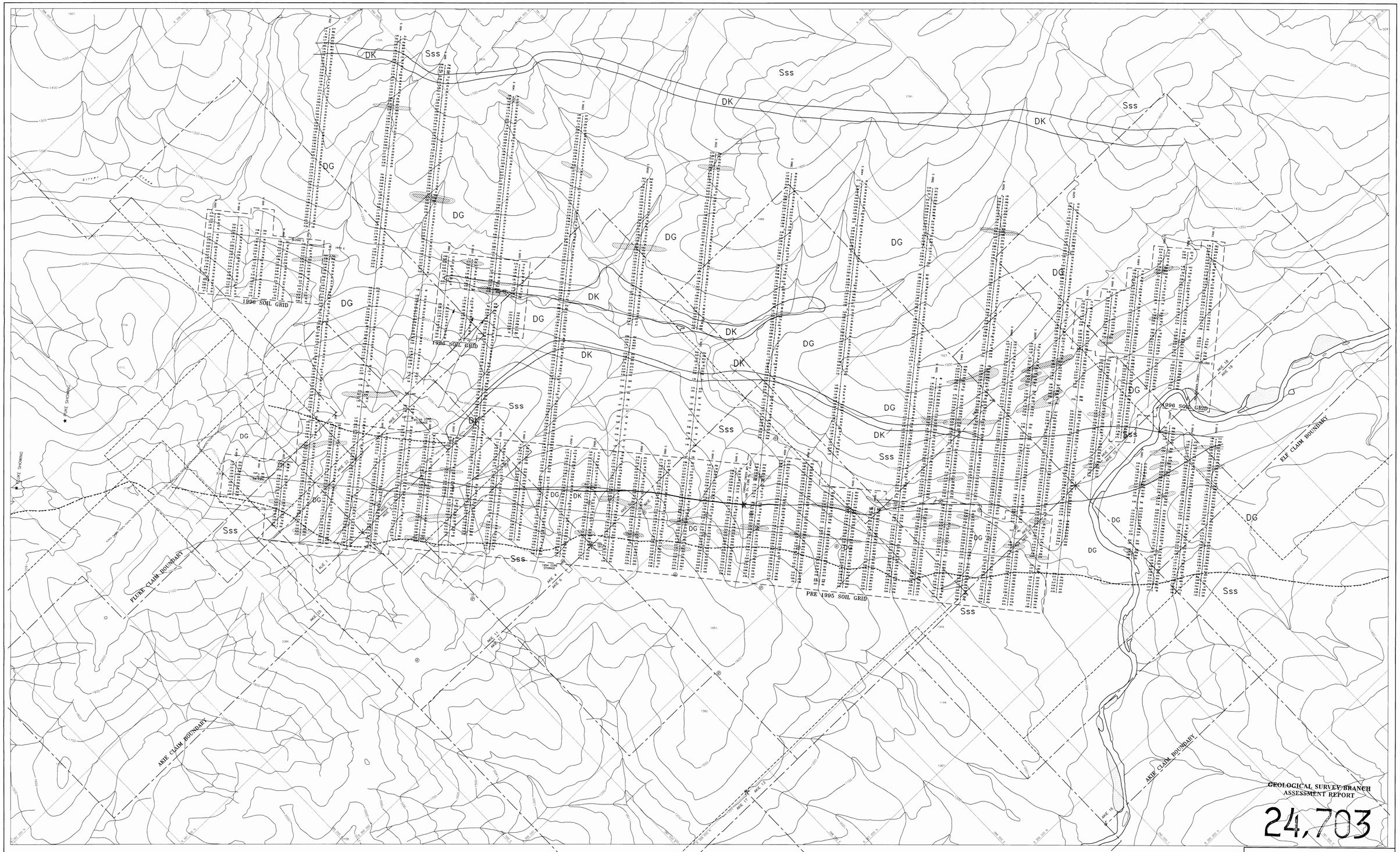
INMET MINING

GATAGA PROJECT – AKIE CLAIMS

SOIL GEOCHEMISTRY

Cd ppm As ppm

DATE:	DRAWN BY:	FIG. NO.
NOV. 1996	PTB	5c



N

L E G E N D

DG	Gunsteel Formation
DK	Kwadacha Limestones
Sss	Road River, Ordovician to Silurian Siltstones, Shales & Limestones

NOTE: SOIL GEOCHEMISTRY PLOTTED TO IDEALIZED GRID

Fe %/Mn ppm

> 5.3 % Fe

> 1089 ppm Mn

N.T.S. 94F

CONTOUR INTERVAL 20 m

SCALE 1:10,000

0 200 400 600 800 1000m

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

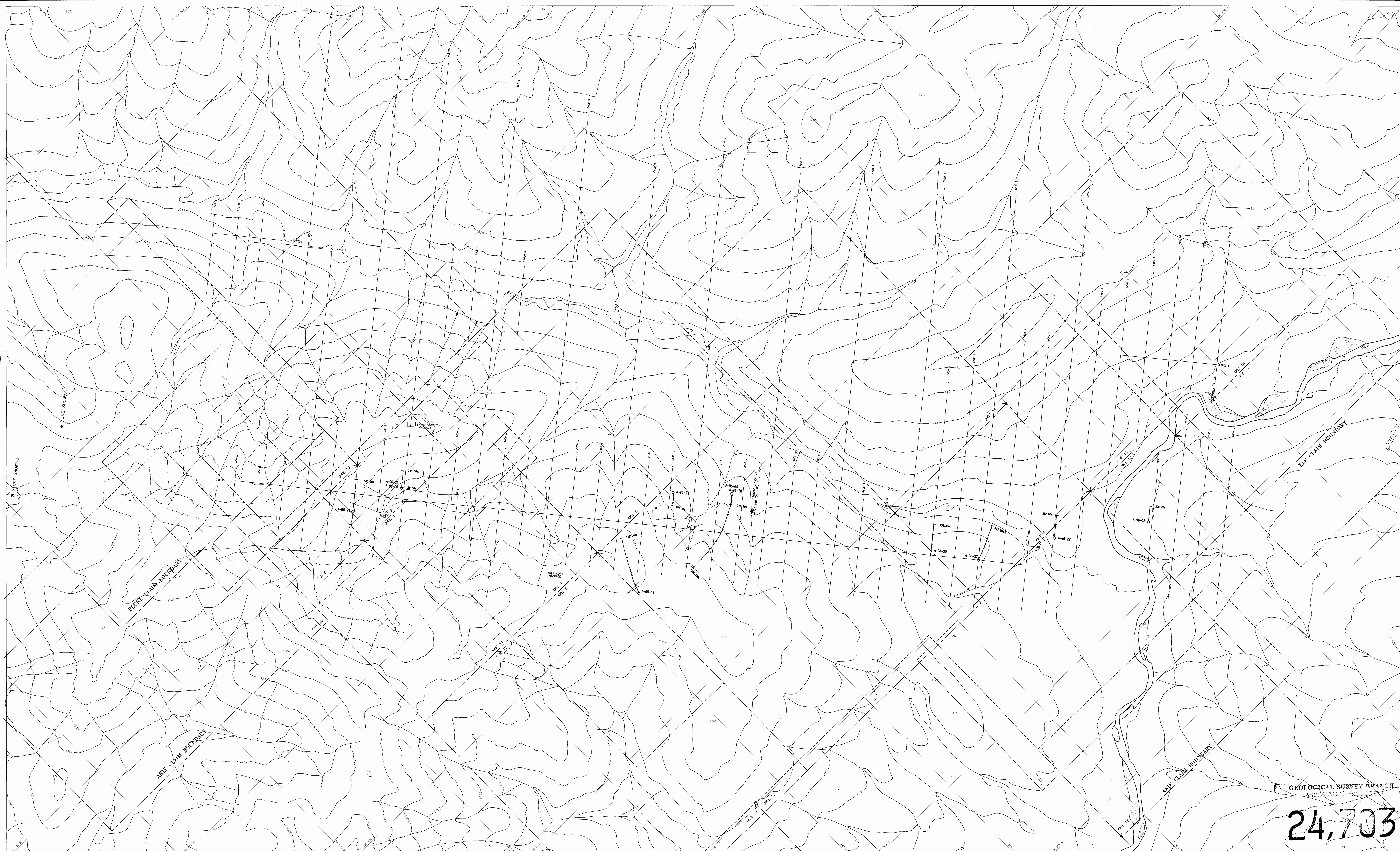
24,703

INMET MINING

GATAGA PROJECT – AKIE CLAIMS

SOIL GEOCHEMISTRY
Fe % Mn ppm

DATE:	DRAWN BY:	FIG. NO.
NOV. 1996	PTB	5d



NOTE: DRILL HOLES PLOTTED WITH RESPECT TO IDEALIZED GRID

DIAMOND DRILL HOLE

N.T.S. 94F/7

CONTOUR INTERVAL 20 m

SCALE 1:10,000

0 200 400 600 800 1000m

INMET
MINING

GATAGA PROJECT – AKIE CLAIMS

1996 DIAMOND DRILL HOLE LOCATION MAP

DATE:	DRAWN BY:	FIG. NO.
NOV. 1996	PTB	6